The Use and Abuse of Obstetric Forceps.*

By Comyns Berkeley, M.A., M.D., M.C. (Cantab.), F.R.C.P. (Lond.),

Senior Obstetric and Gynæcological Surgeon, the Middlesex Hospital; Senior Obstetric Surgeon, the City of London Maternity Hospital; Surgeon, the Chelsea Hospital for Women.

Inefficient Teaching.

I think it must be admitted that the very unsatisfactory position of the forceps operation to-day is due to inefficient teaching. It is not fair, as has often been done in the past, to shift all the blame on to the family doctor, and I feel that the teachers of obstetrics must shoulder their share of this responsibility, which, if anything, is greater than that of their pupils. That the teachers themselves are, however, not entirely at fault is obvious, for they have not the facilities to teach midwifery properly. In the end the responsibility for this inefficient teaching, in the past at any rate, must rest on the General Medical Council and the various examining bodies, who have it in their power to prescribe what rules and regulations they think fit.

The majority of students when they get into practice are not going to operate, and yet, before they can sit for their final examination, they have to spend three months in the out-patient and six months in the in-patient surgical departments of their hospital, working under the direct supervision of the chiefs of these departments. The majority of students, however, are going to practise midwifery, and yet many of the examining bodies do not compel them to attend any midwifery cases in a hospital, and there is no rule that any of the twenty women they must deliver shall be delivered under the immediate supervision of the chief of the department. Not many years ago the obstetric house-surgeon used to take the pupil to his first two cases only, and he had to look after the remaining eighteen as best he could. Until lately it could be said without exaggeration that most men went into practice without ever having seen a woman delivered as she should be—that is, in suitable surroundings.

The life or health of a patient may easily depend on the good

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or bad judgment of the medical attendant, and often does. In no instance, perhaps, is this fact more striking than in the practice of midwifery. It is recognized that the only way in which students can attain good judgment is by being given efficient teaching and ample opportunity in practical work, but whereas both efficient teaching and ample opportunity are always within the reach of every student when he is studying medicine and surgery, when he comes to study midwifery his opportunities for practical work under supervision are extremely limited. Although it is now the custom, at those hospitals which have maternity beds, for the midwifery pupils to take their first two cases under the supervision of the obstetric house-surgeon or sister midwife, I believe, up to the present, only a few of the examining bodies insist on this. Apart from unavoidable complications, a bad result in midwifery is too frequently the result of bad judgment. Moreover, the only way to obtain a real knowledge of the bad results of midwifery and among other things of the abuse of the forceps, is to attend the practice of the gynæcological ward, and yet this is not compulsory. More recently in some hospitals, it is true, the deans have refused to "sign up" students unless, and until, they have been in-patient gynæcological dressers; but the General Medical Council did not insist on the students holding these posts, and the more cautious deans refused to adopt such an attitude. Most of the students, being aware of the fact that they only had to serve three months, either in the in-patient or out-patient deparment, chose the latter because it gave them less trouble.

The bad results of midwifery are partly due to want of thorough teaching. If a man has not been efficiently taught midwifery he will, certainly at the commencement of his professional life, often have difficulty in determining whether a particular case of labour he is attending is normal or otherwise. The experience he accumulates is only at the expense of his patients, and in many cases women pay most dearly for doing their duty to the community.

The whole difficulty in teaching obstetrics is that of obtaining sufficient material. There are far too few lying-in hospitals, and the few obstetric beds in general hospitals are often filled with difficult and abnormal cases. A medical practitioner can practically always get a bed for a medical or surgical emergency; can he for an obstetrical emergency? Certainly not, and yet the latter might easily be the more serious. In the medical and surgical wards one patient is available for the study of many students, but in the obstetrical wards one patient is only available for one student. A proper hospital obstetric service is an absolute essential to the efficient teaching of midwifery.

Ante-natal Treatment.

The true conduct of labour commences with ante-natal treatment. We shall all agree that although the forceps on occasions must be used and should be used, the less frequently this instrument is employed the better. The proper way, and one might almost say the only way, to accomplish such a reduction is by efficient ante-natal supervision. No doctor should agree to attend a woman in labour unless he is prepared to examine her on occasions between the time he books the case and the onset of labour, more especially in the last few weeks of pregnancy.

