With the writer's
Compliments.
Miles Phillips
Dec. 1933

William Smellie and the Maternal Mortality Problem

BY

MILES PHILLIPS, M.B., B.S., F.R.C.S., F.C.O.G.

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WILLIAM SMELLIE AND THE MATERNAL MORTALITY PROBLEM.*

By MILES PHILLIPS, M.B., B.S., F.R.C.S., F.C.O.G. (By Invitation), Professor of Midwifery and Gynæcology, Sheffield University.

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THE MATERNAL MORTALITY PROBLEM IN THE LIGHT OF WILLIAM SMELLIE'S TEACHING.

FOR our consideration of the subject of Maternal Mortality I ask you to cast your minds back nearly two hundred years. In 1736, a London surgeon, Mr John Douglas, wrote a pamphlet in which he deplored the lamentable state of midwifery practice in London at that time. He expressed surprise that whilst other departments of surgery had been practised and improved by men "the operation necessary for the safety of women in labour, and their children; operations of more consequence to mankind than all the rest; operations often wanted, so difficult many times to perform and upon which always two, and sometimes more, lives depend, seem to have been entirely left to a parcel of ignorant women, or to men little better than they, who, upon any extraordinary difficulty took hooks or knives and carved the children to pieces, and often, also, destroyed the mother." In Paris, he stated, things are better managed. There, all "midwomen" must be examined and approved before they are permitted to practise. The French text-books for midwives were much more explicit than the English. He pilloried two English writers, Hugh Chamberlen, who had translated and annotated Mauriceau's Midwifery in 1672, and Edmund Chapman who, in 1733, had published "A Treatise on the Improvement of Midwifery." In this Chapman gave the

* Read before the Edinburgh Obstetrical Society, 10th May 1933.

first account and description of the midwifery forceps, which was described by him as "that noble instrument." In each book a secret method of delivery (forceps and fillet respectively) was referred to by the author, but deliberately not described—sheer advertising, said Douglas. However, the chief interest in Douglas's pamphlet lies in the proposals which he made for the improvement of midwifery practice. He advocated:—(1) Proper courses of instruction for midwives. (2) The establishment of a maternity hospital—to accommodate 200-300 poor women—in London, at the public expense, to be used for the teaching of midwives; this hospital teaching should be in the hands of proper midwomen with two surgeons in charge. (3) A final examination before a certificate to practise is granted. Finally, (4) that the same procedure should be set up in the principal towns in the Kingdom.

This pamphlet aroused a spirited reply from Chapman, who that very year had settled in London and had started to "instruct young gentlemen in the art of midwifery." In this reply he answered what he called Douglas's "trifling and malicious cavils" and defended himself and Chamberlen. But, and this is more in accord with the enthusiastic accoucheur we know Chapman to have been, he joined with Douglas in hoping to see "Any scheme put in execution for the real good and improvement of Midwifery."

How wide a publicity this wordy warfare created it is difficult to estimate, but it is highly significant that in 1739, only three years later, a lying-in hospital was started in Jermyn Street, St James', Westminster, by Sir Richard Manningham, the foremost obstetrician and teacher of the time. Dr G. C. Peachy has shown that this is the first General Lying-in Hospital in the British Dominions, and that it later, in 1813, on another site, became Queen Charlotte's Hospital.

A Prospectus issued by Manningham runs as follows:—

"From the Lying-in Apartment in the great Auction-house in Jermyn Street, St James's. As hitherto midwives and other practitioners of midwifery here in England have very often been at a great loss for want of proper opportunities of instruction in the art and practice of midwifery, therefore, at the said house Lectures will be read and young physicians, surgeons, and women, perfectly taught the art and practice of midwifery, and the performance of deliveries of all kinds even the most difficult with the utmost decency and dexterity by means of a contrivance made on the bones or skeleton of a woman

with an artificial matrix (of glass), whereby all the inconvenience which might otherwise happen to women from pupils practising too early on real objects will be entirely prevented: for by this method and contrivance each pupil will become in a great measure a proficient in his business before he attempts a real delivery. And the young physicians will be particularly instructed in the whole theory and practice of the said art and of all diseases incident to women during pregnancy and child-bed, and of those incident to children: by Sir Richard Manningham, Kt., M.D., and man-midwife, etc. Note that men and women are instructed on different days."

Within the next ten years several other institutions were founded with the same object.

London thus owed a debt of gratitude to Douglas, but perhaps even a greater benefit was to follow. I like to think that this pamphlet of Douglas's was studied with eagerness by a young country practitioner in Scotland—that his ambition was stirred. It may even have been that he had already realised that he had acquired a better understanding of Nature's method in child-birth than had been vouchsafed to any of the writers of the numerous books he had read. He may well have recognised that he had not only a love, but a special gift for teaching. There would appear to be need for such a man in London. On pondering over the matter he probably acquired a strong conviction that he could introduce better and more effectual methods of teaching midwifery than those in vogue. Of course I refer to William Smellie, the man destined to earn for himself the proud title of "The Master of British Midwifery."

To an audience, in this the capital city of his native country, I need do no more than give a brief outline of William Smellie's career.

It is probable that he was trained by an apprenticeship in Lanark or Glasgow. He commenced practice as an "unqualified practitioner" in Lanark in 1720, when twenty-three years of age. There he practised for nearly twenty years. His experience in midwifery alone concerns us now. He tells us that during this time he "was seldom called to deliver women except in laborious and preternatural cases."

1738

In 1728 he left Lanark and travelled to London in order, he writes, to acquire further information on the use of forceps of which he had read in the books of Chapman (1733) and Gifford (1737). As I have already suggested, it is not unlikely that he felt "in his bones" that he had a mission to perform.

Disappointed with the teaching in London, he crossed to Paris and spent three months studying Monsieur Grégoire's method of teaching. Of this he was also critical, especially of Grégoire's method of using the forceps, for, he says, "he taught his pupils to introduce them at random and pull with great force." Surely McClintock is right in thinking that "the effect of the visit to London and Paris was the strong conviction that he could introduce better and more effectual methods of teaching midwifery than any that were then known."

In 1739 he set up in London as an apothecary and accoucheur, and by 1741 he was established as a teacher of midwifery. His method was largely practical teaching in the slums, at the bedside of women whom he supported financially during their lying-in on condition that he might be allowed to bring his pupils to watch and even take part in the delivery. The street which Hogarth immortalised as "Gin Lane" was in Smellie's district.

Systematic lectures were given as well, and operations practised with the aid of a phantom which he had made and which was a great improvement on those used in other schools.

He acquired a great reputation as a teacher, many hundreds of pupils, male and female, attending his Courses between 1740 and 1759. In the latter year he retired to his native town of Lanark, where he died of "an asthma and lethargy" in 1763.

