AN ADDRESS

ON THE

USE OF THE FORCEPS AND ITS ALTERNATIVES IN LINGERING LABOUR.

Delivered at the opening of a Debate on the subject at the Obstetrical Society of London, May 7th, 1879.

By ROBERT BARNES, M.D., F.R.C.P.,

Obstetric Physician to St. George's Hospital; Censor of the Royal College of Physicians.

THE theme which I have been invited by the Council to bring before the Society for discussion is the following: "On the Use of the Forceps and its Alternatives in Linging Labour."

It was obviously necessary to confine the discussion within certain definite boundaries, not alone in order to avoid irrelevant and wasteful debate, but also as the most essential condition for arriving at clear and useful conclusions.

And, when we refer to "conclusions" as the result of our discussions, we shall not aim at the framing of conclusions which shall be final or absolute, or have the force of law. We could not engage in a more vain and injurious undertaking. Science is, in her very essence, progressive. Freedom from arbitrary dogmas is the condition of her life. It is that freedom which impels or invites every one of us to try this, like every other scientific question, by the patient and candid observation of Nature, acknowledging no mere tradition or authority. The true function of a Society is to gather together and then to diffuse knowledge; to encourage independent inquiry; to survey from time to time, by the light of mutual reflection, the positions attained; and thus to seek sound guidance in the application of our knowledge to our practical duties.

Ever so superficial a retrospect over the history of the forceps will show us that more than once the use of this instrument has been defined in the most absolute and inflexible terms. And, although arbitrary laws may have met with wide obedience, many men have always refused to be fettered by them. Some of these rebels may have carried their contempt against authority too far; they may have run into contrary, even licentious, extremes. But they are, at any rate, entitled to this praise: that they have kept alive the spirit of independence, have compelled us to think over again, to doubt whether the laws we had been summoned to submit to were the expression of absolute wisdom.

At this moment, practice differs widely. And this difference is not so much the result of the different teaching of the schools as it is of local and individual accidents. Side by side, we see men using the forceps once in every nine or ten cases, or oftener still, and others using it, perhaps, once in a hundred cases, or even less; and this under conditions that offer no explanation of the difference in practice. Looking at the actual practice of the day, we may thus see repeated and continued the lessons of history. From the epoch of the invention of the forceps nearly, the same diversity of practice has existed. Indeed, during the early days of the forceps—speaking of this country, the birthplace of the forceps—it seems probable that the forceps was more commonly employed than it was thirty or forty years ago. Now and then, the use has become so free as to take the character of abuse; and then an outcry has arisen, followed by reaction and restriction. Thus, preceding and during the time of William Hunter, Osborne, and Denman, instrumental interference was frequently had recourse to unnecessarily, and unskilfully we may assume, since these illustrious men thought it right to exert all their authority in discouraging the use of instruments, and in inculcating blind faith in Nature as the better way. So earnest was their zeal, so commanding was their authority, that men were driven back into the opposite extreme of supine inaction. Rules were laid down, and widely obeyed, which too frequently allowed parturient women to drift into danger, injury, and death. Thirty years ago, even, the law of Denman was taught, that enjoined us to wait until the child's head had rested for six hours on the perinæum before resorting to the forceps; and this policy of procrastination was scarcely mitigated by the associated rule, that "no case was to be esteemed eligible for the forceps unless the ear of the child could be distinctly felt". Many of us may remember this sort of teaching. Its influence may have been beneficial in repressing reckless and unskilful operators. But, as might be expected, the neglect of the forceps has entailed the very dangers for

which it was denounced. The casuist may balance the degrees of culpability of the man who, seeking to help a woman, injures or destroys her, and of him who, trusting alone to hope, lets a woman sink into perilous exhaustion and death. The result to the victim is the same. And we, weighing the men in the scales of science, may see more hope for humanity in the enterprise of the man who acts than in the blind helplessness of the man who does nothing. The first may improve—he may acquire judgment and skill; for the man who is tied hand and mind to a policy of waiting there is no hope.