If medical students were not taught abdominal palpation on pregnant patients in the out-patient department and patients in labour in the obstetric ward, would the majority of them, when they went into practice, know how to carry out abdominal palpation properly, or how to obtain accurate information from such palpation, or would they even take the trouble to palpate? I think not. In the past they certainly had no such opportunities, and to-day these are very limited. Even now, it is not compulsory for a student to attend an ante-natal department, always supposing there is one. Many men do not mind admitting that they are not always sure whether the head of the child is engaged or not, and yet the head remains the best pelvimeter we have got. Moreover, the better one is at abdominal palpation the fewer vaginal examinations one has to make. I fear I am not exaggerating when I say that many women start labour without their doctor having any real idea of how it will progress, because of this lack of ante-natal supervision.

The forceps is used most frequently for inefficient pains and disproportion between the head and the pelvis. Proper ante-natal supervision, by getting the patient into as good a state of health as possible, can do many things to help the efficiency of the labour pains. Proper ante-natal examination will lead to the detection of gross disproportion between the head and the pelvis, of malpresentation, and of those cases of minor contraction in which the head of the child is not engaged when it should be—a knowledge of which may easily avoid the abuse of forceps.

The Operation.

And now let us consider for a few minutes extraction of the child by the obstetric forceps as a surgical operation, for a surgical procedure it is, and on occasions can be rightly termed a major operation. It differs from most other operations in that it is so frequently performed by men who do not otherwise operate. A man in general practice, unless he so desires, has very little need to perform the usual surgical operations, but many of the operations

in midwifery he has to perform whether he likes it or not, whilst the public expects him to use the forceps as a matter of course, and this, as I have said, without proper training. The medical man may be called upon to perform a difficult forceps operation the first night he is in practice, and in most cases he has no assistant to help him with the operation and no one but himself or the nurse to administer the chloroform; so that while as a fact his whole attention should be directed to the actual extraction, he has to occupy part of his time in administering the chloroform or seeing that the nurse is not giving too much or too little. In all surgical operations of a like severity the operator demands and expects proper assistance. In the usual surgical operations the patient is better off after the operation than before. With the forceps operation the reverse frequently obtains.

In most surgical procedures which can be dignified by the name of an operation the surgeon has ample time to make all arrangements for the safety of his patient, and, moreover, is in most cases well paid for his work. In the majority of the forceps operations, because of the absence of ante-natal supervision, or some other reason, arrangements are not made beforehand, and the doctor is certainly badly paid. As a fact the need for hurry really exists only in his own mind, and in most cases he has time to get assistance, but patients and midwives think that every doctor ought to be able to deliver a patient at once if he wants to do so.

In the practice of a family doctor there are probably more emergencies of an obstetric nature than any other, and there is scarcely any other operation in which more judgment is required, in which two lives are at stake, or in which the attendant has to make up his own mind without the help of a consultation. If a surgical operation of any severity is anticipated, the practitioner is able to call into consultation his old teacher, or some other expert in whom he has confidence and who is prepared and able to carry out efficiently any operation decided upon. In the majority of cases of obstetric emergencies he cannot do so—either he cannot get his patient into hospital, or the patient cannot afford expert advice. Moreover, he is supposed by his patient to do such things himself, and he will perhaps lose caste if he does not, while in many cases he has to act at once, as there is not time to obtain assistance even if such were available. As a matter of fact the forceps operation in unskilled hands is just as unjustifiable as any other operation in similar circumstances, and yet many doctors who would decline to perform operations of even a minor nature do not hesitate to use the forceps in difficult cases, or in many cases cannot help themselves.

