truth? From the *Credo* to the *Spero*, in this instance the step is very easy, for they are almost phases of the same sentiment.

I have just enumerated very briefly a very few of the countless encouragements to hope which those conversant with the history of our profession may easily find in the records of the last half-century. Can any doubt that they are but an earnest of far greater triumphs to come? The work that is before us spreads out in a sort of threefold division. We have to apply in the best practicable manner our present knowledge for the benefit of those around us. We have to do our best to increase that knowledge, and, thirdly, we have to find the best means for transferring it to the new generation which will soon succeed to our duties. Medical practice, the advancement of the knowledge of the nature of disease, and the training of our sons—such are our three great spheres of duty. Some of us work in one, some in another, most of us to some extent in all. Let us all seek to love the great final object at which we aim, to believe in the means which we are employing, and to hope confidently of their results.

ADDRESS IN OBSTETRIC MEDICINE,

BY

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IN rising to deliver the Address in Obstetric Medicine, I must confess I do so with very mingled feelings. In the first place, let me say how deeply sensible I am of the great honour paid me, and, through me, to my professional brethren in the Isle of Wight, in being invited by the President and Council of our Association to occupy so distinguished a position—one which circumstances, to which I need not further refer, render peculiarly gratifying—one for which I am more indebted to your kindness than to my own merit. This feeling of pleasure, however, is only equalled by the deep sense of responsibility which a duty so onerous necessarily involves—intensified, as it must be, by the recollection of the eminent obstetricians who have addressed you on former occasions. I have been reminded that the first to deliver this address was a provincial physician, the late Dr. Thomas Radford of Manchester, a worthy exponent of the great obstetric traditions of its time-honoured medical school. With affectionate remembrance, I next recall my old master, the great Simpson, who, if not the creator of modern gynaecology, was at least the author of its renaissance. Again: the ancient glories of the Dublin school have been worthily represented before you by the late Dr. Beatty, at Newcastle, in 1869. I cannot forget that you have listened to Dr. Matthews Duncan, whose contributions to obstetric literature are such models of the application of the exact method to the investigation of scientific questions. More recently, at Manchester again, you have been privileged to hear one eminent indeed among us—one who has done so much to extend the principles, and to precise the practice of our art—to rear obstetric pathology on the sound basis of its physiological equivalents, and who has striven so eloquently to elevate obstetric medicine to its true position in the medical sisterhood—I refer to Dr. Robert Barnes.

In seeking for a subject on which to address you, I find myself in a position of some difficulty. I have no great discovery in obstetrics to announce to you; I am unable to indicate any new point of departure in our art; I cannot invite you to tread with me on scientific pastures new. I must, therefore, be content to fill a much more humble rôle. Nevertheless, such topics as do suggest themselves are neither wanting in number nor in variety; and they possess that interest which attaches to questions of vital importance, not only to us as physicians, but to humanity at large. In obstetric medicine, there are principles still in process of development, problems yet unsolved, methods not yet determined, mysteries still unravelled, results anticipated but not realised. That the address in obstetric medicine is only delivered at irregular intervals of years, shows plainly enough the position assigned to it in the Medical Trilogy, and seems also to indicate the character which such an address ought to assume. I believe, therefore, I shall most usefully discharge the duty assigned me, if I follow this indication, and give my address to some extent a general character, by directing your attention to a few considerations in connection with the claims, intrinsic and relative, of obstetric medicine to increased recognition and cultivation, and the directions in which its development should be encouraged;

and, further, to sketch, in form of retrospect, a few of the principal points of progress which have marked its annals during the past triennium. The rapid advances which obstetric medicine has so recently made, and the corresponding changes in pathological views and modes of treatment, render my task by no means easy. I must, therefore, bespeak your indulgence for the imperfect manner in which it may be accomplished.

Obstetric medicine comprehends obstetrics proper, gynaecology, and pædiatrics; such is the terminology which represents our old familiar terms: midwifery, and diseases of women, and diseases of children. These Greek derivatives are cumbersome in form, uncouth in sound, and want the ready ring of household words. I humbly submit that we have been especially unhappy in our nomenclature, and I hope some more than usually scholarly obstetricist will take up the subject for serious reform. If we are to retain these terms, why not use obstetrics as the generic term, and substitute tocology for obstetrics proper or midwifery? I make this suggestion as my little contribution to the much-needed reform. I bear in mind, however, that, in a rapidly advancing science, we must be cautious in changing our nomenclature; for change of name with changing doctrine does not necessarily imply progress.