So far is the question of the application of the forceps from being settled, that when we come to examine it critically we find ourselves brought face to face with some of the most difficult problems in obstetric practice.

The limitation of our inquiry to "the use of the forceps or its alternatives in lingering labour" implies the exclusion from our consideration:

1. Of those cases in which acceleration of labour is indicated by convulsions, by hæmorrhage, by other complications, as syncope, dyspnoea, apoplexy;

2. Of those cases in which the child is in danger from prolapse of the umbilical cord or other causes independent of protracted labour.

In studying the question before us, we are naturally drawn to institute a comparison between the results to mother and child, as to injury and death, under the two opposite practices of free resort to the forceps, or to its alternatives; these alternatives being understood to comprise: 1. Simple inaction or expectancy; 2. Ergot or other oxytocics; 3. The fillet or lever; 4. Compression of the uterus, or other manœuvres not instrumental.

This the statistical method, which seems to promise so much, is not free from objection. It is, in the first place, not easy to obtain facts that are fairly comparable. And even could this postulate be secured, it would not follow that we could decide for or against the free use of the forceps because the injuries and deaths of mother and infant were more frequent under resort to the forceps or to its alternatives.

This brings us to the definition of the state which demands or justifies interference. How shall we define this state?

Several reasons concur in leading me to quote the rules of Collins, the younger Ramsbotham, and George Johnston.

Collins gives the following as the conditions for using the forceps. "Generally speaking, so long as the pulse remains good, the bowels and bladder act well, the soft parts remain free from severe pressure, and uterine action continues so as to cause the presenting part to descend ever so slowly, the patient having no pain in the abdomen on pressure, or local distress, the child at the same time being alive, as indicated by the stethoscope, I am satisfied no attempt should be made to deliver with instruments, and that he who does so wantonly exposes both mother and child to danger. . . . The necessity alone of freeing our patient from impending or present danger should induce us to resort to instruments."

Ramsbotham says: "If pains are subsiding gradually or have disappeared, strength failing, spirits sinking, countenance anxious, pulse 120 or more, tongue coated, dry, brown, or raspy, two or three rigors, tenderness on pressing abdomen, green discharge, preternatural soreness of vulva, heat and swelling of vagina, head locked, vomiting, hurried breathing, delirium, or coldness of extremities, then delivery must of necessity be effected, and we should be acting most injudiciously to allow the case to proceed until the four last-mentioned symptoms appear without relief being offered. . . . But so long as the uterus is contracting with energy, the strength and spirits good, the countenance natural and cheerful, pulse under 100, tongue and mouth moist and clean, no vomiting or rigors or heat, swelling or tenderness of parts, so long as the head retreats in the absence and advances in the presence of pain, provided there be any progress in the labour from hour to hour, so long there can be no necessity for instrumental aid."

George Johnston states the case as follows (1872): "We have come to the conclusion, and our established rule is, that, so long as nature is able to effect its purpose without prejudice to the constitution of the patient, danger to the soft parts, or the life of the child, we are in duty bound to allow the course of labour to proceed. But as soon as we find the natural efforts are beginning to fail, and after having tried the milder means for relaxing the parts or stimulating the uterus to increased action, and the desired effects not being produced, we consider we are justified in adopting prompter measures, and by our timely assistance relieve the sufferer from her distress and danger, and her offspring from an imminent death."

Strictly analysed and compared, it will be found that the rules for interference as laid down by Collins, Ramsbotham, and George Johnston, representing as they do three distinct epochs and schools of practice, are all but identical.

How men recognising the same principles could diverge so widely in practice is a curious study. It constitutes the very kernel of our discussion.

Collins, in the Rotunda Hospital, in the years 1826 to 1833, used the forceps or lever once in 607 cases. Johnston, in the same hospital, in the years 1868 to 1875, used the forceps once in every ten or eleven labours.