Apart from the question of judgment, with strict attention to

asepsis and antisepsis a doctor, by carefully reading up the anatomy and method of procedure, can perform most operations without, at any rate, a disastrous result, but not so in obstetric surgery. It is impossible to sterilize the vagina, while normally the interior of the uterus in pregnancy and labour is sterile. It is therefore impossible to pass anything into the uterus, be it the fingers, hand, or the forceps, without potentially infecting it; and moreover, from the darkness, warmth, and serum present therein, it rivals in its ability to encourage the growth of pathogenic organisms any suitably prepared culture tube in a bacteriological laboratory. Moreover, although the microbes in the vagina may cause no harm, when they are transplanted to a suitable soil in the uterus death may result.

If a non-operating practitioner contemplated performing a small operation and then found that a big one was necessary he would get help from an expert. The trouble is that, an ordinary pull with the forceps having failed, the doctor does not realize that he is up against something serious. He does not get help, but pulls all the harder.

Again, it is not unfair to say that many men take infinitely more trouble over the smallest so-called surgical operation than they do over the forceps operation. Indiarubber gloves are worn, the area of operation, if covered with hair, is shaved, and it is prepared with some antiseptic, the parts concerned are surrounded with sterile towels, while the operator wears a sterilized overall, and the assistance of an anæsthetist is obtained. I agree that it may be impossible to obtain an anæsthetist, but there is no reason why rubber gloves should not be carried in every midwifery bag, and there is no difficulty in shaving the vulva or in applying an antiseptic. In the majority of cases are rubber gloves worn, or is the vulva shaved? I fear not; while the patient is delivered in a bed which perhaps sags in the middle, whereas she should be on a table, or at any rate on a bed which does not sag. The doctor may or may not have a sterilized overall, and the patient may or may not be suitably protected with sterile towels—in most cases not. The doctor may very likely reply: This cannot be helped—the patient cannot afford such luxuries; but I am not dealing with the doctor's responsibilities, but with the abuse of the forceps extraction as an operation.

The position of a nation depends upon the number and efficiency of its population. In the absence of sufficient hospital accommodation for lying-in women the local authority should be responsible for supplying the proper aids to childbirth. In comparison with other operations the forceps extraction is at a further disadvantage, for whereas the surgeon in practically all cases is able to carry out

the best treatment for the patient, the obstetrician may have no such choice, and he may not have had any opportunity of treating the patient until one procedure only is available, and that not the best.

With the ordinary operation the surgeon is not influenced by the patient or her relatives trying to persuade him to operate; on the contrary the strongest objections may be raised by one or the other. How different is the lot at times of the doctor attending a confinement—constantly being reminded that Mrs. So-and-so had instruments and the labour was terminated easily and quickly.

Mechanism of Labour.

The abuse of the forceps operation may be regarded from quite a different point of view from that which I have dealt with up to now. Normal labour consists of certain regular stages, and is a natural process, just as much as defæcation and micturition. At times complications may intervene in any of these physiological acts, so that they become pathological; but it is in the case of labour only that such transmutation from the physiological to the pathological can be ascribed to the interference of the medical attendant. The mechanism of labour is arranged to get the best possible result in the shortest length of time. The child is not propelled downwards until the cervix is fully dilated, which dilatation Nature accomplishes gently, slowly, and evenly, the contractions of the upper segment pulling the cervix over the head. Then as the head is advancing through the pelvis from the brim to the outlet its smallest longitudinal diameter, by the movements of flexion, internal rotation, and extension, is accommodated to the largest diameter of the pelvis, so that the pressure on the maternal and fœtal tissues is reduced to a minimum, the head being moulded very slowly. In addition, as the child passes through the vagina the levatores ani are alternately stretched and relieved from strain according to whether there is a "pain" or not.

The operation of the forceps extraction must always interfere with the normal mechanism, and in many cases does so very disastrously. If the forceps is applied before the cervix is fully dilated the dilatation is now more rapid, more forcible, and also uneven, while instead of the cervix being pulled up by Nature it is pulled down by the doctor, the total result being some injury to the mother, and often serious injury. Labour is more quickly terminated by the use of the forceps, otherwise the doctor would not be using this instrument. This means that with the forceps extraction insufficient time is allowed for the proper moulding of the head, and an unmoulded head is much more difficult to deliver because the diameter engaged is larger than it should be. Again.

unless the greatest care is taken during extraction to pull only when a uterine contraction occurs, the levatores ani will be unduly stretched—they will not be given that period of rest which Nature demands. Lastly, the movements of flexion, internal rotation, and extension are interfered with, especially when axis-traction forceps are not used, the delivery by the ordinary forceps notably causing premature extension of the head.