In 1752 he had published his *Treatise of Midwifery*, in 1754 a *Collection of Cases* and also a "Sett of Anatomical Plates to illustrate the Treatise." Finally, during his retirement he finished the record of his life's work by preparing a third volume on *Preternatural Cases in Midwifery*. This was published posthumously in 1764. As the result of the late Professor John Glaister's researches, we know that Tobias Smollett the novelist edited all three volumes of his writings. These should be repeatedly studied by all teachers of midwifery. They contain a wealth of unrivalled illustrative cases which never fail to impress the young student. Munro Kerr aptly says, "He was such an exact observer, and pursued the practice of his art so assiduously, that he must have been a wonderful instructor. An equally high standard he aimed at in his writings . . . which are marked by a lucidity and terseness which is most impressive. By his genius he is able to present particular cases as clear-cut clinical pictures. Even to-day they can be read with the greatest interest and profit."

He had kept records from the early days of practice and he must have studied them again and again, adding comments and new observations as time went on, and as he himself says, "losing no opportunities of acquiring improvement in knowledge and cheerfully renouncing those errors which he had imbibed in his early days."

It is my belief that no other man ever advanced in his own lifetime knowledge of the theory and practice of midwifery to an extent in any way comparable with that achieved by Smellie. The light he shed on the mechanism nature employed in the passage of the fœtus through the pelvis, and on the wise management of labour, both natural and abnormal, and especially on the training of midwives and students, was widely recognised in his own time in other countries as well as this. Several of these other countries, including Holland, Denmark, and Sweden, not only employed the methods he advocated but have continued to use them and to extend their practice on the same principles. But unfortunately Britain, with the outstanding exception of the Rotunda, has long delayed in setting up schools for midwives and students conducted and controlled by a whole-time teacher of ripe experience, ready at almost any hour of the day and night to direct or conduct a labour and to demonstrate it to the midwives or students. Such a teacher was William Smellie, and I believe that men prepared to teach as he did must be found and endowed before sound conservative midwifery practice will be widely practised again in our country.

The principles on which his teaching were based can perhaps be best conveyed by extracts from his own writings. Some of his old pupils used to send him accounts of cases in their own practices for his comments and criticism. In an answer to one of these he writes (Case 289)* :—

"Sir,—Your succeeding so well with the forceps in the two cases, where the heads of both children were come down to the lower part of the pelvis, I am afraid ran you into error in trying them too soon in the last (in which the head was still high, the patient a primigravida and only a few hours in labour).

"I am certain," he continues, "when you attended me, in all the courses, I insisted much on the precaution necessary as to the management of natural and tedious labours: knowing from experience, that young practitioners are apter to err in

* Case 289 refers to McClintock's method of numbering Smellie's cases.

these than in the preternatural; and I always begged them to attend every labour; as it was too common for the gentlemen to neglect coming, except in the preternatural, or where it was absolutely necessary to use instruments.

"Besides, the attending with an old practitioner, where labours are lingering and doubtful, teaches us how long to allow them to go on without endangering the patient, and when it is absolutely necessary to give more effectual assistance. I assure you, I have been oftener puzzled in these than in any other: for, as in other parts of surgery, it requires more skill to prevent than to perform an operation."

Frequently in his writings he insists on the necessity for the student to witness as many cases of natural labour as possible, and under the guidance of himself or of one of his faithful midwives.

Just picture for yourselves the valuable influence on the young pupil of that patient woman Mrs Maddocks—"a midwife whom I kept," he says, "on purpose to attend my patients in lingering labours" (Case 331).

But even after such experience the many difficulties of midwifery were not to be forgotten, and Smellie issued the warning "that students should never think themselves perfect; there were many things in midwifery which could only be learned by practice and observation: and that cases would sometimes occur which puzzle and foil the best practitioners" (Case 297).

Nature's resourcefulness is constantly referred to. In his Preface to the second volume we read: "From the instances of natural and tedious labour, the young practitioner will learn how to behave in the like occurrences and, above all things, to beware of being too hasty in offering assistance, while Nature is of herself able to effectuate the delivery."

At the same time in every possible way Nature's efforts were helped—by measures to relieve pain, or induce sleep, by suitable dietary, changes in posture, moral encouragement to efface fear, etc. The very presence of the man appears to have braced stricken women for the ordeal of an operative delivery.

His fortunate pupils must have had endless opportunities of witnessing the master's careful attention to detail. He warns them against "whispering within earshot of a frightened patient"; to ensure quiet for a very ill woman he not only lays down rugs and silences bells and knockers, but actually oils the locks of doors. In a case of breech presentation in a very

young primigravida he thought it advisable to stay in the house all night, but in order to avoid causing anxiety this was done "without her knowledge" (Case 308). Frequently we read that in very cold weather the patient is brought down to that part of the bed nearest the fireplace before she is put into the lithotomy position (Case 329).

He was very particular about the early application of an abdominal binder "to prevent as much as possible the patient's fainting away, from the too sudden evacuation of the uterus." Indeed he would get one of the assistants "to press with the palm of her hands on the patient's belly, and increase the pressure as the uterus emptied (Case 331).

Once he laments "having forgot that precaution in time of the delivery" in a case of placenta prævia which proved fatal (Case 329). The wisdom of taking this precaution is often forgotten in these days, even though fresh evidence for its need can be obtained by blood-pressure readings.

In a case of hydramnios in an unmarried girl (Case 321), naïvely described as "an antenuptial affair" (possibly a touch of Smollett), he found that he could let off the liquor, almost drop by drop, by plugging the vagina with the forearm. As a matter of fact this is a most successful manœuvre; the liquor can be let off at will by merely opening and closing the fist. It is much more effective than the specially devised trochars.

It is interesting to watch the gradual development of Smellie's knowledge. This is made possible by the fact that in the majority of the case records the date of its occurrence is noted. Perhaps the most interesting instance of this is his recognition for the first time, in 1743 (Case 280), of the contraction ring. In Case 220 he notes that thirteen years before (1730) he had dealt with a puzzling case of obstructed labour. He had thought that the delay was due to the cord being circumvoluted round the neck of the fœtus but—in his own words—"when the child was delivered, the funis was not round the neck, so that I could not find out the cause that retarded the labour. I continued several years in this uncertainty, until I discovered that, in many cases, this obstruction proceeds from the contraction of the lower part of the uterus before the shoulders." However, consummate obstetrician that he was, he had successfully delivered the child alive by the use of laudanum and steady traction on the head by means of a fillet; an anticipation of the late Abernethey Willett's method of

dealing with this type of obstructed labour. Smellie describes a number of these cases; his views on the diagnosis and treatment of the condition are of great value.