Somewhat intermediate in time between Collins and George Johnston, and practising under conditions somewhat different, stands Francis Ramsbotham, who, with David Davis, may fairly be said to have held the foremost position during their time in this metropolis for judgment, experience, and skill. Ramsbotham applied the forceps, in the work of the Royal Maternity Charity (1828 to 1850), once in 671 labours. There is no doubt he would have used the forceps more frequently had the cases all been under his control from first to last, as is the case in a lying-in hospital. But he could only act when called for by a midwife. Thus, the midwife had exhausted the alternatives; and we may take the residuum in which the forceps was applied as representing practically the proportion of cases in which resort to the forceps was not a matter of election, but of necessity. Now, if we compare Ramsbotham's experience with Collins's, we find both using the forceps in public practice—the one in a hospital, the other in domiciles—at nearly the same rate of frequency. This lends strength to the conjecture that, other alternatives being duly tried, the proportion of cases that imperatively demand the forceps does not exceed one in five hundred. If this *prima facie* case be supported by evidence that the damage and mortality endured by mothers and children compare favourably with the results of more active practice—say with Dr. Johnston's—then we may be led to conclude that, in very many cases, Dr. Johnston resorted to the forceps when there was *no necessity* for the operation—that is to say, when the alternatives, as waiting or ergot, would have effected delivery with equal safety.

This does not carry the condemnation of Dr. Johnston's practice; for the question would still remain, after the establishment of the fact that the ultimate results to mother and child were similar under the practice of Collins, Ramsbotham, and Johnston, whether the forceps would not have been better in many of Collins's and Ramsbotham's cases than the alternatives which were trusted to. For example, there can be little doubt that in many cases under Collins and Ramsbotham waiting was carried to the verge of danger, whilst in Johnston's cases the dangers, immediate and remote, of waiting were averted, and the individual and aggregate suffering in actual pain was immensely curtailed. We must not forget that the forceps is not simply an operation of necessity, but that it is pre-eminently an operation of election.

Passing from public practice to private practice, we find in the first volume of our *Transactions* the records of two men of the highest stamp: the one Robert Dunn, who practised in London; the other H. W. Bailey, who practised in Thetford—that is, in a rural district. It may safely be assumed that both these men conducted their practices conscientiously and skilfully, and no one will doubt that they have recorded their experience faithfully. During twenty years ending with 1850, Dunn used the forceps twenty times, or once in one hundred and ninety cases. He "often used ergot". He had ten cases of craniotomy. He says: "Not in one single instance has tedious or difficult labour proved fatal to mother or child." But two deaths after craniotomy must be considered to qualify this statement.

Bailey, during the fifty years ending in 1859, used the forceps, it is presumed, very rarely. He does not specify how often. He had only two cases of embryotomy.

Comparing Dunn and Bailey, we see, as might be expected, a marked contrast between the obstetric histories of a town and of a rural population. Dunn had a far larger proportion of difficult cases. Dunn's embryotomy cases were 1 in 400, whilst Bailey's were only 1 in 3,200. Dunn's maternal deaths were 1 in 150 nearly, and Bailey's 1 in 430 only. It is a legitimate conjecture that Bailey and Dunn worked on very similar rules. The difference in their practice and in their results is almost certainly due to the difference in the subjects they had to deal with: another caution in the use of statistics.

In discussing our question, we are met by the necessity of drawing a line between what McClintock called the "high" and the "low" forceps-operations. The low operation takes simply those cases in which the head has entered the pelvic cavity; the high operation applies to those cases in which the head is seized at or above the brim. The distinction is imperative. The low operation may be accomplished by the short or single curved forceps. It is usually a very simple proceeding. The presence of the head in the pelvis implies, generally at least, that there is no obstacle from disproportion to be overcome, that the resistance of the cervix uteri and vagina has been overcome, and that there remains little or nothing beyond the resistance