My experience as an examiner to most of the examining bodies in England has taught me that less attention is paid by students to the mechanism of labour than to any other subject in midwifery. I cannot help thinking that the lack of interest in this subject remains with many of them for life, otherwise many emergencies, necessitating, as the practitioners think, the application of forceps would, like the old soldier, "slowly fade away."

That the forceps is often used unskilfully is due to the fact that, in the past at any rate, a large number of men have not seen them employed before going into practice. The method of using the forceps is open to abuse. The instrument can be used as a tractor, compressor, rotator, lever, and stimulator. In my opinion the only warrantable use to which the forceps should be put is that of traction. Certainly there are better and safer ways of stimulating uterine contraction. I presume none except the most ignorant would in these enlightened days think of using the forceps as a lever. All the cases which I have known in which such a use had been made of the instrument ended disastrously for the mother, either in fearful laceration or in her death. I know that many practitioners think that in cases of persistent occipito-posterior positions rotation with the forceps is a good method of treatment, and that it is often used as a first choice. In nearly every case, especially when the patient has been watched carefully in the early stages of labour, it is possible to rotate the head and shoulders with the hands. The child is certainly more likely to be injured by rotation with the forceps, and I have seen most serious laceration following such attempts on the mother. To use the forceps to make the diameter of the head smaller—that is, as a compressor—is absolutely wrong. This instrument must exert a certain amount of compression unfortunately, but this must be avoided as far as possible by allowing its handles to remain loose at frequent intervals. There remains traction, the one proper use to which this instrument can be put. Even this use, however, is frequently abused. The force used should be strictly limited. If great force has to be used—and not infrequently one meets with doctors who state that they had to pull with all their strength, and perhaps with the aid of one foot against the bed—this is a sure indication that forceps extraction was not the correct treatment.

It is an abuse of the forceps to use it too soon or too late. The forceps should never be applied too soon—that is, before the cervix is fully dilated, either by Nature or, in cases of necessity, by hand, or, in cases of disproportion, before the head has had time to mould. To apply the instrument in exhaustion of the uterus, or after the death of the child, is to apply it too late.

It is wrong to deliver the child quickly unless such is absolutely indicated. A slow delivery is not nearly so likely to injure the mother or the child. It is not fair on the forceps to use it before emptying the bladder with a catheter, neither is it fair on the patient. A vesico-vaginal fistula may easily result in the absence of such precaution, and yet I have heard some of my friends say that they are so apt to forget this that they always keep a catheter tied to one blade of the forceps. Lastly, if difficulty is experienced in applying the forceps by one who is accustomed to use this instrument, this is generally an indication that the case is not one really suitable for forceps but would have been better treated by some other procedure.

Baudelocque remarked that the obstetric forceps was the most useful instrument that had ever been invented. I have been criticized for suggesting that this further supplication should be added to the Litany: "*From* the obstetric forceps, good Lord, deliver us." So frequently, however, is this instrument used that one might be justified in thinking that for generations there had been a supplication: "*With* the obstetric forceps, good Lord, deliver us."

The use of the forceps may be necessary in the interests of the mother or the child, but I take it that such action can only be justified if, in the first case, the mother is not worse off than before the forceps was used, and in the second, if the child is born uninjured.

Advocates of the frequent use of the forceps maintain that the operation shortens the woman's suffering and diminishes her risk, and also that of her child. It is true that the suffering due to labour pain is shortened, but is this worth the increased risk, nay, the certainty in some cases of lifelong suffering from injury or infection, when it can be mitigated by far less dangerous remedies? Then many assert that they get no tears, or less severe tears, when using the forceps. I doubt it. They may not recognize the lacerations of the cervix, or of the vaginal walls, and at any rate it is quite certain that the cardinal ligaments of the vagina otherwise known as Mackenrodt's ligaments are always stretched when the forceps is used and the head is high up, and often badly stretched, leading to prolapse later. It is quite certain that it is more difficult to maintain asepsis if the forceps is used.

