



*Munro Kerr's*  
**OPERATIVE  
OBSTETRICS**

SIXTH EDITION BY  
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## PREFACE TO THE SIXTH EDITION

FAMOUS amongst Tenniel's political cartoons was one that depicted a ship a stalwart seaman descending the ladder, and a captain peering anxiously over the rail. It was entitled *Dropping the Pilot*. This picture now fills my mind, for Munro Kerr has retired from authorship after steering his textbook through successive editions for more than forty years. To have produced a major work on a clinical subject so long ago as 1908 and to have nursed it from strength to strength over nearly half a century is a remarkable achievement. But this is his record, and by this token his book may be judged.

In the preparation of the last edition I was privileged to work with Munro Kerr: now it has fallen to my lot to prepare a new edition. Although acutely aware of my shortcomings I have undertaken the task gladly, for I have felt that by so doing I could in some measure repay the help that I myself received when *Operative Midwifery*—later to be renamed *Operative Obstetrics*—was for me the obstetrical "Bible".

It is a great pleasure to record that Munro Kerr, although no longer professionally active, retains his mature interest in medical matters and continues to display that youthful enthusiasm which marks him as a Peter Pan of the obstetric world. Great changes have taken place in British obstetrics in the last fifty years. Nowhere has this been more evident than in the city of Glasgow, where malnutrition, anæmia, and pelvic deformity were once deplorably rife. Munro Kerr practised in that city, and he was intimately concerned with the many changes for the better that took place over the half-century. It was this store of clinical and of "human" experience that gave his teaching much of its unique character and authority.

But there was another outstanding quality. Munro Kerr had the enviable ability to convey the "personal touch" in an easy, conversational style of writing. In the present edition I have been at pains to retain as much as possible of the original text, and where alterations and additions have been necessary to graft the new unobtrusively to the old.

One difficulty has arisen. The personal pronoun was freely used. In the last edition, because of the combined authorship, the singular form was changed to the plural. In the present edition, while retaining the personal pronoun I have necessarily reverted to the singular form, and in so doing have taken the liberty of assuming responsibility for statements which, by their context, clearly emanated from the senior author. I have thus spared the reader from what might be an irritating repetition of bracketed initials.

Where, however, I have put forward opinions contrary to those generally held, or where—in a very few places—my present belief is at variance from that previously expressed, I have deliberately inserted initials. I have also identified the many case histories which illustrate the text, for I believe that their interest is thus enhanced.

The subject matter of *Operative Obstetrics* extends far beyond the title. With this, as with previous editions, the purpose is not only to guide the young specialist in details of technique but to present a reasoned discussion of the history, the scope, and—so far as they are known—the results of the many and sometimes conflicting methods of treatment. A special feature is the liberal inclusion of references to literature, of which more than 1800 are listed. There is no pretence at completeness, nor is the selection necessarily the best; but their presence stimulates the serious worker to use a medical library and to form his own judgment of the stage of knowledge reached in the subject of his interest.

This edition has been minutely revised, and while the general format remains unchanged many passages have been altered and many added, notably in the chapter on abdominal delivery. Some of the old illustrations have been replaced and, for the first time, colour-photographs have been reproduced. The technical detail of the lower segment Cæsarean operation is one of the subjects thus depicted.

I gratefully acknowledge help from many sources.

C. S. Russell, Professor of Obstetrics and Gynæcology in Sheffield, has again contributed the final chapter on maternal and foetal mortalities and their relationship to antenatal and intranatal care. My colleague Sir Robert Macintosh has been most helpful in his criticism of the chapter devoted to anæsthesia. John Peel (King's College Hospital, London) has revised his section on caudal analgesia. J. A. Stallworthy and W. Hawksworth have kindly allowed me to make use of certain of their case records. Photographs of interesting specimens have been contributed by friends far and near: their names are mentioned in the text, but should any have been omitted it is not for want of appreciation of the help received.

To the publishers of the following journals I express my thanks for permission to reproduce illustrations: the *Journal of Obstetrics and Gynæcology of the British Empire*; the *American Journal of Obstetrics and Gynecology*; *Surgery, Gynecology and Obstetrics*; the *American Journal of Surgery*.