of the vulva. We merely want a little *vis à tergo* to complete expulsion. In this conjuncture, some will prefer ergot, some will prefer forceps. My own decision has long been in favour of the forceps. I hesitate to affirm that the use of ergot is wrong; but the following reasons for preferring the forceps are to my mind sufficient. 1. Since the publication of Hardy and McClintock's report of their researches at the Rotunda, which showed that, unless the child were born within a short time after the action of ergot, it was very likely to be born dead, I have turned my attention to this point, and have seen abundant confirmation of the accuracy of their observations. 2. The action of ergot upon the uterus is uncertain. You want a certain amount of uterine action. You give ergot, and the desired result may ensue; but it may not. You may have too much, or too little. In the first event, you have evoked a Frankenstein whose brute violence you can neither subdue nor regulate. The force, which should be delicately adjusted to the resistance, is in excess. And then you have to fear the very dangers of lingering labour—rupture of the uterus, other injury to the soft parts, and the death of the child—which you called in the ergot to avert. I prefer to enlist an ally which will do exactly what I want and no more. 3. In a large proportion of cases of arrest of the head in the pelvis, the arrest is due to malposition of the head: for example, to occipito-posterior positions. The occiput turns up under the sacral promontory; and then the driving force propagated along the child's spine tells in a false direction, tending to roll the head more over on its transverse axis. It tends, in short, to revolve in extension around the promontory as a centre, instead of round the symphysis pubis. The driving force is wasted. Fortunately, it often ceases or moderates. It is utterly unscientific, even dangerous, to goad it by ergot. The forceps is the true and effective help. It not only supplies the wanting force, but gives that force its proper direction, under conditions in the highest degree adapted to secure the wellbeing of mother and child.

I have now set forth what appears to me to be the first point of discussion; namely, the choice of the forceps or of its alternatives when the head is arrested in the pelvis.

I apprehend that there is not much room for disagreement upon this point. It is practically solved. The low operation is very generally in use; and, provided reasonable discretion dictate the line of acting, and fair skill be used with a good instrument, this operation will often save the mother much present suffering; will in many cases lessen or remove the risk of injury to the soft parts, lessen the risk of septicæmic fever, and promote the safety of the child. It is very easy indeed to apply the forceps in cases of this category unnecessarily; but, on the whole, it may be questioned whether, at least in dealing with women of weak fibre, nursed in luxury, more harm may not ensue from habitual inaction than from over-readiness to operate.

In discussing the uses of the forceps, we are naturally led to inquire what its powers are—what it can do.

The forces of the forceps are: (1) tractile; (2) leverage; (3) compression or moulding of the head.

The short forceps and the long forceps differ widely in the degrees in which they enjoy these forces.

The short forceps has but moderate tractile power, a limited leverage power, and scarcely any appreciable compressive power, apart from what it derives from the external compression of the soft parts upon its blades.

But the long forceps possesses all three powers in a high degree. 1. It admits of tractile power greater than that of the natural expulsive power. 2. Its leverage-power is greater, and may be often effective at a point beyond reach of the short forceps. 3. Its compressive power may be almost indefinitely increased, according to the construction of the instrument.

Now, since all these forces, or equivalents of them, are exerted by nature, it is but logical to employ them in cases where nature fails. In a well devised and executed forceps-operation, something is gained from every one of these forces. The best forceps will be that which enables the operator to utilise all these forces in due harmony. Thus, excess of traction is avoided by the aid of judicious leverage and compression. Excess of compression is avoided by judicious traction and leverage. Excess of traction and of compression—involving, the one risk to the mother, the other risk to the child—both admit of important mitigation by external compression and pushing, imitating the driving force of nature. And thus the highest degree of safety is secured to both mother and child. To throw away these powers, possessed in the highest degree by the long forceps, is to abdicate a vital part of one of the most beneficent powers that science has ever put into our hands.

I have only a word of caution about the use of leverage in the high operation. It must be applied with care and moderation. Its advantages are not so manifest as in the low operation. But those who declaim against leverage absolutely, must be reminded that to avoid it

altogether is a physical impossibility. The great difficulty in practice is to find the equilibrium between the powers of the forceps and the resistance to be overcome.