The tendency of modern medicine to cultivation in a great variety of special branches, although favourable to the attainment of technical skill when such is necessary, is in some respects to be deprecated. It is an inclination apt to interfere with the grand ideal unity of medicine as an art based on general principles, and tends to interrupt the harmonious continuity of its scientific development. Obstetric medicine, however, deals exclusively with the special set of organs and functions which distinguish women only, which dominate in a special manner all their other organic conditions, and which present special phenomena, without parallel even in the other sex. The sexual system in women constitutes, in fact, a true *imperium in imperio*. Its functions are so important, and the phenomena, normal and morbid, which they present, are themselves so intrinsically specific in character, and in the nature of the influences they exert over the other organic systems, as to make their study necessarily a specialty in the widest and best sense of that much-abused term. Special qualifications, mental and physical, are requisite for practice in this wide field. Physical energy and powers of endurance, moral courage, rapidity of thought, and readiness of resource in presence of unexpected difficulties immediately involving human life, are more imperatively demanded in this than in either of the sister branches of the healing art. But the unity of our common profession, as much as the interests of those whose physical health and moral well-being are confided to our care, alike require that the obstetrician, to the culture of the physician and the surgeon, should add something more—the culture of his own special department. The more he qualifies himself in the sister branches, the more thoroughly and scientifically will he cultivate his own; since we cannot arrive at an exact knowledge of the state of any one organ, or organic system, without taking into account the state of all the rest in their absolute and related conditions. The mutual relations, indeed, of obstetrics, medicine, and surgery, are so intimate, that no discovery or progress is possible in one without largely influencing the others. We must ever bear in mind that their special pathologies have a common basis in one general pathology.

Considering that to the vast majority of the profession, especially in the earlier part of their career, when their professional character and status is being made, obstetric practice in its several branches forms the bulk as well as the most anxious and engrossing part of their work, it seems incredible that the provision for teaching gynaecology particularly, both systematic and clinical, in our medical schools and hospitals, should still be so limited and imperfect. The very subjects which will most occupy a man's attention at a time when the character of his work may perchance determine professional success, are, in the course of his education, either made optional or left to chance, while other less essential subjects are forced upon him; and he thus enters on his labours imperfectly prepared, or, it may be, profoundly ignorant of all practical acquaintance with what will form a large share of them. Familiarity with the practice of obstetric and gynaecological details can only be acquired by demonstration. It is very much easier to amputate a limb or to pass a catheter, from a description of these operations read out of a book, than to determine the nature of an uterine flexion by means of the sound, or to get a good view of the cervix by means of the speculum. A gynaecological clinique, with ample service, should be established in connection with all our hospitals; and this is the more necessary, that the opportunity for such technical instruction afforded by the old system of apprenticeship is much less freely taken advantage of in the present day. The marked progress of obstetric medicine in America, and its splendid achievements, are no doubt due to some extent to the absence of old-world traditions, but much more to the full recognition

of its importance, and to the ample provision everywhere made for its clinical as well as its scientific cultivation.

If the progress of obstetric medicine is to be satisfactory, if it is to become less empirical and more and more scientific, in the study of pathology must be sought the means of determining the principles on which a rational system of therapeutics are to be founded. It is in a complete knowledge of the anatomy and physiology of the female sexual system that the foundations of uterine pathology must be laid. The elements of this pathology must naturally be sought for in connection with the special physiological conditions which distinguish the female sex. The sexual system dominates the other organic systems in woman. Her nature is altogether more emotional than man's. His nature is objective, and is reflected externally; woman's nature is subjective, and is reflected internally. The sexual system in man does not attain this organic supremacy, therefore he escapes the innumerable referred, sympathetic, or reflex disturbances, to which woman is liable from her physical and mental constitution, through the action and reaction of her sexual system. There is a constant provision going on in her system for the conception and nutrition of a new being, necessitating an organic mobility which in her involves the gravest contingencies.