Those who seek to justify the frequent use of the forceps insist that there are three essentials: the first that the instrument shall be applied perfectly; the second that a far longer time than is usually employed shall be taken in effecting delivery; and the third that only the smallest amount of force should be used. Very wise; but in every hundred cases of forceps extraction, in how many would these three essentials be maintained? And then there is the reservation that the doctor should be able to recognize every time he uses the forceps whether the case is suitable for this operation or not—a consummation devoutly to be wished, but which, with the present system of education, is simply impossible to obtain.

I need not enter minutely into the fœtal injuries which may result in childbirth, whether the forceps has to be used or not. Eardley Holland, in his investigations into the causes of death during delivery, observed that in 50 per cent. of the cases death was due to intracranial hæmorrhage, and that in the majority of cases the forceps had been used. Moreover, some of the children who are not killed suffer from such incapacities as epilepsy, idiocy, imbecility, or paralysis, due to cortical injury. Of the children who die in the first year of their life 40 per cent. die in the first month, and although the mortality towards the end of the year has been improved by the institution of child welfare centres, that of the first month has never diminished.

It has been maintained that injuries to the mother or child are not due to the forceps but to ignorance in their use—still they remain. It is true that spontaneous labour is responsible on occasions for injuries as bad as operative delivery, and it may be true that the majority of women who have borne children suffer sooner or later, and more or less, from some damage. The extent of the morbidity, however, in spontaneous delivery is nothing compared to that following operative delivery. If a baby has been born alive and healthy, this is no justification for the use of the forceps unless the mother also returns to her duties a useful member of the community. Those who are in charge of lying-in and gynæcological beds are constantly having brought to their notice the disastrous results of the unskilful use of the forceps—such as rupture of the uterus, rupture of the vagina, fistulæ of the bladder and rectum, whilst fracture of the pelvis is not unknown. During the last year I know of two cases in which the blades of the forceps had been forced through the vaginal walls and applied outside the lower uterine segment, which was partly torn off from the rest of the uterus in the process of extraction.

The forceps, when indicated, is a safe instrument if properly used; when not indicated it is difficult to mention a more dangerous

one. I have seen it stated that on the whole midwives get better results than doctors. I should hope such a statement is not true; but if there is any truth in it the better results, I feel sure, are because they never use the forceps.

Indications.

I do not propose to discuss in detail the indications for the use of the obstetric forceps. Such information can readily be obtained by reference to any good text-book of midwifery. Rather I would deal with general principles, especially with reference to the most frequent indication for the use of forceps—namely, delayed labour.

Assistance with the forceps should be given only if such is really needed; and, if, therefore, the practitioner is in any doubt about the necessity or otherwise of using this instrument he should decide not to use it, since spontaneous labour gives better results for the mother and for the child. The forceps should be used to anticipate danger to the mother or child, and not when one or other is already in danger.

The doctor must always remember that his hands are safer, and in most circumstances more useful instruments than the obstetric forceps. Thus palpation should decide whether it is possible or impossible to deliver a woman with the forceps, and if possible whether its use is wise or unwise. Those of us who have held hospital appointments can recall many cases in which a patient has been admitted for craniotomy after futile attempts at delivery with the forceps had been made, perhaps for two or three hours, with resulting lacerations and infection; or in which, although the patient had not been torn or her child killed, the chance of a successful Cæsarean section had been diminished by an unwise attempt at delivery.

When there is any doubt there is no difficulty in placing the patient in the Walcher position and pressing down the head; if then it does not engage well in the brim the forceps should not be used. Again, a persistent occipito-posterior position of the vertex and mento-posterior position of the face can, in most cases, be remedied by the hands, as also can insufficient dilatation of the cervix and prolapse of the anterior lip.

In many cases of extraction by the forceps the operator has not visualized the exact condition of affairs, but having noticed that the descent of the head is slow or delayed, he hurries it up with the forceps.