We now come, then, to the question of the *high operation*, the great point upon which the contest turns. Here problems comparatively unknown in connection with the low operation come into consideration. In the low operation, we are mostly concerned with the second stage of labour, when the expulsion of the child is partly accomplished. When the high operation is in question, we have commonly to act during the first stage of labour, when the child has made little or no progress, and therefore when, in many cases, the cervix uteri is imperfectly expanded. The head has to be sought and seized at or above the pelvic brim. This, of course, demands a long and double-curved forceps. There is a greater complication of factors; far more judgment and skill are required in deciding upon and in carrying out the operation. *What are the conditions which demand or justify the high operation?* I will first cite the plea of Johnston: "I became," says Johnston, "an advocate for the more frequent use of the forceps.....from having witnessed, on many occasions, the direful results arising from allowing the labour to continue for hours unrelieved. The painful effects of such a system became evident in numerous instances of inflammation and sloughing of the vagina, ruptured uterus, and other accidents, too often ending in fatal consequences." He especially dwells upon the injurious effects produced by long pressure of the head on the soft parts in cases where the liquor amnii has escaped at the commencement of labour, and the danger that arises from the head pressing on the expanded cervix uteri before the os is fully dilated. He asks: "Why should we permit a woman to undergo hours of torture?.....Why should she be allowed to waste her strength and incur the risks consequent upon the long pressure of the head upon the soft parts, the tendency to inflammation and sloughing of the vagina, or the danger of rupture of the uterus, not to speak of the poisonous miasm that emanates from an inflammatory state of the passages, the result of tedious labour, and which is one of the fertile causes of puerperal fever.....attributed by some to the influence of being confined in a large maternity?"

All this argument applies to the low operation; but, tested by Johnston's practice, it applies chiefly to the high operation.

Johnston is brought into direct collision with those authorities who teach that during the first stage of labour little mischief from pressure on the soft parts (we, of course, exclude cases of disproportion), and little other mischief, is to be apprehended during the first stage of labour; in short, that the term "lingering labour" has no practical significance until we arrive at the second stage. If we accept this doctrine, the question is solved; our discussion is at an end; Dr. Johnston and those who advocate the high operation are out of court, or nearly so. But is this sentence just? Must we go back to the narrow dicta of William Hunter, Osborne, and Denman? Must we declare that Smellie, Perfect, David Davis, Francis Ramsbotham, to say nothing of our predecessors and contemporaries in Europe and America, who so frequently resort to the high operation, are all wrong? We should surely repudiate such a sentence, and none the less because many of us would be included in the same condemnation.

It may be at once admitted that there are cases of lingering labour during the first stage—that is, before the cervix uteri is fully expanded, and before the child's head has entered the pelvis.

One order of such cases may be quickly dismissed. Those in which the uterus is more or less paralysed or disordered in its action by excess of liquor amnii, by the presence of twins or too large a child, or by extreme rigidity of the cervix uteri. The first difficulty is often got over by simple puncture of the membranes. But not seldom the evacuation is not complete enough; the head drops upon the unexpanded os uteri, and blocks the way of escape like a ball-valve, and labour is suspended, "lingering". In such cases, I have often obtained quick release by introducing one blade of the forceps. This lifts the head off the cervix, forms a channel for the flow of the ponded-up waters, and calls out the reserved diastaltic function. If the uterus and system have been so far weakened as not to respond to this tentative measure, the second blade is introduced, and the proper action of the forceps is invoked.

Secondly, labour also may become lingering in the first stage because the *child is dead*. When the child has been dead some time, it has lost its resiliency, and driving force acting upon it tends to compress it into a ball, instead of propelling it onwards. Craniotomy would be the proper alternative here. But until we know the child is dead, the forceps is preferable. And *monsters* commonly cause lingering labour for analogous reasons.

Then we come to a third order of cases, in which the liquor amnii has sufficiently escaped, and in which the head rests upon the brim, or is only partially engaged within the brim, and the cervix uteri is imper-

fectly expanded. We may here call to mind the general fact that the full dilatation of the cervix is effected by the eccentric pressure of the bag of membranes and of the child's head, and that, consequently, we do not expect to find full dilatation until the head can engage in the pelvic cavity. It is true that, in some cases of very protracted labour, the uterus, shortening itself under long-continued efforts, may open, whilst the head is delayed above the brim. But the fact remains generally true that, so long as the head is above the brim, the cervix is only imperfectly expanded. Hence it follows that, to apply the forceps to the head above the brim, the blades must generally be passed through an imperfectly dilated cervix. We must recognise this fact, because it is a direct infringement of the old canon: never to use the forceps until the os is fully expanded. We see in this fact also one broad distinction between the low and the high operation.