Menstruation and pregnancy, although strictly physiological in design and general issue, are yet conditions of such extreme organic tension that they may pass, by almost imperceptible degrees, into the domain of pathology. They are essentially physiological, but at the same time potentially pathological. The growth of the human body, although continuous until the adult term is reached, presents certain marked developmental crises which occur at regular epochs, when additional nutritive force seems to be determined to certain organs, in connection with which special functions are thereby established. These cycles of development, as well as their corresponding functions, appear to follow with a limited margin the figure seven and its multiples, and may have led to this numeral being invested with a *quasi* sacred character, and its being brought into prominence as a measure of time and otherwise. The first cycle of seven years corresponds to the period of the first dentition, and to a marked epoch in the development of the cerebrum. The second cycle of seven years marks the attainment of puberty in woman, by the establishment of the process or function of ovulation, as shown by the appearance of the catamenia. Twenty-eight days may be assumed as the average menstrual cycle, while its duration until the climacteric or menopause is reached, at or about the forty-ninth year, corresponds to the completion of the seventh cycle from birth, or the fifth cycle of seven years after puberty, including the whole period of menstrual activity. Pregnancy, again, lasting about 280 days, covers a period of ten catamenial cycles of twenty-eight days. The appearance of the menstrual phenomena proclaims that a new organic system, for the purpose of reproduction, has attained its development. In this periodic function, the nervous and vascular systems are largely concerned. It is characterised by a condition of increased vascular tension or hyperæmia, which, if not relieved by menstrual expenditure or pregnancy, or subsequently by lactation, may not only lead to uterine and ovarian disease, but also to grave disorders of the general health. Another source of uterine troubles, in connection with this function, is to be looked for in excessive, as well as in imperfect, sexual congress. Faulty habits of life again, excess of animal food and stimulants, neglect of bodily exercise, mental fatigue—indeed, all causes which tend to increase either vascular or nervous tension—tend to disease by exaggerating or perverting normal conditions. To these, we must add another order of causation incidental to the condition of pregnancy, to the process of parturition, and to the puerperal state—none being more frequent or grave than those presented as a result of imperfect or interrupted puerperal convalescence. The body, in which the occurrence of conception marks such an organic revolution, which for so many months is the seat of the remarkable changes culminating in delivery, must be in a state of great organic instability, oscillating narrowly between the confines of health and disease.

Obstetric medicine, indeed, offers to the scientific student problems of the most complex and wonderful nature—problems more easily followed and unravelled than many presented by the other departments of medicine. What more extraordinary than the genetic force evoked by the contact and fusion of the male and female fecundating elements in the act of conception? What more remarkable than the forces or changes which determine the periodicity of the special functions in women? What more interesting than the reflex nervous phenomena developed through the cerebro-spinal system, in connection with ovario-uterine disorders? Obstetric physicians, indeed, more than any others, have constantly to take into account and to become familiar with reflex conditions. The abundant organic connections of the nerves of the sexual apparatus in women with those of the cerebro-spinal and sympathetic systems, permit the play of the emotional or psychical element

as an influencing or disturbing power in relation to the functions of the uterine system. This association is full of interest as a potential factor in its morbid manifestations. The explanation of the Protean phenomena of the various forms of hysteria and hystero-epilepsy—the hysteria major of Charcot—is to be found in this connection. The controlling centre of nerve-action in the genital apparatus was long held to reside in the ovaries; but both clinical experience and actual observation have latterly tended to depose them from that position. The survival—nay, even initiation—of sexual desire and pareunia, after removal of both organs in the operation of ovariectomy, affords satisfactory clinical proof that at least the primary sexual nervous centre must be looked for elsewhere. The discovery by Goltz and Frensborg of a nervous centre of sexual power opposite the fourth lumbar spine seems to determine this interesting point, and throws considerable light on hitherto obscure and apparently anomalous phenomena. It is known in the East that castration, performed on the male adult after the exercise of the sexual organs has developed their full power, still leaves the individual capable of the formality of coitus—that is, of erection and orgasm without emission. Eunuchs of this class are accordingly a much less valuable commodity than those castrated in early life or completely mutilated. The explanation is, of course, that the sexual nerve-centre in the spinal cord, having been developed under functional activity, remains active, although part of the sexual apparatus—formerly credited with the essential control of the whole phenomena—has been eliminated. A parallel is afforded by what takes place when a limb, such as the arm or leg, has been amputated *in utero* or blighted *in ovo*. In this case, the portion of the spinal cord corresponding to the nerve-supply of the absent limb remains in its embryonic form, undeveloped; but, when the limb has been removed in adult life, the activity of its nerve-centre remains, and sensations and pains continue to be consciously interpreted as coming from the side of the absent member.