I am indebted to my Assistants, past and present, for advice and much helpful criticism in proof correction. Amongst them I would mention A. T. Marshall, J. K. Tully, Lloyd Johnston, J. Gardiner, W. J. Garrett, Miss Cowie (now Mrs. Love), Miss Cardno, and particularly my First Assistant, M. P. Embrey.

Finally, it is a pleasure to acknowledge the support given by the publishers, Messrs. Baillière, Tindall and Cox, who have been most patient in

dealing with the many alterations of and additions to the original script, and in coping with the many new illustrations. I can best thank Mr. Dennis Tindall by expressing the hope that his unwavering enthusiasm is reflected in the pages of this book.

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PART I

THE MANAGEMENT OF NORMAL LABOUR



## CHAPTER I

### INTRODUCTORY

#### Eutocia and Dystocia

*Eutocia*, or normal labour, may be defined as a labour in which the process of parturition is spontaneous, uncomplicated, and not unduly prolonged. *Dystocia*, or difficult labour—the condition with which we are more especially concerned in these pages—may be defined as a labour in which the process of parturition is complicated in some way or other and in which, generally speaking, some minor or major operative interference is necessary.

The borderline between these two types of labour is not always clearly defined. Nature in parturition, although generally following a certain course, refuses to be trammelled by hard-and-fast rules. It is important for the accoucheur to remember this fact, and to appreciate within what limits Nature may be allowed a free hand. The mistake is too often made of forgetting it and of interfering, when, with a little patience, interference would have been unnecessary. But, if it is of importance that the accoucheur should appreciate the natural variations of parturition, it is equally important that he should recognize when Nature is at fault, and that he should do this as early as possible. He must never presume that a parturition is normal. *He must not be content until he has satisfied himself that it is not abnormal.* Again and again one sees how failure in this respect results in complications being overlooked until they cannot be remedied, and the child's, and even occasionally the mother's, life sacrificed or greatly endangered. This does not imply that he must always interfere early in labour; in many cases of dystocia *timing* of interference is the all-important detail.

Another matter which should ever be borne in mind is the limitations of the different operative procedures. Even to-day there are admitted to maternity hospitals a considerable number of cases in which the medical attendant has failed to appreciate this. Most of such cases are examples of contracted pelvis, impacted shoulder presentation, occipito-posterior or mento-posterior positions of the head. It would appear as if the accoucheur considers it a disgrace, not only to his obstetric skill but to his physical powers, if he fails to effect delivery by forceps or version; and so he has recourse to unjustifiable force. As I shall point out in the following pages, the employment of extreme force is almost always wrong; it may often be followed by no serious consequences—indeed, it may even appear to be quite successful—but it is unscientific and in a very large proportion of cases it results in less or more serious injury to mother or child, or both.

It generally means that the operation is unsuitable or is being badly performed. I do not deny that on occasions and in exceptional circumstances some degree of force has to be employed. These circumstances, however, will be referred to in their proper places. Here I would only remark that when much force is necessary to extract the child it should only be exerted if immediate delivery is called for, and there is no other alternative procedure in the circumstances. If the child is dead, delivery should be completed by diminishing the bulk of the child by embryulcia. It is quite profitless to drag a dead child out of the parturient canal with difficulty, when by performing craniotomy it could be extracted with ease; or to perform a very difficult version in an impacted shoulder presentation when by decapitation the child could be easily delivered. In a difficult labour, therefore, the accoucheur must carefully observe the condition of the child. He must never sacrifice it if, with safety to the mother, he can save it; but he must effect the delivery in the easiest manner should it succumb.

At the other extreme is the too free employment of Cæsarean section for conditions which can be quite satisfactorily treated by simpler obstetric methods. The most striking development in operative obstetrics during the present century has been the extension of the operation of Cæsarean section, as the means of combating the complications of parturition. So pronounced has been this development in the last two or three decades that many obstetric specialists have expressed concern lest it might get out of hand. Cæsarean section is so simple (the classical operation unfortunately especially so), and to-day so safe if performed before or early in labour, that there is a growing tendency to employ it for cases which an experienced obstetrician could deal with as satisfactorily by the older and accepted vaginal methods—manual manipulation or forceps, for example. The problem to-day is to maintain a balanced perspective towards the vaginal and abdominal routes of delivery in complicated cases. And this is not easy even for the obstetric specialist brought up on the traditional methods of vaginal delivery yet forced to admit, from his clinical experience, that in a large number of complications the abdominal route by Cæsarean section gives better results in respect to both mother and child. Indeed, the marked reduction in the foetal mortality and morbidity rates if Cæsarean section is employed is largely responsible for the very striking extension of the operation in recent years. An outstanding example (pelvic disproportion apart) is *placenta prævia*. Beyond any shadow of doubt it has been proved that the best results for mother and child are secured by Cæsarean section. Even in the least serious variety (lateral) Cæsarean section gives the lowest foetal mortality, although as regards the mother the result from vaginal and abdominal methods of delivery are about the same. Little wonder, therefore, that leading obstetric surgeons in this and other countries now employ Cæsarean section in more than 50 per cent. of cases of *placenta prævia*.