The part he took in the development of the midwifery forceps is well known. He laid down rules for their use and warnings against their premature use, which have never been improved upon and are probably more needed in these days than in his own.

Dr Herbert Spencer's last sentence in his *History of British Midwifery*, published in 1927 runs thus—"The abuse of operative measures (forceps) is much greater at the present time and no better corrective of that abuse could be prescribed than a study of the careful records of the British Obstetricians of the 17th and 18th centuries showing the resource of that 'perfect operatrix' Nature in effecting delivery."

After describing a case of premature interference with a labour, Smellie writes, "The gentleman, either from great ignorance of his profession, or hurry of other business, which last is a most shocking reason, did certainly act the part of a bad accoucheur." Severe censure this from a man who had written, "we ought always to judge on the charitable side, especially as none of us are perfect."

Such a teacher as this, during the twenty years he practised and taught in London, must have produced a definite improvement in the practice of midwifery. This was recognised at the time: in 1746, Dr Thomas Tomkyns in the Preface to his translation of La Motte's *General Treatise on Midwifery* refers to Smellie as "a gentleman who is not satisfied with being serviceable to mankind by his own labours, but with indefatigable industry studies to enable others to be as serviceable as himself and communicates knowledge with surprising ingenuity. . . . Whose excellent lectures diffuse knowledge throughout all the different parts of this Kingdom and will soon cause France to cease being our rival in this branch of Surgery." In addition, improved teaching was also provided in the maternity hospitals and lying-in wards which had been established during the same period. Mrs Dorothy George in her study of *London Life in the Eighteenth Century*, expresses the opinion that the impulse Smellie gave to midwifery helped to establish a number of lying-in hospitals in London. Indeed a fall in the maternal mortality rate per thousand christenings did actually occur at this time, from 14·5 in 1739 to 13·0 in

1759, whereas it had been stationary for the previous twenty-five years. My authority for this statement is Dr Reginald Dudfield, who read a paper on the subject before the Section of State Medicine of the Royal Society of Medicine, in March 1924. He had made a careful study of the London Bills of Mortality from 1629 to 1820 and had formed the opinion that the numbers recorded "furnish a fair approximation of the Fatality in Childbed."

During the next 150 years the mortality rate gradually fell to 4 per 1000, and thereabouts it has remained to this day.

This stationary level of the maternal mortality rate led, in 1928, to the appointment by the Minister of Health of a Departmental Committee, which was soon after strengthened by the co-option of your President (Dr James Young).

This Committee ultimatety came to the opinion that at least half the deaths from child-birth, which occur in England and Wales, could have been avoided had the knowledge we already possess been properly applied. It expressed the view that at the root of the matter lay the faulty education of the attendant—the midwife, and even more particularly the medical man. (I shall not further refer to the education and status of the midwife, although, in my opinion, these are matters of outstanding importance.) The Committee scrutinised the records of over 5800 maternal deaths. As regards the part played by the medical attendant in many of these cases, they found that in some he frankly stated that in an emergency he had done the wrong thing; in others he expressed surprise that in spite of certain treatment, which was obviously wrong, the patient died. But in the majority it seemed that his training had not given him sufficient practical experience to enable him to recognise the exact state of affairs, or even to enable him to withstand the temptation to depart from principles of sound midwifery, especially when placed in the difficult circumstances of general practice.

The Committee finally made certain recommendations to the Ministry of Health, of which one alone concerns us now. It refers to the education of the medical student. Certain amendments to the regulations laid down by the General Medical Council in 1922 were submitted. Of these the most important was to the effect that "Every student should devote his whole time to Hospital practice in midwifery (including infant hygiene) and gynæcology for a period of *six months*,

during not less than two of which he should reside in the Maternity Hospital or in specially provided quarters adjacent thereto." In addition it was advised that he should attend and personally deliver during the period not less than 30 cases under adequate supervision—keeping the case records of labour and the lying-in period.

No doubt largely as the result of this recommendation, the General Medical Council in November last adopted the suggested six months' period, but in view of the notorious shortage of cases in many teaching schools, the proposed increase from 20 to 30 was considered inadvisable. In connection with the proposed amendments it should be pointed out that all the witnesses who gave evidence before the Departmental Committee on the question of medical education, agreed as to the scarcity of cases for adequate practical teaching of the students. They stated that in many instances the 20 cases required by the General Medical Council to be attended by each student were not available. One witness gave the average at his Medical School as 8, while another found on questioning one class at the end of their course that the average per student was 2·8. The witnesses also drew attention to the need for more effective supervision and teaching in such students' cases as were available, both in hospital and on the district. One or two witnesses put on record their opinion that inadequate opportunity for practical training was a definite cause of mishap in the treatment of complicated cases in subsequent medical practice. They gave as an instance of insufficient practical experience the not infrequent cases to which they were called in consultation, in which the practitioner had not diagnosed an imperfectly dilated cervix.

In the evolution of medical education in obstetrics in Great Britain, it is interesting to note that bodies of general practitioners have on more than one occasion appealed for more practical experience during the training of the medical student. Thus in 1890 Dr Rintoul, on behalf of 300 practitioners, forwarded to the General Medical Council a petition, begging that each student should (1) attend for six months at a Maternity Hospital, and (2) that each should be present at 50 labours, and (3) of these should personally conduct 30. And in 1895 a petition from the British Medical Association asked for 30 cases under direct supervision. The general practitioner, in his early days of responsibility, too often recognises the shortcomings of his previous practical training. I believe that

no one in this gathering will doubt the wisdom of the authorities in extending the length of training, whatever difficulties may have to be surmounted in carrying out the regulations.

Just for a moment consider the educational value, in its widest sense, of this training in practical midwifery, to the student who is soon to pass into general practice. Is there any other section of his professional training of equal value? He watches and studies the physiological process which is of greatest importance to the race—the bearing and birth of babies. At no other stage in his hospital career can he obtain a clearer object-lesson in the practice of preventive medicine. For the first time he comes into contact with the *home* and *home* surroundings of his patients on the one hand, and with the working of the Public Health Service and Local Sanitary Administration on the other. Thus, he gets a foretaste of the important part he will, as a practitioner, have to take in the team of health-workers in the community.

Some of us may think that even six months is all too short a time in which to learn the minimum amount required to make him a fit and proper person to be called upon to advise and help a midwife in difficulties. For practice in cities in which maternity hospitals and specialists are available, it should be easy to train the students—"endowed," in the words of Smellie, "with natural sagacity, resolution and prudence"—to recognise the more serious complications of labour and promptly to transfer such cases to hospitals specially equipped for their safer management. On the other hand, it should be possible to impart the knowledge necessary for the safe selection of cases suitable for the low forceps operation, and indeed to effect delivery there and then by means of the short forceps. It is only the low forceps operation that is really safe in ordinary domiciliary practice, and probably we teachers ought to limit our instruction accordingly.