There has undoubtedly been latterly a great revival of the former view of the importance of the nervous system in relation to the functions of the other organic systems of the body. More extended researches in microscopic anatomy have greatly tended to this result. The terminations of the nerves have been traced much further than when I published my *Lectures on the Peripheral Nervous System* in 1859. Klein in this country, and Frankenhäuser, Kehrer, Koch, Spiegelberg, and others, have shown that there exists a much more intimate organic continuity between the ultimate nerve-terminations and the other tissue-elements, especially the epithelial, the important bearings of which, both on physiological and pathological processes, cannot be overlooked in its clinical relations. I believe, further—and strict physiological analogy permits the deduction as legitimate—that nerve-force may even be discharged free into and affect the fluid contents of the animal cells, and in the same manner influence the blood itself, which, in every sense and purpose, is a living tissue endowed with the highest organic and functional mobility. It is, perhaps, through this presumed neuro-vascular association that we may find the channel by which maternal impressions are conveyed to the foetus; and it is more reasonable to suppose that the contents of the blood-vessels are in this manner directly affected by nerve-force, than merely by the contraction and dilatation of their walls. I am not aware that this idea has ever been previously suggested, and I offer it with due reserve. The uterus receives the greater part of its nervous supply from the hypogastric branches of the posterior mesenteric ganglion, and partly also from the sacral plexus. The important observations of Patenks of St. Petersburg show that these also include the coats of the uterine blood-vessels in their distribution. According to the experiments of Basch and Hofmann, electrical irritation of the hypogastric nerves causes contraction of the circular muscular fibres, under which the uterus descends and the os opens; while, under similar excitation of the sacral plexus, the longitudinal muscular fibres contract and the os uteri closes. These latter observations settle definitely the previous but contradictory views of Spiegelberg and of Frankenhäuser, the former of whom denied motor power to the hypogastrics, and the latter to the sacrals. The cervix uteri is peculiarly rich in its nerve-supply, as might be expected from its exalted sensibility and active functions. As has been pointed out by Dr. Braxton Hicks, the uterus is the only organ in the body, whose main nervous supply is derived from the sympathetic, to which we have such access, and which can be so freely handled and examined. It is, indeed, a great example of the decentralisation of that system. Dr. Reimann of Vienna found that the uterus separated from the cerebro-spinal axis, and also when removed from the body, responded to irritation by peristaltic and rhythmical movements of the whole organ, even when only a portion of it had been irritated; that also, removed from the body, but maintained at its normal temperature, it exhibited systolic movements for an hour after the death of the animal. The uterus

has then an independent ganglionic system connected with, and therefore influenced by and reacting through, the cerebro-spinal system, but organically related to and derived from the sympathetic. The arrangement and distribution of the uterine blood-vessels is peculiar to that organ, as shown by the investigations of Rouget and Snow Beck. The arterial and venous systems freely anastomose, and seem more dependent on the contractility of the permeated tissues than on the elasticity of their own walls for propelling the blood. Hence the effect of general debility, or, on the other hand, of hyperæmia, in causing or favouring uterine congestion and hæmorrhage. This anatomical peculiarity of the uterine vascular system has important bearings on the occurrence and treatment of parturient and other forms of uterine hæmorrhage.

The great importance of the mucous lining of the uterus, so varied in its structural differentiation, with its elaborate glandular apparatus and great functional activity, must not be overlooked in this connection. The uterine nerves have been traced into the epithelial cells lining its free surface; placing it, therefore, in organic solidarity with distant surfaces, where we know one of its periodic phenomena may be manifested vicariously through reflex action; for vicarious function is simply referred or reflex function. And we must remember that pathological liability is always in relation to complexity of structure and activity of function. More recent studies of the changes in the uterine mucous membrane induced by menstruation and conception have thrown considerable light on the physiological relations of this important structure, especially in relation to ovulation, to conception, to the duration of pregnancy, and to the pathology of one form at least of dysmenorrhœa. Maerick observed, from portions of the uterine mucosa removed by means of a curette during the premenstrual, menstrual, and postmenstrual periods, that in every instance the true or deeper layer of the epithelial lining was completely preserved. If the mucous membrane of the uterus were entirely destroyed during menstruation, it would be a pathological process, no longer a physiological one. It would, indeed, be contrary to all analogy for an elaborate structure to be reproduced, except from histogenic elements left behind for the purpose. Kundrat's investigations show that, for several days before the appearance of the catamenial flow, and probably preceding the discharge of the ovum, the mucous surface is swollen, loose, and almost diffident, and covered with a whitish or bloody mucus. It is freely injected in parts, and in many instances it is found coloured a deep red. It appears that the uterus is prepared for the reception of the ovum a certain time before the rupture of the Graafian vesicle. The menstrual flow follows, and is caused by the retrograde changes in the surface of the mucous membrane, of the nature of fatty degeneration, which follows the death of the ovum. The impregnated ovum belongs, then, not to a menstruation just past, but to one just prevented by fecundation. In the light of the latest researches, each menstruation simply means the death and extrusion of an unimpregnated ovum, and of the materials prepared *in utero* in anticipation of conception.