Before using the obstetric forceps, therefore, the practitioner

should ascertain the relative sizes of the pelvis and head, the condition of the genital canal, the strength of the uterine contractions, and the state of the child. The forceps operation should always be regarded as an "emergency operation," and if such a proposition was universally accepted the occasions upon which it would be found really necessary to perform it would be strikingly few compared with the present-day practice. It is no credit to a man to be known as "very good with the forceps." To be a good midwifery practitioner one must be an able diagnostician, and have good judgment and much patience, and with these three attributes the apparent necessity for instrumental delivery becomes less and less. In most cases it is safer to wait than to act, and only on very rare occasions does Nature inflict such injury on the mother and child as the forceps.

Unless there is any obvious contraindication, no primigravida should be delivered with the forceps until she has undergone the "test of labour," since the normal mechanism of labour far surpasses any other method of delivery. There is no hard and fast general rule for the employment of the forceps; every case must be judged on its own merits, not a few of the failures being due to the judgment of the doctor being at fault.

Taking every case into consideration in which instrumental assistance appears desirable, there will be more danger in using the forceps than in dispensing with its aid. Injuries due to the use of the forceps are quite commonly spoken of as being unavoidable; in most cases this is not a fact, moreover, on many occasions tears are not efficiently sutured because the doctor hesitates to acknowledge that they are present.

Delayed Labour.

The decision that there is delay in the birth of the child depends a good deal on the idiosyncrasy of the particular practitioner present at the parturition. The commonest form of delay is that due to inefficient uterine contractions in the second stage of labour. The rule that if a primigravida has been in the second stage of labour for over two hours, or a multipara for over an hour, she should be delivered, is a most pernicious one, and is a strong factor in the abuse of the forceps. It owes its origin to the time when abdominal palpation and other aids to diagnosis were in their infancy, the attention of the attendant being fixed on the idea that if the second stage of labour lasted longer than this something was wrong. The doctor should always be guided by the condition of his patient and her child, and not on the number of hours he has to wait in attendance. There is no definite time limit as to when

the forceps should be used; the vital question is—To what is the delay due? Is it due to inefficient pains, or malpresentation, a contracted pelvis, large head, or a rigid perineum, and so forth? A doctor should never use the forceps merely to suit his own convenience; such use, to say the least of it, is unscientific.

In the absence of a serious complication, such as hæmorrhage, a lingering first stage never does any harm, and there is always time to remedy any displacement or to decide upon some method of treatment, if necessary, which will probably be less dangerous than that of the forceps operation. A lingering second stage, as long as the "pains" are not failing or becoming continuous, is less harmful than a rapid delivery with the forceps. Patience first. It is true that delay in the birth of the child always causes anxiety in the patient or her relatives, and even perhaps suspicion, whereas a quick delivery is apt to bring credit to the practitioner—not by any means always where it is due. The proper time to use the forceps, when the delay is due to inefficient pains, is when they are becoming inefficient, not when they have become so; if pains have ceased, *post-partum* hæmorrhage is lurking round the corner.

And lastly, with reference to the use and abuse of the forceps when the delay is due to disproportion. In no instance is an accurate diagnosis of more importance. The practitioner must not be unduly influenced by the external measurements of the pelvis, which indicate mostly the shape of the pelvis, neither should he regard the pelvis as normal if his finger will not reach the promontory of the sacrum. A knowledge of the length of the true conjugate is only of material use when it is so small that obviously a child could not pass the brim of the pelvis without mutilation, if at all, or when it is so large that there would be no difficulty in spontaneous delivery. The majority of cases of disproportion do not come into either of these categories, and it is in this class of case, in which the conjugate is between $3\frac{1}{2}$ and 4 inches, that so much harm is done when using the obstetric forceps.

In this medium class of contraction the practitioner should not interefere unless he is forced to, and if, as I have suggested, he will always regard extraction with the forceps as an "emergency operation" he will be far less tempted. He should be guided by the condition of the mother and child, and if this remains satisfactory he should hold his hand. It is far better that the second stage of labour should last six hours than that the mother and child should be injured or killed.