What are the cases, the liquor amnii having escaped, the head resting on the pelvic brim, and the cervix imperfectly expanded, which call for the forceps or its alternatives? We may clear the ground by saying that the first alternative to try is patience and reasonable time. Ergot is open to even graver objection in this case than when the head is in the pelvis. Without condemning the practice of those who do use it, I may be permitted to repeat that I myself would not use it. Delay at the brim may be due to minor degrees of disproportion, and this is not always easy to diagnose. Ergot, therefore, may be injurious as well as uncertain.

There is another order of cases in which the head is delayed at the brim, which involves the conditions of lingering labour—I mean cases of overhanging belly and uterus, in which the abdominal muscles fail to keep the long axis of the uterus and child in due correlation with the axis of the pelvis. Here the forceps is especially useful, even though the cervix be not fully dilated. The alternative is turning. Both are facilitated by delivery in the dorsal posture and by compression of the abdomen.

We may now apply the test: What is lingering labour? For it will scarcely be denied that, if the signs of lingering labour are manifested whilst the head is above the brim, we are as much called upon to interfere as when the same signs are manifested, the head being in the pelvic cavity. And unquestionably these signs may occur. But they will occur much more rarely than at a later period—that is, during the second stage of labour. To state the proportion is almost to prove it. Fatigue, exhaustion, is a question of time. It is not necessary, then, to insist that a patient's strength may take her easily through the first stage, and yet be inadequate to carry her through the second. Just as a pedestrian may do his first ten miles without distress, and yet break down during the next lap. It may be true that the first stage presents greater difficulties, but then these are encountered by fresher powers.

Let us take it, then, as granted that the high operation is sometimes called for. But experience, as recorded by Collins, Ramsbotham, and a host of others, compels us to affirm that the *necessity for this operation* cannot be frequent. The frequent resort to the operation, then, must rest for its chief justification upon its *utility*, and in utility is included *safety*. Apart from the cases of necessity, when is the operation useful? And what are its dangers? I mean those pertaining to the operation itself?

I will first take the question of danger—assuming, of course, reasonable skill. The forceps has to be introduced through an imperfectly expanded cervix. Dr. Johnston admits danger. He is careful to say: "I must here caution the practitioner that this operation is not without danger in unskilful hands, by whom it should never be attempted." I am disposed to go further, and say that this operation is not without danger even in skilful hands. The width of the fenestra of the forceps is about two inches. When both blades are applied to the head, we have a globe, measuring generally more than four inches in diameter, to bring through the os uteri. But the os uteri may be three inches or less in diameter. We must, therefore, apply the blades high above the os uteri. This is generally not very difficult. I have often done it. The difficulty comes later. You begin extraction. If the os be easily dilatable, and sometimes it is so, it is dilated after a process closely resembling that of nature. The head-globe is made to open it. But it frequently happens that the os is not so easily dilatable. The natural order and process of labour has been disturbed, partly it may be by the difficulty which made it lingering, and partly by the interference of the operator. This disturbance is very apt to entail, if not spasmodic rigidity, at any rate a passive unyieldingness of the cervix. Thus, what happens if you put on traction? The whole uterus and child are dragged down together some way, and sometimes very far towards the pelvic outlet. The blades of the forceps, divergent with the head between them, will not come through the narrower os. Traction under these conditions must often be continued for a long time—an hour or more—before the head will come through. And during all this time, the pressure upon the

inner surface of the lower segment of the uterus, and upon the thin edge of the os uteri, is very great—sometimes more than it will bear with impunity. Some amount of bruising is inevitable, more perhaps than it would have undergone if left to nature, and not seldom, as I know, the os uteri is torn. And this also I know, that, during this artificial dilatation of the cervix, the suffering of the woman is greater than when the dilatation is effected under the natural forces. Then, again, the disturbance of the natural process of parturition, the due sequence of its acts being perverted, entails after-trouble. I am sure that the disposition to retention of the placenta and hæmorrhage is increased. Now, these are precisely the effects of lingering labour which we urge as our excuse for operating. What have we gained?