Let us now turn to the subject of obstetrics proper, or midwifery. Recent progress in this branch of medicine has consisted more in an extended knowledge of the mechanism of parturition, and in greater precision in the choice of methods and times for interference, than in new means of treatment in operative midwifery, or in novelties in instrumental aids to labour. Exact methods of research have been successfully applied to the elucidation of many interesting and important questions in connection with pregnancy, parturition, and the puerperal state. Among the most urgent questions that present themselves in this category is the prophylaxis of *post partum* hæmorrhage, and of puerperal fever—the two great opprobria of obstetrics, and on the latter of which the antiseptic teaching of Lister has already begun to exert an important influence. The mechanism of parturition, the nature and the amount of the force exerted in that process, and the postural relations of the fœtus and maternal passages, have engaged the attention and have received adequate treatment at the hands of Ribemont, Schultze, Kùnecke, Schröder, Haughton, Matthews Duncan, and Hart.

A speculative theory has been lately broached by Dr. Mortimer Granville, suggesting the predetermination of sex by intention. He endeavours to show that the sex of children is determined by the relative ardency of parents. "A preponderance of impulse on the part of the male produces female offspring; while excess on the part of the female parent produces male progeny." But I am sure we have all known families with a large proportion of sons, in which the mothers were physically fragile and sexually apathetic. It is long since the observation was made, that the sex of the older parent prevailed in the progeny in some proportion to the disparity of age. This latter explanation is

more in harmony with the law of nature which has determined the relative proportion of the sexes, and seeks to maintain it by providing for the replacement of the sex of that parent of more precarious survivorship, that is, the elder.

An extremely interesting and valuable communication with reference to the time and mode of separating the fœtus and umbilical cord has been made by Ribemont, in a recent number of *Les Archives de Tocologie*, which shows satisfactorily the great influence of the "thoracic aspiration" of the fœtus on the umbilical circulation before its ligation. This was first pointed out by Budin; but is denied, among others, by Schücking. Determined by the manometer, it was found that—1. Tardy ligation of the cord benefits the child by increasing the quantity of blood which is required for the establishment of the third circulation, that is, the foetal pulmonary. 2. The immediate ligation of the cord deprives the infant of a quantity of blood, larger or smaller in proportion to the time of ligation; and it especially deprives it of necessary blood if the ligation has been applied before the child has breathed. 3. The early ligation of the cord thus compels the abstraction of the blood necessary to establish the pulmonary circulation from the general circulation. The result is a diminution of the arterial tension equal to one-third of the initial tension. 4. The cause of the penetration of the blood into the pulmonary circulatory system of the child is the "thoracic aspiration". This is proved by the constant superiority of the pressure of the blood in the umbilical arteries to that in the umbilical vein. Again, the thoracic respiration is observed to produce considerable oscillations in the tension of the arterial and venous blood. The uterine contractions are utterly insufficient to force any blood along the umbilical vein when the arterial pulsations of the cord have ceased. 5. Thoracic aspiration causes the *sufficient* and *necessary* amount of blood to enter the pulmonary vessels; *sufficient* because, under these circumstances, the tension in the arterial system does not fall; necessary because the arterial tension in the umbilical cord of a newly-born child is never seen to rise after tardy ligation of the cord. Professor W. T. Lusk, of New York, in corroborating Ribemont's views, says that, in children born pale and anæmic, and suffering from syncope, late ligation of the cord furnishes an invaluable means of restoring the equilibrium of the foetal circulation.

An interesting communication of Dr. Langdon Down, on the obstetrical aspects of idiocy, shows that this condition is due more to prolonged labour than to timely and judicious operative delivery. Of 2,000 cases, 24 per cent. were first-born; only 2 per cent. twins; twice as many male children as female; while, contrary to previous views, only 3 per cent. were forceps cases. In this connection, I may refer to the recent outcry as to a supposed diminution in the size of "the heads of the people", inferring gradual racial degeneracy. The hatters, however, soon settled the question by pointing out that the saleable sizes of hats had certainly become smaller, but that this was due to the change of fashion, which led to hats being worn on the very top of the head instead of over the ears. Analogy forbids the supposition. Heads are probably still enlarging with increasing mental cultivation, as shown probably also in the increasing difficulty of parturition. We know that the armour of former times is much too small for modern heroes.

Dr. Lebert of Nice and Dr. Ortega have followed up the views of Grisolle, published in 1850, as to the deleterious effects of pregnancy on phthisical females. It is still a popular belief that childbearing arrests pulmonary consumption and improves the health of the mother. Lebert's observations support the view of the aggravation of phthisis by pregnancy, but show that the effects of the labour itself are much more prejudicial to the mother. Of thirty-three phthisical girls who married, ten died in their first labours. Ortega has had ninety-five cases under observation. Of these, only thirteen bore more than one child; more than one-third aborted, or were prematurely confined; only eleven out of sixty-four children were suckled by their mothers, and these soon showed signs of insufficient nutrition, and died. Ortega holds that pregnancy hastens the evolution of phthisis, and that delivery is rapidly followed by the death of the mother. I have no doubt of the correctness of these views, which are pointedly borne out by the Registrar-General's Report for 1879, according to which only two women died of phthisis during pregnancy, while no fewer than two hundred and twenty-two died of phthisis after delivery, not classed as due to accidents of childbirth, or metria. I believe, however, the stage of the disease is an important element; and that marriage, when conception can be avoided, from its stimulus to the nervous and nutritive systems, has a beneficial effect on the general health, and through it on the tendency to pulmonary trouble.