As stated, the risks to the mother from Cæsarean section, if the operation

is performed before or early in labour and by an expert obstetric surgeon, are small (less than 0.5 per cent. mortality rate). Even under less favourable circumstances, when in the past the danger of infection was a restraining influence in the choice of Cæsarean section, the operator now armed with the sulphonamides and penicillin can shoulder far greater risks, knowing that the danger of peritonitis following the operation has been enormously reduced.

Let there be no misunderstanding, however. I condemn the indiscriminate employment of Cæsarean section for obstetric complications. In the following pages—written for obstetricians trained or in training—I shall try ever to give the old and tried vaginal methods their proper place. It would be a sad day for prospective mothers if Cæsarean section were to run riot and were to be indiscriminately employed for complications which can be quite as well treated by ordinary vaginal procedures. There is to-day a definite danger of this occurring, more especially in institutions where obstetric complications are relegated to a general surgeon untrained and uninterested in obstetric surgery. Nor should the remote disadvantages of Cæsarean section be forgotten. The slight but definite risk of uterine rupture in future pregnancies necessitates the women being kept under careful supervision in a hospital or nursing home during the later weeks of pregnancy and finishing up possibly with a “repeat section”—*necessary* of course if pelvic deformity is the indication, but *unfortunate* if there is no indication for Cæsarean section other than the existence of the uterine scar of the previous operation. Then, too often, for personal or economic reasons, or frankly because of a misunderstanding of the nature of the operation, the husband and wife avoid future pregnancy, and that reproach to obstetricians, the “one-child Cæsarean section sterility,” results.

Naturally, the relative claims of mother and of child frequently require to be considered in cases of dystocia, and nothing taxes so much the judgment of the accoucheur as giving each its proper place, for their interests are often antagonistic. Only by experience, and a balanced consideration of all the circumstances, will the obstetrician learn how to act in a particular case—each case is a specific problem. No hard-and-fast rules can be laid down, and different obstetricians, of equal ability, knowledge, and experience, may act differently under the same circumstances. The obstetrician must ever avoid taking up an extreme position and becoming a partisan for or against any particular treatment. Progress in obstetrics has been much retarded in all ages by those who have unfortunately adopted such an attitude.

### The Primary Causes and Features of Dystocia

There are three factors which influence labour—the *forces*, the *child*, and the *passage*—and no attitude towards dystocia could be sounder than attempting to estimate in every case how far each of these factors is involved. This

is often difficult, especially in the minor forms of dystocia, for sometimes more than one is, or indeed all three are, at fault. The obstetrician, however, must carefully consider all, and give to each its proper place. The easiest explanation of a delay or difficulty is to blame the forces—the factor which is most indefinite and most difficult to estimate exactly. “The strength of the forces is the most uncertain factor in labour” (Guggisberg). For this reason, therefore, and because it is the least serious, the accoucheur should not rest satisfied with attributing delay to it until he has made certain that neither of the other two factors is at fault.

Again, labour may be disturbed by accidents to the parturient, such as rupture of the uterus; by hæmorrhage, such as that associated with placenta prævia; by displacements of the uterus, such as retroversion, all of which, and many other complications considered in these pages, the accoucheur must be alert to appreciate. Frequently he has to deal with such contingencies with celerity; and in domestic practice under conditions not too favourable, and with very inadequate assistance. Appreciating this fully, I have tried, in considering all complications, not only to describe the ideal treatment of the particular condition, but also, when such treatment is impossible, to indicate the best course to follow under the circumstances.

There remains, however, another group of cases in which the factors of labour may or may not be disturbed, but operative interference becomes necessary in the interests of the mother or child, because the vitality of one or other shows signs of progressive worsening. Let us now consider this group in more detail.