Especially should what is known as the high forceps operation be avoided, for it is an extremely dangerous one and often most difficult. Munro Kerr has reported that since its abolition in the institutions with which he is connected, spontaneous delivery has

become much more common. Such an operation should never be an operation of choice.

The higher the head is in the pelvis the longer should the operator wait before applying the forceps; inefficient pains are an extremely rare cause of the head being arrested high up. In many cases of delay due to disproportion labour terminates spontaneously and safely after a second stage of six or even more hours, though it would have ended disastrously had the forceps been used. Statistics show that 80 per cent. of border-line cases of disproportion will, if left to Nature, end in spontaneous labour. After all, the practitioner can always fall back on the forceps if Nature fails.

The use of the forceps in cases of medium disproportion is responsible, as Eardley Holland has shown, for a very large number of stillbirths, and this, especially now that the number of children born is very little higher than the number of people dying, is alarming.

To say that unfortunately the baby has died because its head was too large or the mother's pelvis was too small in most cases reflects more on the acumen of the practitioner than on the anatomy of the patient. The obstetric forceps should be used to deliver a live child; the delivery of a dead child does not warrant a testimonial for using it.

If the head of the child is movable above the brim of the pelvis the forceps should never be employed. If the head is fixed in the brim and does not, after a fair trial, undergo enough moulding to come through, the use of the forceps is really an abuse. If the head is moulding sufficiently to come through the brim, however slowly, leave it to Nature. To assist in such cases with the forceps will in most cases mean serious injury or death to the child, and not infrequently injury to the mother. If there is the least doubt about the head being able to pass the brim, do not use the forceps, as this only increases the danger if Cæsarean section is decided upon.

A generally contracted or funnel-shaped pelvis is commoner than is generally supposed. In any case, therefore, in which the head has difficulty in entering the brim the measurements of the outlet should be taken, and a very careful examination should be made of the nature of the presentation.

It has been said with some semblance of truth that gynæcologists would starve if it were not for bad midwifery. The forceps is an extremely valuable instrument when used with intelligence and in suitable cases; so is poison gas.

STATISTICS OF THE FORCEPS-CASES IN THE CITY OF LONDON MATERNITY HOSPITAL FROM 1908 TO JUNE 1923.

These statistics, for the use of which I have to thank my colleagues, have been very carefully prepared for me by T. P. Fyans, M.B., B.Ch., B.A.O., N.U.I., Resident Medical Officer, The City of London Maternity Hospital.

As the City of London Maternity Hospital does not issue a yearly report, and, apart from the case-notes, has only a card index of the patients, this has meant a vast amount of labour on the part of Dr. Fyans, to whom I am greatly indebted.

During the period under review there have been 26 Resident Medical Officers, and in most of the cases these gentlemen applied the forceps. It must necessarily result that with such a number of operators the practice will have differed among them as to when and when not they deemed it necessary to apply this instrument. Whereas it would appear that some Resident Medical Officers have been very conservative in this direction, others have been fired with an enthusiasm to terminate labour more quickly than some of their former or future colleagues. Moreover, as must always happen in similar institutions, in some instances the case-notes are good, in some bad, and in some sketchy. In those instances in which the case-notes have not been as good as they might be, part of the blame must undoubtedly be shouldered by the members of the Visiting Staff. The best case-notes were kept by the late lamented Gordon Ley, F.R.C.S., who acted as Resident Medical Officer during the period of the War, 1914 to 1918, when, owing to serious physical disabilities, he was not accepted for active service.

The card-index at the City of London Maternity Hospital is very exhaustive, and includes many thousands of references and cross-references concerning nearly 18,000 patients. Subject to the permission of the Medical Committee and Board of the Hospital, this card-index, and the case-notes to which it refers, are at the service of any medical man, with proper credentials, who is engaged on research work.

Total number of in-patients ..... 17,738.

Number of occasions on which the forceps were applied ..... 1,336—7.7 per cent.

Of these 1,336 { Primigravidæ ..... 1,079—79.0 per cent.
Multiparæ ..... 287—21.0 „

Number of maternal deaths in the 1,336 cases..... 14—1.02 per cent.