William Smellie himself, after describing the dangers of the high forceps operation, says (Vol. I., p. 257):—"In order to disable young practitioners from running such risks, and to free myself from the temptation of using too great force, I have alway used and recommended the forceps so short in the handles that they cannot be used with such violence as will endanger the woman's life."

We can hardly advocate legislation which would require a special licence for the possession and use of long forceps, but

we can well impress upon our younger students, that special skill and experience are required before the accoucheur is justified in applying high forceps. To drive home this point I tell my students that the long forceps might well be kept at the Town Hall, and be only available on a magistrate's order. Examiners at qualifying examinations should surely bear this in mind, and limit their questions accordingly. Much might be done in that way to create a right impression on the mind of the young undergraduate so soon, we will hope, to be legally entitled to practice obstetrics.

Whilst listening to a young examination candidate grappling with *viva voce* questions on the various forms of axis-traction forceps, even on the advantages and disadvantages of special forceps such as Kielland's, I have often felt that a very harmful impression is being left on that young person's mind. Early impressions are lasting, and so far as possible the young student should witness and attend normal deliveries in considerable numbers before he is introduced to major obstetric operative measures. My students are not, so far as is possible, allowed to see these operations in their first month. An exception is made in the case of a pre-arranged Cæsarean section, not only because it is a good example of the value of ante-natal care, but also because so many physiological and anatomical points can be demonstrated.

Now with regard to the supervision of the student in these early days. This should be in the hands of an obstetrician of a good many years' standing. Smellie had practised for twenty years before he began to teach. A senior member of the Hospital Staff, if not always the most senior, should day by day examine and study with the junior students the cases whose progress they are to watch, in their various stages of natural labour. The details which should be attended to in order to assist, or at least not hamper Nature's course, are so numerous and variable in individual cases, that no obstetrician can be too senior, too experienced, to be called upon to impart the knowledge which can only be gained by the careful study of numerous cases. It even appears that the authority of seniority is required to drive home the need for attention to details, often small in themselves but essential to the happy termination of the labour. The control of diet, posture, sleep, physical and mental comfort, can only be taught effectively at the bedside of the woman in labour.

The proper individual to conduct the teaching of this elementary part of midwifery training is, I have no doubt in my own mind, a whole-time teacher, who should also be in full control of the hospital or teaching unit in the case of a very large hospital. Ideally this teacher should reside in the hospital or in a dwelling closely adjacent. Those of us who have seen Professor Essen-Möller's bedroom close to the wards of the maternity department of Lünd University, or have walked through the subway which leads from Professor Gammeltoft's house to his section of the State Maternity Hospital in Copenhagen, have at once realised the great benefit of such an arrangement both for the students and for the patients themselves. Surely this is a matter that must be seriously considered by those who are planning the construction of new Maternity Hospitals in this country. The young student cannot see too many cases thus conducted, even though no more than 20 can be allotted to his special care.

With the six months' course it should become possible to assign to a student in the Antenatal Clinic women whose labours he will attend even four or five months later. He would be certain to appreciate the benefits of such an arrangement and be ready enough to insist upon it in his future practice.

The frequent inability of the young practitioner to recognise the variations in the state of the cervix during labour has already been referred to. It is undoubtedly the underlying cause in not a small proportion of the cases labelled "failed forceps," so well known to the authorities in British maternity hospitals. It has been my official duty to discuss many such cases with the doctors concerned, and I have often listened to the statement that, in his own opinion, the condition of the undilated cervix was not recognised because of want of practical experience in his student days. He had had very few opportunities of feeling the cervix in different phases of the first stage of labour. Those of us who have had long experience in midwifery practice will be the first to recognise the grave disadvantage in which such young practitioners are placed.

I am convinced that sufficient opportunities are not given to junior students to make vaginal examinations. This is not entirely due to shortage of cases. It is undoubtedly fostered by two other considerations, of which the first is the desirability of impressing upon the student that the fewer the vaginal examinations made during a labour, the better. This is an

obvious truth which can be easily drilled into the student even whilst he is being taught to make vaginal examinations on the case he is conducting. But such examinations must be under the direct supervision of an experienced teacher, at carefully selected stages in the progress of the case and for carefully detailed reasons, the purely educational object of the examination being impressed upon him. How else is he to learn to recognise variations in the behaviour of the bag of membranes, or of the dilating cervix, the variations in position and attitude of the fœtal head, the behaviour of the pelvic floor muscles. How otherwise is he to recognise and assist labour delayed by the œdematous lip of the cervix carried down by the deflexed head, or to aid the deflexed head to rotate by well-directed digital pressure on the forehead—a valuable manœuvre often used by Smellie. All these and other variants must be repeatedly recognised and appreciated before the student is safe to superintend natural labours on conservative lines. The knowledge and skill thus obtained will, I believe, prevent many an unnecessary examination in his future practice.

Now the second reason which has led to the discouragement of vaginal examinations by the student, is the danger of conveying infection, and so of endangering the patient's life or health, and incidentally of damaging the records of the teaching institution concerned. Since the days of Semmelweiss this has been a recognised danger. The precautions initiated by him have been acted upon with perhaps steadily increasing care; but still there have been from time to time small and large outbreaks of sepsis in most if not all teaching hospitals, with the result that in not a few schools vaginal examinations by pupil midwives and medical students have been more and more restricted. This must have a harmful effect on the proper study of labour, and have led, I believe, to much consequent bad obstetric practice. I would urge that the recognition of the danger of droplet infection, to which the Departmental Committee in its Final Report drew special attention, should alter our practice in regard to this most important branch of the teaching of midwifery. Scrupulous care in the employment of the simple precautions required to guard against this special and not uncommon source of infection, in addition to—not instead of—the long laid down rules of conduct in the use of antiseptic measures will, in my opinion, enable us teachers to sanction—indeed to order—much

more frequent vaginal examination for purely educational purposes. I have already convinced myself by actual practice that this can be done without harm to the patients concerned, and Dr Joan Rose and her staff at the Elsie Inglis Memorial Maternity Hospital in this City have recently proved the point most conclusively. In this training school for midwives, 54 per cent. of the staff were found to harbour hæmolytic streptococci in their throats on one or more occasions. Of each new group of fifteen pupils admitted every three months, from 20 to 50 per cent. were found to be carriers. During the last three years precautions against droplet infection have been most conscientiously used, and the morbidity rate compared with that of the previous three years has fallen by 75 per cent. This has been a laborious investigation, but the results must be most gratifying, and should carry conviction to those who still refuse to recognise this most insidious source of infection.

However useful and time-saving rectal examination may occasionally be to the experienced accoucheur, it is a hopelessly bad method to employ in teaching the rudiments of midwifery to the student.