This objection applies with peculiar force to primiparæ. The cases must be extremely rare in which there is any danger from lingering labour in the first stage, apart, of course, from obstruction due to disproportion or malposition. Yet we find Dr. Johnston applying the forceps to 123 primiparæ before the os uteri was fully dilated; in 103 there was "early rupture of the membranes". Of these, in 64 cases the head was above or in the brim; nine of the women died, "three from convulsions; two of gastro-enteritis; one, sloughing of vagina; one, peritonitis; one, uterine diphtheritis; one, distress of mind. In none of these cases at *post mortem* examination was there seen any injury to the os uteri beyond the ordinary fissuring that would take place in first labours". Accept this, as I do, without reserve; still, that an undue degree of contusion was caused, that suffering and shock from the violent derangement of the process of labour were increased, and that these conditions may have influenced the mortality, we may be permitted to suspect.

A most serious objection to the high operation lies in the difficulty of diagnosing whether the case before us is one that fairly admits of the operation being carried out. There are, for example, minor degrees of obstruction, from slight pelvic contraction, from rigidity of the cervix uteri, or from slight excess in size or want of plasticity of the child's head, which the long forceps may succeed in overcoming. We are, in fact, on the very border-line of the dominion of the forceps; and we cannot always tell, until we try, whether the forceps is equal to the trial or not. In the case of primiparæ, this point is especially difficult to determine. It may to some extent be determined; first, by exploring the brim of the pelvis fairly by the hand under anæsthesia; and, secondly, by a tentative use of the forceps. We can but give it up for turning or craniotomy if it fail.

We may do much to overcome rigidity of the cervix uteri by copious warm water irrigation and the hydrostatic bags.

There is an argument which the advocates for the free use of the forceps urge, and justly urge, which claims the most earnest attention. Neglect of the forceps entails abuse of craniotomy. You wait so long, that at last the child has to be sacrificed in order to save the mother. A careful survey of the annals of obstetric practice justifies this conclusion. I have drawn up a table to illustrate this point. Thus Collins's craniotomy cases were 1 in 211, whilst his forceps cases were 1 in 607; Ramsbotham's craniotomy cases were 1 in 802, his forceps cases 1 in 670; Johnston's craniotomies were 1 in 281, his forceps cases 1 in 10½. These refer to the ordinary run of public practice. But if we take the records of the most ardent opponent of the forceps, the late Robert Lee, we shall have the most striking example of what a doctrine carried out to the most rigorous extreme will lead to in practice. During an active consultation practice ending in 1863, Dr. Lee performed craniotomy in 186 cases, and used the forceps only in 53. He never used the long forceps. No one can peruse the histories of his cases without the painful conviction that in many instances the long forceps might, with advantage to the mother as well as to the child, have been substituted for craniotomy. It is true that this terrible experience is the record of consultation practice. He was commonly called in to cases which had drifted within the confines of danger. We must further remember that he practised during a reign of terror, which he himself had done more than any man to create, when to use the long forceps was held to be almost a criminal act. But making the most liberal allowance for all this, admitting that he would meet with a larger proportion of desperate cases than can possibly occur again, the preponderance of the perforator over the forceps will still strike us as appalling.

I may here state that my experience of the comparative resort to the forceps and craniotomy, and of the mortality of mothers and children in the practice of the Royal Maternity Charity, is very similar to that of Ramsbotham, whom I succeeded; and I think I may appeal to my successor, Dr. Roper, to support the proposition that the statistics of this great institution still bear the same evidence.