*In case of the mother*—if actual disease such as cardiac decompensation, anæmia, pregnancy toxæmia, etc., is not present—it will be found, almost without exception, that one or more of the factors of labour is disturbed. In this connection it must be remembered that women bear labour very differently, and that consequently interference is necessary earlier with some than with others. Generally speaking, the pulse is a fair guide. To have the full benefit of this guide, however, one must know beforehand the ordinary rate and character of the pulse. It is by no means uncommon to find a pulse-rate of 90 to 110 quite early in labour; indeed, even during the later weeks of pregnancy. A progressive rise in pulse-rate should always be looked upon as a danger-signal. The same applies to a steadily rising temperature, restlessness, and increasing acidosis.

Reference so far has been made to the early indications for interference, none to the later and graver indications—tetanic contraction of the uterus, tenderness over the lower uterine segment, and the appearance of Bandl's ring. Without doubt, they also are indications for immediate delivery. As we shall see, when rupture of the uterus is being considered, they are symptoms of the very greatest seriousness. But they should never be allowed to develop; the uterus should have been emptied before they made their appearance.

*In the case of the child*, a steady slowing of the foetal heart, especially when the rate decreases below 110, points to the child's life being in danger. During the second stage when the head is being compressed the heart-beats are much affected by the uterine contractions, but if the child's vitality is undisturbed they quickly return to the ordinary rate as the contractions pass off. When they return slowly, and especially when they are irregular, there is no time to lose if the child is to be saved. But I would warn my readers that the foetal heart sounds are very easily affected. Failure to appreciate this is the cause for much unnecessary early interference with forceps, as is pointed out later.

The escape of meconium, in presentations other than the breech, is another danger-signal on the side of the child. Small quantities of meconium may be discharged into the amniotic cavity, and this may occur even during pregnancy, but free escape of meconium during prolonged labour, or consequent on rapidly superimposed uterine contractions, calls for speedy delivery should maternal conditions justify this procedure; this is especially so if there is also a persistent slowing, or irregularity of the foetal heart rate.

Strong and irregular foetal movements also frequently precede the death of the foetus during labour. With the mother very restless and suffering from the pains of labour, this symptom is seldom of much practical value.

We must depend, therefore, almost entirely upon the condition of the foetal heart. If the labour is at all protracted, the accoucheur should auscultate the foetal heart frequently, and note its rate and character and how it is affected by the uterine contractions.

### The Prevention of Dystocia

The acknowledged triumphs of preventive medicine in so many fields naturally raise the question, *How far can dystocia be prevented?*

Preventive medicine applied to obstetrics has as objectives: (a) the preservation of the expectant mother in health; (b) the preparation of her for labour, so that she may pass through the ordeal with the least injury to herself and her offspring, and with the least possible exhaustion. It is the second objective with which this volume is concerned more especially—the means to be employed to prevent, or, if this is impossible, to anticipate, prepare for, and deal with, the complications and difficulties of parturition at the right time and in the right manner.

Until comparatively recent years difficulties and complications of labour were dealt with as they arose, with the result that to a large extent they presented themselves as surprises. To-day, by means of an exhaustive examination in the thirty-fourth to thirty-sixth week of pregnancy, surprises have been reduced to the minimum. Few except those specially trained and interested in obstetric practice realize the degree of exactness in diagnosis now attainable—and, be it noted, *generally by very simple means*. Indeed, the

stage has been reached when it may be claimed that very few pregnant women need pass into labour with any serious obstetric complication unrecognized. Let me elaborate this sweeping statement.

All malpresentations and malpositions of the fœtus, with the exception of some "face" and "brow" presentations which develop early in labour, can be recognized by palpation, auscultation, and in cases of doubt by radiography. Plural pregnancy, fœtal malformations such as hydrocephalus or anencephalus, and intra-uterine death, can be recognized by these same methods; here, however, only by radiography is it possible in many instances to reach an exact diagnosis. Malformations of the pelvis can be diagnosed, and the degree of disproportion estimated by clinical methods, or measured more exactly by radiography; this permits us to induce labour or to leave the labour to take its course in slight disproportion—the "trial labour" for borderline cases, and "elective" Cæsarean section for pronounced pelvic deformity. Take, again, the hæmorrhages of the later months—placenta prævia and accidental hæmorrhage. In most instances of the former condition there is the warning signal of repeated slight hæmorrhage prior to the severe bleeding which prostrates the patient and places her life in jeopardy. It is true, as we shall see (Chap. 30), that in some of the worst forms of placenta prævia (central) the first hæmorrhage occurs late in pregnancy, or even may be delayed until labour has commenced; and it is also true that the gravest variety of accidental hæmorrhage (concealed) in many instances occurs without a warning hæmorrhage. Usually, however, with the latter there are the warning signals of high blood pressure and albuminuria. In both conditions an X-ray examination may be of assistance in determining the placental site.