As bearing on the subject of the general prophylaxis of childbirth by the anticipation of parturient difficulties, the investigations of Aschfeld

of Leipsig on craniometry are extremely interesting. Aschfeld has ascertained the size of the child *in utero* in two hundred and fifty cases, by applying one limb of Baudelocque's pelvimeter to the occiput *per vaginam*, and the other to the breech as outlined in the contracted fundus externally. In one most important series of observations, he gives the exact relative proportions between the length of the child and the two transverse diameters of the head. I have no doubt that pelvimetry with craniometry are destined to become important elements of scientific obstetric management. Attention also has again been drawn to the facility (first pointed out especially by Wiegand) with which the position of the foetus and the point of placental insertion can be determined by examination through the maternal walls, and its position rectified, if need be, by external manipulation before and even during labour. Lobat, who has more recently devoted attention to this matter, lays down the following points. 1. Version by external manipulation is possible in certain cases during labour. 2. When the position of the foetus is transverse, and the placenta is inserted near the os uteri, cephalic version by external manipulation renders the hæmorrhage less severe. 3. When cephalic version is impossible, pelvic version should be resorted to. 4. Dr. Pinard's eutocic bandage is not always necessary to retain the changed foetal attitude. This is a modified form of binder to retain the head on the brim after version. A head-presentation may thus be secured weeks before delivery.

The intense interest taken by the profession in the discussions on *post partum* hæmorrhage, in the Association Meeting of 1879; and on the forceps, at the Obstetrical Society of London more recently, shows how earnestly attention is devoted to questions bearing so directly on the safety and expedition of labour. The great debate on the forceps, in the Obstetrical Society, must be regarded as one of the most valuable contributions to practical midwifery of our time. Dr. Barnes, in his able opening, stated the advantages of the forceps over its alternatives, ergot, turning, and craniotomy, and formulated the conditions or indications for its employment in a manner that the subsequent discussion only tended to confirm. The statistics brought forward on that occasion show what influence on human life changes in choice of means and times for interference may exert. Collins performed craniotomy in one out of 211 cases, and used forceps in one in 607; Ramsbottom performed craniotomy once in 802 cases, and used forceps once in 670; Dr. Robert Lee, up to 1863, performed craniotomy in 116, and used forceps in 53 cases only. Contrast this with the other extreme of Johnston, who performed craniotomy in the proportion of one in 231, and delivered with forceps one in 10½! This experience is a perfect demonstration of a true method erroneously applied, for the resulting mortality more than neutralised the conservative intention of his method.

In connection with operative midwifery I must refer to the latest addition to the already formidable obstetric armamentarium—the basilyst, invented by my old friend, Professor Alexander Simpson, of Edinburgh. It is constructed on the principle of a terebrator, and designed by a combined perforating and cutting action to break up the base of the skull as a substitute for the cephalotribe, the cranioclast, or the perforator and crotchet. It is declared by its author to be for this purpose the instrument of the future.

I would now direct your attention to the subject of *post partum* hæmorrhage, and rather in relation to its prophylaxis than to its treatment. It is, as we well know, one of the gravest of parturient contingencies, whether regarded with reference to immediate danger to life, or to its more remote effects as a starting point of subsequent pathological conditions. I doubt much whether this last aspect of the results of *post partum* hæmorrhage has received adequate recognition at the hands of gynaecologists. In 1876 it was computed that 1,038 lives were lost from this cause; in 1879 the Registrar-General's Report gives 497 deaths from flooding, by far the largest item under the head "Child-birth," but there were 206 deaths from placenta prævia, 39 from retained placenta, 58 from abortion, and 49 from miscarriage. That this form of hæmorrhage is a largely preventable occurrence, is now very generally acknowledged. In the discussion on the subject, at the meeting in Cork, Dr. More Madden expressed the opinion that "with the advancement of our art such cases had gradually become less frequent, and would probably be altogether unknown in the more perfect obstetric practice of the future." In a large experience, both in hospital and private practice, he had seen only two fatal cases. Dr. Fleetwood Churchill, in 2,547 cases in his private practice, has "never known hæmorrhage to occur when firm grasping was applied to the uterus immediately after the child was born, causing it to contract rapidly and expel the placenta into the vagina"; thus in twenty years he "never had to extract the placenta by hand". I have found also from my own experience, now stretching over more than a quarter of a century, that