Cause—5 died of eclampsia.
2 „ pneumonia.
1 „ cardiac failure during anæsthesia.
1 „ toxæmia of pregnancy.
1 „ sepsis.
2 „ peritonitis.

The one following rupture of a carcinomatous ulcer of the stomach during labour. The other following extraction with the forceps, after perforation of the posterior vaginal wall before admission, due to attempts at delivery.

Number of infantile deaths in the 1,336 cases..... 147—10.8 per cent.

Of these 147 { 72—49.0 per cent. died during or shortly after delivery.
62—42.0 „ „ before labour began.
13— 8.8 „ „ of cerebral hæmorrhage.

As a note was not made in every case of the condition of the fœtal heart before the forceps was applied, it has been impossible to differentiate these.

Injuries to the mother in the 1,336 cases ..... 547—40.56 per cent.

Laceration of the cervix ..... 46—3.38 per cent.

Laceration of the perineum { incomplete { not including muscle 106—7.76 per cent.
including muscle ... 372—27.2 „
complete through sphincter ani 23—1.68 „

Episeotomy was performed 14 times, not included in the above.

Injuries to the child in the 1,336 cases ..... 163—10.21 per cent.

Facial paralysis ..... 49—3.58 per cent.
Erbs „ ..... 6—0.44 „
Asphyxia neonatorum ..... 102—7.46 „
Died ..... 18 per cent.
Recovered ..... 82 „
Cephalhæmatoma 1
Convulsions 1
Shock 1
Twitchings of hands and face 1
Facial scar 1
Bruising of face 1

Reasons for applying the forceps in the 1,336 cases.

Second stage of labour over 2 hours, due to inefficient pains, abnormal presentation, contracted pelvis, large head of child, etc.	1,041	76.2 per cent.
Second stage of labour under 2 hours, abnormal presentation	140	10.2 „
No reason stated	111	8.13 „
Demonstration purposes	74	5.42 „

Condition of the cervix uteri in the 1,336 cases.

Rigid ..... 17—1.24 per cent.

Seven cases were dilated manually, five with de Ribes' bag.

Situation of the head of the child in the 1,336 cases.

Arrested above the brim of the pelvis..... 27—1.98 per cent.

Result to child :	Death	10	37.0 „
	No injuries	11	41.0 „
	Injuries	6	22.0 „
	Blue asphyxia		2
	White „		1
	Bruised face		1
	Convulsions		1
	Twitchings of hands and face		1

Arrested in the brim of the pelvis ..... 22—1.68 per cent.

Result to child :	Death	4	17.0 „
	No injuries	14	61.0 „
	Injuries	5	22.0 „
	Asphyxia		3
	Facial paralysis		1
	Facial scar		1

Arrested below the brim of the pelvis ... 218—16.0 per cent.

Result to child :	Death	11	5.0 „
	No injuries	120	87.2 „
	Injuries	17	7.8 „
	Asphyxia		8
	Facial paralysis		6
	Cephalhæmatoma		1
	Convulsions		1
	Shock		1

Abnormal presentations in the 1,336 cases ..... 476—34.8 per cent.

3rd and 4th vertex unrotated 82

In four of these it is noted that rotation was effected by the forceps. No mention is made in the remaining 78 whether manual rotation had been tried before the forceps was employed.

Cases admitted after ineffectual attempts at delivery outside the Hospital ..... 17—1.24 per cent.

Result to child ..... 14—82.0 per cent. died during or before delivery in the hospital.

Contracted pelvis in the 1,336 cases ..... 150—11.0 per cent.

Flat and generally contracted.....		107—7.83	„
Of these	1st degree : flat	49—3.59	„
	generally contracted	52—3.81	„
	2nd degree : flat.....	6—0.44	„
Funnel-shaped (assimilation)		43—3.15	„

Fever following the application of the forceps in the 1,336 cases ..... 402—30.0 per cent.

Mild ..... 215—15.3 per cent.

Severe ..... 197—14.7 „

These include all cases except when the fever was due to some condition of the breasts, bronchitis, pneumonia and pleural effusion.