Innumerable references could be made to passages in William Smellie's writings in which the necessity of the vaginal touch in the conduct of a labour is laid down. One is indeed bound to recognise that he did not stint himself or his students in this particular. Indeed repeated and long continued digital pulling on the perineum was often employed with the object of stimulating uterine action. In spite of this handling there are surprisingly few instances of fatal puerperal infection recorded in Smellie's cases. But in those days the accoucheur, for reasons of modesty, carried out his manipulations under a sheet which was draped over the patient. It is not unreasonable to suppose that this sheet must have lessened the risk of droplet infection.

Thus I have come round to William Smellie again, and there seems to be no more convincing way to emphasise my main point than to read to you one of his case records, in which he most strongly urges the necessity for watching again and again the course of natural labour under the guidance of an experienced teacher.

(Case 527)—"A quarrel betwixt two Practitioners adjusted: Mr W. attended a woman in labour of her first child. He had gained reputation from being called to assist midwives in the country in preternatural cases; but this being the first time of

his being bespoke to attend by himself, he was at a loss how to manage his patient in a natural case.

"The woman was of a healthy and robust constitution, and about 38 years of age: the labour pains were pretty frequent and strong; but he, not considering that the parts must have time to soften and dilate, began as he had formerly done in preternatural cases, to lubricate and dilate the os uteri, which was then only open about the breadth of a crown-piece.

"In this manner he continued every now and then, to assist the delivery for several hours but to no purpose.

"The nurse, a sensible woman, who had been many years in that business, exhorted him from time to time to rest, and not fatigue himself, especially as the woman was not young, and as the child presented with the head.

"This was in December 1748. He had attended me one course of lectures about three years before, but had not attended the labours, imagining everything in midwifery trifling, and that the lectures on the extraordinary cases were sufficient.

"Finding himself thus foiled, and at a loss how to manage the labour, he desired her friends to send for me; but, contrary to his inclination, another gentleman was called, who by art and cunning had got a name amongst the lower sort of patients. Both these gentlemen being self-sufficient, and impatient of advice or control, soon split in their opinions as to the presentation of the fœtus.

"He who came last, alleged that the shoulder presented, and that the woman ought to be delivered immediately; the other still insisted that it was the head. These debates luckily happened in another room, and continued so obstinate and long that the patient, who had been fatigued most of the night, fell into a sound sleep, being at rest from her premature assistant.

"The nurse, being afraid that her mistress would suffer from the disagreement of the obstetric adversaries, advised the husband to call an old practitioner. As I returned from a patient about six o'clock in the morning, the husband was advising with his neighbour, who knew me, and begged my advice and assistance. I complied with his request, and accompanied him to his house. After hearing the different parties, both male and female, I, as the patient was asleep and only awoke now and then when disturbed with a pain, desired she might be kept quiet. In the meantime, as the season was excessively cold, I begged they would regale the attendants and

me with some warm tea; hoping also I might have time to soothe the quarrel, which by this time was pretty high; for the females, who were numerous, had entered into the dispute. At their desire, I examined the patient in time of a pain, and found the os uteri a little open, but rigid. From the globular form and hardness of what presented, I imagined it rather the head than any other part of the fœtus, resting on the upper part of the ossa pubis.

"I then called the gentlemen aside, and observed that the position of the child was of no consequence at present; that the woman being now easier, this her first child, the os uteri rigid, and the membranes not broken, it would be better to encourage rest, and allow time for the parts to soften and stretch gradually by the pushing down of the membranes and waters. I said, if the head presented, it would probably advance; or if the shoulder, then it would be time enough to assist when there was more room, especially as the waters were not yet come off.

"By this remonstrance I brought them to a better temper, and they were at last reconciled. Indeed I thought it always my duty to make up such breaches for the general good of society, as well as for the honour of the profession.

"I advised Mr W. to attend to his patient, but not to disturb her in the least; and proposed that we should all three meet at twelve, or sooner if he desired.

"We were called at ten, on account of the pains growing stronger, and the anxiety of the woman and her friends; but on examining, I found little alteration, only the os uteri felt a little softer. It was then agreed, that as her pulse was quick, she should lose eight ounces of blood from the arm; that the nurse should administer a glyster, and after the operation give the patient a draught with 30 drops of the Tinct. Thebaic.

"These medicines had the desired effect; and Mr W. delivered, or rather received the child presenting fair next morning.

"Both these gentlemen have, since that time, attended several courses of my lectures, as well as all the public labours that happened during their attendance; and have often acknowledged my friendly behaviour in this case, by which they were prevented from exposing their ignorance."

Mr President, I have nothing to add to those words of William Smellie.

Discussion.

Professor Munro Kerr said he was sure they had all been as much impressed as he had been by this communication from Professor Miles Phillips. All who knew Professor Phillips recognised the value of any expression of opinion coming from him. Smellie's writings were a study to which every young obstetrician should give serious attention. Professor Miles Phillips referred to the use Smellie made of posture, and that was one detail in the delivery of difficult cases that was not nowadays made use of to nearly the extent that it should be. If one took, for example, an impacted breech presentation, it was often very difficult to pull down a leg with the patient in the lithotomy position, but if the patient was turned well on to her side the breech could be pushed out of the pelvis and a leg pulled down easily. If agressive surgical obstetricians would study Smellie they would find that many of the Cæsarean sections they performed would have been unnecessary. Smellie's writings speak for themselves—he was a great master. As Professor Phillips had said, Smellie and Hunter were our greatest masters in obstetrics. He rather fancied that Hunter could not have been the operator that Smellie was; his contributions were more along scientific lines which Smellie never attempted. They must all read the works of these two men as no one could profess to know obstetrics unless he was familiar with the writings of Hunter and Smellie.

With regard to the training of students, Professor Munro Kerr said his views would be found in the *Lancet* of 20th May. Students could never be trained in the craftsmanship of obstetrics while they were undergraduates; this could only be done by a period of residence in a hospital. The young undergraduate should be licensed to practise only in an institution for a period of 12 months, during which he should undergo training in obstetrics, medicine, and surgery. Having served this period of apprenticeship he would then be licensed as a general practitioner, but not until this training had been carried through. There is a little shortage of obstetric opportunities in the meantime but there is no shortage in respect to medicine and surgery if the hospitals of local authorities were utilised. It might be possible to allow graduates who had definitely decided not to practise obstetrics to be excused the period of obstetric training suggested, on the understanding that if they ever wished to undertake obstetric work they would have to undergo a special training. It is impossible to train students with safety and allow them to make vaginal examinations, etc.; besides, is it fair to the patients? What happens in most labours? Most labours are spontaneous and the progress of all except the abnormal ones can be followed by abdominal palpation, by observing the descent of the shoulders and by an occasional rectal examination. Obstetric specialists in their private cases made no vaginal examination if the head was in normal position and descending. He did not think

the dangers of vaginal examination carefully carried out were as great as some represented, but it was unnecessary in most cases. When the case became too complicated the general practitioner should not be called upon to deal with such cases unless he had been specially trained in obstetrics after graduation.