post partum hæmorrhage is largely, if not entirely, preventable in otherwise normal labour, and also that, under ordinary circumstances, the smaller the amount of puerperal loss, the quicker and more satisfactory the convalescence. My attention, indeed, has been much drawn to this subject, because eight of the most active years of my professional life were spent in an eastern subtropical climate where this accident was extremely common and fatal to European women. It has been well remarked in relation to *post partum* hæmorrhage, that where labour is conscientiously and intelligently supervised such cases should be few. As Dr. Farr puts it, "The mother's lives lost are at their most valuable age, and skill can do more here in averting danger and death than in other operations". The prophylaxis, however, should be remote as well as immediate. The incidence of this form of flooding, in nearly every case, depends on the management of the second and third stages of labour; but the preventive measures should commence long before its occurrence is imminent. The management of the labour itself is only one part of the prophylactic scheme. The predisposing conditions very often present themselves during pregnancy, and their treatment should form part of a general training of the system to prepare the mother for the approaching ordeal of parturition. These predisposing causes exist in the opposite general states of plethora and of anæmia. In the first-named, the hyperæmia incidental to pregnancy is exaggerated, and the extreme vascular tension resulting supplies the necessary condition. On the other hand, in the anæmic state the uterine muscle partakes of the general malnutrition and consequent want of tone, and, readily exhausted by the parturient efforts, it refuses to contract after delivery and close the placental vascular orifices. I know no condition which illustrates more thoroughly the influence of the luxurious habits of civilised life in giving a morbid liability to a normal process, than in the instance of *post partum* hæmorrhage; nor one in which the indications both for prevention and treatment are more plainly afforded by the study of natural conditions and processes. In the carefully recorded practice of Dr. Swayne, of Bristol, he states 3½ per cent. of his *post partum* hæmorrhage cases occurred among poor, and 6 per cent. among rich patients. These observations on the prophylaxis of *post partum* hæmorrhage, which I have selected as the largest mortality item and the type of the preventable accidents of child-birth, lead us fitly to the consideration of the subject in this connection, above all others of most importance to us and to humanity—viz., general puerperal prophylaxis. The scientific development of surgery is conservative, that of medicine preventive, that of obstetrics ought to and must obey the same law. The question of puerperal fever, or septicæmia, is one of the most urgent that suggests itself in the whole range of obstetrics; it is the great source of death in child-bed. It results from septic influences operating from within or from without, and therefore largely preventable in the light of modern antiseptic treatment. I say largely, because puerperal circumstances present, so far, inseparable difficulties in the way of complete antiseptic precautions. It would not suffice, as has been suggested by an enthusiastic disciple of Lister, to arrange for "the nebulous carbolic reception of the new-born babe", nor would puerperal safety be secured by using an antiseptic apron extending from the umbilicus to the knees of the puerpera.

To show the importance of this subject, I would invite you to consider with me the value we are to attach to the statistics, from which we derive our information as to the extent and variation in the rate of puerperal mortality, and endeavour to ascertain what light they throw on the subject.

Parturition may be physiological in design, but in general result the combined influences of civilised life have unquestionably rendered it largely pathological. As Dr. Edis well puts it: "In the present state of obstetric science, a certain number of deaths from divers causes are inevitable"; but "we must bear in mind we are not dealing with the data of some mysterious disease that baffles our art and bids defiance to our efforts, but with the records of what should be the performance of a mere physiological function". When we reflect for a moment on the number of women who are delivered annually in this country, on the significant proportion of them to whom that event is fatal; when we consider the delicate balance there is between the healthy and morbid aspects of the process, we cannot fail to be struck with the vast influence which even the apparently most insignificant precautions may exert over the result, and the urgent call there is for inquiry into the causes of this enormous mortality, and the possible means of its diminution. If self-preservation is the first law of nature, surely our first duty is to inquire what is the extent of the mortality of child-bearing, and what are the means available for its reduction or prevention? The amount of puerperal mortality may be fairly regarded as the measure of progress or otherwise of obstetrics, quite as much as the balance to

credit is of the success of a commercial undertaking. According to Merriman's well-known table—

For the 20 years ending 1680, 1 in 44 mothers delivered died.