I regret that leisure utterly fails me to draw out an analysis of my forceps and craniotomy operations during an active consultation-practice

of twenty-five years. But I may safely venture on the statement that my forceps and turning cases greatly outweigh the craniotomies. Contrasted with craniotomy, the forceps is frequently an elective alternative operation. And so, again, turning is not seldom an elective alternative against craniotomy. To have demonstrated this I take to be one of the many claims to the gratitude of mankind, and to a place in Westminster Abbey, which Sir James Simpson has established.

Taking a scientific point of view, craniotomy should never be the alternative for the forceps. The dominion of this sacrificial operation is totally distinct from that of the conservative operation of the forceps. To apply a recent famous political expression, we may take it that there is a "scientific frontier" against craniotomy. We have not yet secured this frontier. We may never acquire it absolutely. But it nevertheless exists potentially; and it is our duty to strive after it by constantly advancing the outposts of the forceps and of turning.

TABLE showing relative frequency of Forceps and Craniotomy Operations, and the Mortality of Mothers and Children.

	Total Labours.	Forceps Cases.	Craniotomy.	Mothers	Children.	Proportion of Forceps to total.	Proportion of craniotomy to total.
				Total Deaths.	Total still-born, excl. premature		
Collins (1826-33) Rotunda Hospital	16,414	27 (4 dths.)	79 (15 dths.)	164 (Prop. 1.0)	828 (Prop. 5.0)	1 in 607	1 in 211
Ramsbotham (1828-1850), Royal Maternity Charity	48,996	73 (3 dths.)	60 (6 dths.)	220 (Prop. .41)	1822 (Prop. 3.7)	1 in 670	1 in 802
Dunn (1830-50), London private practice	4,049	20 (0(?) dths.)	10 (2 dths.)	27 (Prop. .67)	170 (Prop. 4.1)	1 in 202½	1 in 404½
Johnston (1868-1875), Rotunda Hospital	7,862	752 (58 dths.)	28 (7 dths.)	179 (Prop. 2.3)	470(?) (Estimated 6.1)	1 in 281½	1 in 281

Robert Lee's Consultation Practice (London).

	Total Forceps.		Craniotomy.	
		Died.		Died.
First Period, "Clinical Midwifery", ending 1848....	48	11	95	14
Second Period, "Consultations in Midwifery", ending 1863.....	5	1	91	5
Totals.....	53	12	186	19

Dr. Lee's book gives eighty forceps: thirty-two are deducted, either because R. Lee disapproved of operation or because he finished by craniotomy. Thus R. Lee's forceps cases stand to his craniotomy cases as 1 to 3½.

I beg leave to conclude this rapid and inadequate review of a difficult question by stating the following propositions as presenting the points that chiefly challenge discussion.

1. In lingering labour, when the head is in the pelvic cavity, the forceps is better than its alternatives.

2. In lingering labour, when the head is engaged in the pelvic brim, and when it is known that the pelvis is well formed, the forceps is better than its alternatives.

3. In lingering labour, when the head is resting on the pelvic brim, the liquor amnii discharged, and it is known, either by exploring with the hand or by other means, that there is no disproportion, or only a slight degree of disproportion, even although the cervix uteri be not fully dilated, the forceps will generally be better than its alternatives.

4. In proportion as the head is arrested high in the pelvis, in the brim, or above the brim, the necessity, the utility, and safety of the forceps become less frequent.

5. As a corollary from the preceding proposition, increasing caution in determining on the use of the forceps, and greater skill in carrying out the operation, are called for.

In most things there is a middle way. "Ni jamais, ni toujours", is a proverb full of wisdom. I cannot better illustrate the wisdom of deducing the greatest good from over-caution on the one hand and from too bold enterprise on the other, than by citing the precept and practice of Boër. This famous surgeon, having witnessed in Paris the extreme activity of French midwifery, and in London the too procrustean practice of England, recognised the middle course as the best, constructed his forceps of medium length, saying, "Everything is not to be taken away from Nature, neither is everything to be left to her".

MEDICAL MAGISTRATE.—Mr. F. E. Barton, surgeon to the Dover Hospital, has been appointed a magistrate for the borough of Dover.