If a maternity service as recommended by the Departmental Committee and the General Medical Council were established, it would help matters greatly. These bodies have recommended that the ordinary routine supervision of women in pregnancy and labour should be undertaken by midwives. If this responsibility was given to midwives then the training they received at present was absolutely inadequate. To improve the maternity service of this country and reduce maternal mortality, midwives must receive a longer and more elaborate training and doctors who intend to practise obstetrics must be given special training and experience after graduation.

Dr Haig Ferguson said—Smellie undoubtedly founded scientific midwifery, and a just and devout homage was clearly due to him for that alone. He thought for himself and showed an entire contempt for book or other tradition. His improvements in the construction of the forceps were perpetuated to this day (notably the Smellie lock), and his efforts along with William Hunter in reforming the wrong practice of delivering the placenta were as applicable now as they were 200 years ago. He wrote, "I resolved to change my method and act with less precipitation." His rules for the use of forceps might almost apply to the present, and his lucid conception of the mechanism of labour was extraordinarily modern. His great success as a teacher was due to his combining clinical with oral instruction. He used on occasion to forgo a fee on condition that his pupils might be present; thus establishing the principle that a hospital patient's fee is chiefly the clinical experience she gives—incidentally assuring the patient at the same time of the best possible consideration and treatment. The initiation and use of maternity hospitals for clinical teaching was greatly due to Smellie. He overcame opposition and prejudices by the weight of his character and by his forbearance and uniform good temper. The calling in of a *man* surgeon in those days was almost equivalent to a death sentence, and in the circumstances one cannot wonder at Smellie laying down directions for the use of forceps "privately." His sound judgment, great experience, command of temper and discreet behaviour commended the medical profession to the public confidence; and as McClintock says, "We are indebted to Smellie more than to any other single individual for bringing about the much needed reformation and transition from slipshod and ignorant empiricism, to scientific and accurate principles."

It is peculiarly appropriate that Professor Phillips should recall to us the memory of this great Scotsman and impress on us the

great debt we owe him. He has brought out that Smellie's pioneer efforts (200 years ago) were influenced by very much the same principles which to a great extent guide us to-day. The striking comparison of the obstetrical difficulties in 1730 with those of 1930 is particularly instructive, and with the main contentions of Professor Phillip's suggestions for the future, he felt sure they all substantially agreed.

With regard to Professor Munro Kerr's reference to the training of midwives, he agreed that if their duties and responsibilities were to be increased a fuller training would be necessary. The time for that would come by degrees and by a process of gradual evolution.

Professor Johnstone said those who knew Professor Phillips and his hero worship of Smellie had been looking forward to the occasion, and assuredly they had not been disappointed. In the Edinburgh Society they were all great admirers of Smellie and had shown their devotion in the most practical way open to them at that date. But he was afraid that some of them had perhaps taken their admiration at second hand and few of them had read Smellie's works as fully as Professor Phillips. There was no doubt that Smellie was the most eminent British master of obstetrics. Whether they called him scientific or practical—and there was no necessary contrast in the two expressions—Smellie had done for obstetrics very much what Hippocrates had done for medicine. He had found it based largely on tradition, with a gross admixture of superstition, and he had raised it to a position in which it rested on the sound basis of ascertained facts.

With regard to the section of the paper dealing with the Report of the Maternal Mortality and Morbidity Committee, Professor Johnstone said that he did not by any means agree with all the recommendations of that Committee. He thought it was not too much to say that they had stampeded the General Medical Council into panic legislation and had led them to make recommendations which, by the admission of the Council itself, were more ideal than practical. When a medical student was qualified he was not supposed to be a thoroughly competent physician, still less a competent operating surgeon, but he was frequently placed in a position in which he was assumed to be a thoroughly competent obstetrician. As a matter of fact, no young graduate could be expected to be a competent obstetrician unless and until he had obtained experience such as could best and most quickly be gained by a residentship in a maternity hospital. It seemed to him that the Committee had accepted the erroneous assumption that the medical schools could train undergraduates to be competent obstetricians on graduation. On that erroneous basis they recommended six months' clinical training in obstetrics with two months' residence in hospital. He had no objection to such recommendations in an ideal training, but they must keep some sense of proportion between midwifery and

medicine, and if midwifery were to require six months' clinical training then clinical medicine would require some two years. In the ideal training this might be acceptable, but it would mean a lengthening of the curriculum to an extent which was economically impracticable. There was a great deal that was attractive in Professor Munro Kerr's alternative scheme, but it also would be difficult to put into practice. The Scottish professors had recommended three months' clinical training exclusively devoted to clinical midwifery and gynæcology provided the students were given facilities, by residence in the hospital or in the immediate neighbourhood, for following the whole practice of the hospital, and their experience in Edinburgh indicated that by the end of three months the student had been taken very thoroughly over the whole ground.

With regard to practical training, it was extremely difficult to allow students to make vaginal examination in any great number simply for the sake of their gaining experience. The duty of a hospital obstetrician was in the first place to his patients, and with all the precautions in the world an increased number of such examinations involved an increased risk. Similarly, with regard to such operations as the application of forceps—the opportunities of training students in this operation were necessarily very limited and most students had to gain their experience after graduation, or preferably during an internship at a maternity hospital. The training of a man as a resident where he had some degree of responsibility made a much deeper impression upon him than similar training as a student. The element of responsibility made all the difference. Professor Johnstone wished to support what had been said in regard to "droplet infection." He thought this was a very real risk. During the last twelve months in which masks had been rigorously insisted upon in the labour ward of the Royal Maternity Hospital, the incidence of infection had diminished to a striking extent.

Professor Hendry (Glasgow) said that the obstetrical Societies of Edinburgh and Glasgow erected a shrine over Smellie's tomb at Lanark over two years ago: on a recent visit to Lanark he had found one or two small repairs necessary at the shrine. These were now being attended to, and the Societies had undertaken to share the expense of keeping the shrine in good order. Dr Haig Ferguson had referred to Smellie's willingness to forgo a fee from those patients who allowed his pupils to be present at their confinements: he further required those pupils to contribute to a fund to secure comforts for these women. Smellie had been described this evening as much more a clinical than a scientific worker. The Fellows present must not make the mistake of thinking of scientific work in terms of microscopes and test tubes. Smellie's work was based on accurate clinical observations —one of the most valuable forms of scientific achievement.