It follows then, that this complete examination in the thirty-fifth or thirty-sixth week permits the accoucheur to cut down uncertainties, in the great majority of cases, to (a) the strength of the expulsive forces; (b) the resistance of the soft parts of the parturient canal together with the "give" of the bony pelvis; (c) the moulding of the fœtal head. To this may be added, (d) prolapse of the umbilical cord.

As regards the first two—the forces and the resistance of soft parts—there is very definite clinical evidence that the former is generally adequate, and the latter seldom abnormal. The evidence is the low rate of forceps delivery in well-organized maternity services conducted on conservative lines, and in which the routine work is carried out by midwives (see p. 33). Take as an example the Queen's Institute of District Nursing. The figures refer to patients who in the antenatal period were believed to be normal or substantially so:—

In 1948 (the last year for which statistics are available) 69,380 cases were attended of which 21·34 per cent. were primiparæ. There was a maternal mortality rate of only 0·69 per thousand (no death from sepsis). The forceps rate (doctor called in) was 2·3 per cent. for primiparæ, and 1·2 per cent for multiparæ.

Prolapse of cord is, and will always be, associated with a very high fœtal



mortality—it is an entirely unpreventable accident. The chance of its occurrence, however, if presentation of child is normal (first or second vertex) and maternal pelvis is normal, is approximately only 1 in 1,500.

The abnormalities which can be corrected are for the most part faulty presentations of the foetus. The advantages, for example, of converting a breech into a vertex presentation far outweigh the disadvantages and dangers (placental separation, prolapse of cord), as I point out in due course (p. 175).

The recognition of normal conditions, and the planning out beforehand how an abnormality should be approached, if it cannot be corrected—in other words, antenatal supervision in the complete sense of the term—is one of the aims of obstetric art. Even in its present incompleteness it has been of incalculable advantage to countless expectant mothers. From time to time a good deal of criticism has been directed against antenatal care; the faint-hearted are despondent, the self-satisfied exultant. The latter are an extraordinary breed. At the end of the last century it was against antiseptics their feeble satire was directed. Later it was against rubber gloves when they were introduced, and again in more recent times when the use of masks was recommended. Undoubtedly the results obtained from antenatal supervision still leave room for improvement (see Chap. 35). Much that passes muster as antenatal care is totally inadequate; indeed, in many instances it is worse than no antenatal care, because it creates a false feeling of security in the mind of both supervised and supervisor. For this unsatisfactory state of affairs attendants (doctors and midwives) are not entirely to blame; in many instances patients fail to avail themselves of medical advice during pregnancy, or neglect to follow the advice given them. Antenatal care has not yet had a “fair deal” in the country generally, and the proof of this is that, in maternity services in which antenatal supervision has been adequately employed, eclampsia, at least in its graver forms, has been almost entirely eliminated, and maternal and foetal mortality and morbidity brought to an extremely low level.

The contention of Fairbairn, more fully elaborated by Dick Reid,<sup>1</sup> that we should get back to “physiological labour” will not solve the problem, however desirable it may be to persuade young mothers of to-day to look upon pregnancy and childbirth as a natural sequence of matrimony and not worry about it, as did their grandmothers. As a matter of fact, only a few become unduly concerned about these events—excepting, of course, a large number who are annoyed at the recurrence of pregnancy. Robustness of body and mind, however, is no insurance against the disturbances and complications of pregnancy and childbirth.

The criticism of Browne<sup>2</sup> was more pertinent, and the question he raised more serious—viz., that misdirected antenatal care was transferring fatalities from one group to another. He took as examples the free employment of

<sup>1</sup> *Childbirth without Fear; The Principles and Practice of Natural Childbirth* (1954), London.

<sup>2</sup> *Lancet* (1932), 2, 1.