Wm. Smellie and Maternal Mortality Problem

In discussing the problems of to-day we had to remember that the General Medical Council do not admit a differential qualification for medical graduates. The lad who had just completed his training has unlimited freedom in medical, surgical, and obstetrical procedures. Public opinion would not allow such an inexperienced worker to undertake the removal of a pituitary tumour, but, so far, he has been almost encouraged to undertake at once obstetrical operations which really require ripe experience and great skill. Our maternal mortality and morbidity returns would be very much improved if obstetric operations permissible in domiciliary practice were restricted to that type of low forceps case in which the scalp is appearing in the vulva. When we get our students to appreciate this point and the general public to agree, we shall have attained a great deal.

Dr Cameron (Glasgow) said that in a territorial sense he was, in some ways, Smellie's unworthy successor, inasmuch as he received into the Maternity Hospital at Bellshill cases from the district in which Smellie had practised for nineteen years. Consequently, he felt that Smellie's example acted as a spur to all engaged in the work of this Hospital. Glaister rightly described Smellie's achievements as the keystone of modern obstetrical practice, and it was a pleasure to think that the Obstetrical Societies of Edinburgh and Glasgow had preserved for all time his burial place, which is situated immediately against the eastern wall of St Kentigern's Church at Lanark.

Professor McKerron (Aberdeen) said it was interesting to note that the lines on which it was thought that the alarming maternity mortality in London could be lessened were the same in the eighteenth century as to-day: the provision of maternity hospitals and improved clinical instruction for students and midwives. The recommendation of increased hospital accommodation must at that time have given rise to some misgiving in view of the fact that the mortality in hospitals was then, at times, so appalling that they had to be temporarily closed down. Antisepsis had changed all that, and a woman was now usually safer when delivered in hospital than in her own home; but even yet, cases of infection were far too common—in fact, as one of the Presidents of this Society had pointed out in his Presidential Address, they were still almost as common as in the days before antiseptics. It was almost impossible to conceive that that could be due to any remissness on the part of the practitioner. Some of them could remember a time when any attempt at antisepsis was either absent altogether or rudimentary, and as Dr Milne Murray showed, the mortality was then little greater than at the present time. Clearly they had still something to learn about the origin of puerperal infection. Dr Smith of Aberdeen demonstrated that, in many cases, the infection was due to a drop or spray infection and that probably explained many of those cases where under strict aseptic precautions infection occurred.

It was well known that after the most difficult labours recovery was more often than not afebrile. The danger lay not so much in the difficulty of extraction as in an undue prolongation of labour; and the practitioner, knowing this, found himself between the Scylla of premature interference and the Charybdis of undue protraction. There were, of course, other factors, which tended to weigh the scales in favour of too early interference.

He had been particularly interested in Professor Phillips' fine tribute to Smellie. There seemed to be some doubt as to whether Smellie was a scientific or a practical obstetrician; he was both. He had done more than any man in his own time, or in any time, had done for the improvement and advance of the obstetric art. He was a Scotsman and it was well to remember that he was followed by other Scotsmen who were the leading obstetricians of their time, notably Burns of Glasgow, Sir James Y. Simpson of Edinburgh and Matthews Duncan, an Aberdonian.

Dr Hamilton (Loanhead) said as a general practitioner it was the controversial side of the matter with which he wished to deal. It was an extraordinary thing that the General Medical Council had never included any general practitioner representative until a year previously. He wished to draw Professor Miles Phillips' attention to an article in the *Scotsman* of that date by Dr Chalmers Watson on the Medical Curriculum. These views deserved the greatest possible consideration. In that article the writer gave an accurate representation of what the general practitioner needed. One thing in that article was that training in clinical obstetrics should not be an undergraduate subject but a post-graduate one and he was very gratified to hear Professor Munro Kerr and Professor Johnstone agreeing with that view. It was constantly lamented by obstetricians that they had not enough clinical material to teach with. In Edinburgh, no less than 40 per cent. of all the midwifery was done under the auspices of the Royal Maternity Hospital. If the proportion became higher, at what point did the teaching of midwifery cease to be worth while?

Dr Hamilton thought clinical midwifery should be excluded from the undergraduate curriculum and be restricted to the post-graduate. As a student he had always intended to become a general practitioner, and in his view the most important resident experience a young graduate could get was in obstetrics—this was the most important work the practitioner had to do in general practice. He had carried out his period of time as a resident in Glasgow; for the first three months he never had occasion to put on forceps. If that was the case how long was it going to be before the student was really proficient in the use of forceps? Two young officers in the Indian Medical Service having attained a sufficient degree of seniority happened to be stationed where there were European women; they

wished to qualify themselves to do midwifery and came to do post-graduate work. If there were not forceps cases for the resident, would there be forceps cases for these post-graduates? He could have done a great deal more for them in industrial practice, said Dr Hamilton. After going into general practice he found he had a lot to learn about practical obstetrics. In the labour ward of a hospital one had a sufficiency of assistants but in general practice the doctor gave the anæsthetic and was his own assistant. The specialist, in discussing the problem, discussed it without taking into consideration these facts. Professor Miles Phillips spoke of the necessity of restricting the interference on the part of the general practitioner to low forceps. As a result of nineteen years' experience in general practice his opinion of the position was this: 97½ per cent. of obstetrical cases could quite well be dealt with by general practitioners under domestic conditions, another 1½ per cent. could well be treated by the general practitioner, if he had cottage hospital facilities, and only 1 per cent. needed treatment by a specialist. He thought there was ample evidence that domestic conditions afforded as good an opportunity of safe delivery as hospitals did.

The Report of the Medical Officer of Health for Midlothian showed that five-sixths of the midwifery was done by medical men. He gave the figures for puerperal sepsis, and the fact emerged that far more of the fatal cases occurred in non-instrumental deliveries than in instrumental ones. In 1350 cases, of which at least 200 were operative, only one of the latter developed puerperal sepsis. In Dr Hamilton's experience the deaths occurred in cases where everything was over before the doctor or nurse could get to the house, or where interference had been limited to a vaginal examination.

With regard to the training of midwives, he disagreed entirely with the views expressed by the obstetricians. The Report of the Departmental Committee, of which Professor Phillips was a member, showed that in England only 20 to 25 per cent. of certified midwives actually practised midwifery. In Scotland the figure was much less. It was a pity that clinical material should be devoted to training midwives which would be much better devoted to the undergraduate or the recent graduate. He had been waiting nineteen years to get some real obstetrical help in general practice and would point out to those interested that the demand for too high a standard of training of midwives made it impossible for the general practitioner to have help from women with a reasonably good standard of training.

Miss Joan Rose said, with regard to the cases of sepsis following normal labour to which Dr Hamilton had referred as being probably autogenous, there was no doubt that many of these cases acquired the infection by some form of contagion during labour or early in the puerperium. In a smaller number the infective organism was acquired

during the last month of pregnancy and was present in the genital passages at the beginning of labour. Sepsis in these cases should not be regarded as autogenous and unavoidable, but rather as a late prenatal infection which should have been discovered and treated. She thought that the 50 per cent. of maternal deaths at present regarded as unavoidable could be diminished by taking more adequate precautions against infection in the home.

Dr Fraser Lee, as a general practitioner, wished to suggest something further—if the general practitioner could be stimulated in his obstetrics and his interest in this branch of work kept alive and active, the problem of maternal mortality and morbidity might be partly solved. Certainly for the next generation there would still be a large amount of midwifery work in the hands of the general practitioner. There was, in this country, no difficulty in the treatment of the very poor or of the very rich patient, who were always able to command the services of the obstetrical specialist—the one class in hospital and the other in nursing homes, but the bulk of our middle class have often to do without the services of the specialist and are attended by the general practitioner. The middle class, who did not command the specialist's fee, were in the hands of the practitioner, and it was really essential for the general practitioner to have his interest in obstetrics kept up and stimulated. At the moment how was that to be done? Those general practitioners who had held resident appointments in midwifery carried on their work and endeavoured to retain their interest in this subject, but the antenatal clinics and the large obstetric hospitals were closed to them. The general practitioner should be used somewhere and somehow in the antenatal clinics and in the large obstetric hospitals. Would it not be possible to arrange for eight or ten general practitioners in a year to have two or three months attached in some position to an obstetric hospital? Their work would have to be supervised just as a new resident's work was supervised. They would have, however, the right of entry into hospital and would be able to observe cases and follow up the new methods in their own practices. Thus they would have their interest kept up and would go back to obstetric practice with fresh knowledge of the recent advances in this subject. Could Professor Johnstone not arrange some such scheme, for example, in Edinburgh? If he could do so, at the end of three years, there would be twenty to thirty practitioners in Edinburgh well equipped in obstetrics who could work in liaison with the general hospital.

The President conveyed the thanks of the Society to Professor Miles Phillips, and said that it would be a pity if the view in regard to teaching of the medical student advanced by Professors Munro Kerr and Johnstone remained unchallenged. It might be that the solution of the problem of equipping the student for the successful practice of midwifery would be along the lines suggested by Professor Munro

Kerr, namely, compulsory residentship in a maternity hospital after graduation for those intending to practise the subject. At the present moment, however, it could hardly be said that this came into the range of practical politics. The present position was so insecure and unsound that they could not dare to regard the recommendations of the General Medical Council with unconcern. Practically all teachers were satisfied that the present training of the student was wholly inadequate, and that further training was urgently required. It seemed a remarkable thing that students were given a long-continued training in surgery and that, when they went into practice, they were required in such a surgical condition as appendicitis to do no more than recognise it and submit it to the expert for treatment, whereas, with a very much shorter training in midwifery, they were expected not only to diagnose emergencies, many of them fraught with serious danger to two lives, but to proceed forthwith with their treatment. Whilst agreeing with Professor Munro Kerr in regard to the difficulty of training the student as an undergraduate to deal with the major emergencies of obstetrics, he at the same time pointed out that we must do nothing in the meantime to discourage the efforts which are being made to lift this training on to a higher level of efficiency. This might be the result if teachers in the position of Professors Munro Kerr and Johnstone viewed the new recommendations of the General Medical Council with hostility.

Professor Miles Phillips (in reply) thanked the Society for the way in which they had listened to and, in general, approved of his lecture. He could honestly say that no one of the criticisms levelled had been unconsidered by him in writing the paper. Dr Hamilton had expressed anxiety about the cases that could not be treated in domiciliary practice. As a matter of fact perhaps 98 per cent. of confinements could be treated safely at home. Professor Phillips was more concerned for the 1 in 250 women who died, and it was largely for their welfare that the medical student should receive much better training. With regard to Professor Munro Kerr's plan, Professor Phillips had, of course, already considered it carefully, but had decided that it would be a misuse of time to direct attention to develop any such scheme in the present state of medical practice at a time when great improvement in the practice of midwifery was urgently required. Unfortunately at the present day, midwifery practice was too often actually learnt in post-graduate life under the most varied conditions and often without any proper facilities. The man who had been in practice for twenty years would say how much better he is at it now than he was during the first few years of his practice. This, unfortunately, was too often at the expense of the mother. The whole-time teacher advocated by Professor Phillips would, of course, be also training a limited number of post-graduates during their

house-surgeoncy, preferably for service in country districts. Teachers must train students to recognise when labour is not going normally, when the abnormality is too serious for them to deal with, and particularly when the case should be sent into hospital. There was one great difference nowadays between the problem of midwifery in Holland and in England. In the days of Deventer and William Smellie—who had corresponded on the subject—rachitic pelves were common in both countries. Holland had now, however, prevented rickets and we have not: this greatly complicated the problem in many of our large manufacturing cities.

The controversial question of the six or three months' course in Obstetrics and Gynæcology presented difficulties in some centres. Professor Phillips did not for a moment agree with Professor Johnstone's suggestion that the Departmental Committee had been "stampeded" into proposing a six months' course: it would be much nearer the truth to accuse the Committee of being a "packed" one, already convinced of the necessity for lengthening the course.

With regard to the question of droplet infection, which he had really intended to take as proven; he now felt it necessary to restate his conviction that it was of the greatest importance. He had only recently investigated the experience of an excellent midwife: three women, after normal labours attended by her, had died within ten days of each other from streptococcal peritonitis. It was found that the midwife's tonsils were teeming with hæmolytic streptococci. Dr Hamilton had pointed out that 50 per cent. of cases of fatal sepsis occurred after normal labours. Surely droplet infection was the only likely explanation of such cases. The President himself had drawn attention to the wonderful freedom from sepsis at a certain London maternity hospital and had used the fact as an argument against the likelihood of frequent autogenous infection. As a matter of fact the precautions taken during delivery at that hospital were such as greatly minimised the danger of droplet infection, although not based on a previous knowledge of that special danger. Dr Fraser Lee was under the impression that the work done at the hospital in question was in the hands of general practitioners. As a matter of fact the general practitioner in charge was a super-obstetrician and only occasionally did he get assistance from junior general practitioners. Again, with regard to vaginal examination, at this same hospital women in labour, so long as the membranes were not ruptured, were systematically examined by a small group of pupil midwives as well as the Sister-in-charge purely for purposes of instruction. It was thought that this was the only way in which to teach midwives to recognise the various departures from the normal. Professor Phillips' desire was to ensure that all medical students should have similar facilities, in order at least to equip them for those occasions on which midwives seek their assistance.

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