"	"	1700, 1 in 56	"	"
"	"	1720, 1 in 69	"	"
"	"	1740, 1 in 71	"	"
"	"	1760, 1 in 77	"	"
"	"	1780, 1 in 82	"	"
"	"	1800, 1 in 100	"	"
"	"	1820, 1 in 107	"	"

In 1879, according to the Registrar-General's return, it was only 1 in 353. The vital statistics furnished by the State are more valuable in relation to midwifery than to medicine or surgery. The number of registered births fairly represent the number of deliveries, and the maternal deaths the ratio of mortality. With respect to medical and surgical cases, we only learn from the returns how many die from a particular disease, or after a certain operation, but we do not learn the number of cases of which these are the results. These two departments of medicine, therefore, are incapable, approximately even, much less exactly, of estimating the success or failure of treatment.

The phenomena of disease are so unstable and complicated in themselves, and are so susceptible of variation from a variety of influences, that the numerical method as applied to the elucidation of medical problems, in the form of so-called vital statistics, is open to many inherent sources of fallacy. It is impossible, for the most part, to get that accuracy and equality of observation which is requisite with reference to each particular event of the aggregate numerical expression or total. It is quite otherwise in the domain of physical science. The numerical as a subordinate instrument of the inductive method has a great fascination for a particular order of minds; and, if employed with preconceived views, the figures, by some mysterious process of unconscious cerebration, seem to lend themselves, or are at least capable of being so adapted, as to appear to establish the desired doctrine. The profession has more than once seen two able statisticians arrive at diametrically opposite views from the use of the same body of figures, while a third party has stepped forward and declared himself satisfied that both numerical arrangements supported yet another proposition! In such cases, the true facts lie between the extremes. It has been said by a distinguished political economist that you can prove anything with the same figures. Still, however, according to another great authority on the subject, "statistics do offer a test by which the impressions of unrecorded and limited experience are corrected".

The puerperal statistics published by the Registrar-General, as at present available, are only unfortunately of comparative value. They do not furnish sufficiently absolute data from which to deduce inferences for purposes of exact comparison. They are hence open to the various sources of fallacy notoriously inherent in the purely numerical method of investigation. In the first place, we have no information that all the puerperal convalescences from which the fatal cases were recorded were an equal or sufficient time under the observation of the reporters. Next, the information is derived from returns furnished by medical men, and also by midwives; the relative number of each employed can only be roughly computed at one-third of the former, and two-thirds of the latter. It is evident that the materials furnished by these two widely different classes of reporters will be of correspondingly different degrees of reliability, more especially when we have the discrimination of the two great divisions of puerperal mortality, viz., metria and accidents of childbirth, left entirely to their discretion. Another source of fallacy arises from the opprobrium which notoriously attaches to the accoucheur or midwife in puerperal cases of unfortunate issue. Obstetric human nature must be very different from the ordinary variety if it is unable to resist, even unconsciously, the instinctive tendency there is to refer the result to causes other than that with which it is really concerned. Again, with the spread of education and intelligence among the laity, registration has been year by year becoming more efficiently carried out; and, at the same time, increasing professional knowledge and efficiency, while diminishing the absolute amount of puerperal mortality, are leading steadily towards a more exact recognition of its nature, and consequently of its fuller registration. To illustrate this last proposition, I might refer to the Registrar-General's Abstract, where we find that deaths registered under the head of "Causes ill-defined or not specified" have fallen steadily from 9,687 in 1852, to 1,329 in 1879. Absolute identity of the observations tabulated is as essential to the value of statistics for scientific purposes as the capacity and trustworthiness of the reporters. If we are to compare different sets of puerperal mortality statistics, we must see that the items stated are reported and observed under the identical conditions. One of the most important of these is, as I have

already remarked, that the whole puerperal convalescence has been under observation for the same given period. This, however, is by no means the case even in those collected from lying-in hospitals; certainly it is not the case in the out-door practice of maternity charities, and still less in those furnished to the Registrar-General. The conclusion, therefore, is forced on us that these various classes of puerperal statistics can only be used each separately for comparison of its own data from year to year; and that, while the Registrar-General's reports are in themselves interesting, and afford material for general comparison, they do not supply such an accurate, detailed, definite, and uniformly derived body of facts as will serve for the basis of a scientific inquiry, such as is desiderated for our purpose.

The endeavour to ascertain by statistics what might be considered a conventional standard or reasonable rate of puerperal mortality has been made from time to time by some of our greatest obstetric authorities; but the results are imperfect, and, from their wide range of difference, unsatisfactory. Dr. Farr estimates it at 1 in 190; Dr. Matthews Duncan, at 1 in 120 to 100; Dr. McClintock, at 1 in 105. These calculations, however, are based on very unequal data. They include the result of practice in lying-in hospitals, out-door maternity charities, and private practice both at home and in the colonies, besides the practice of obstetric and gynaecological specialists, which necessarily include elements of special morbidity. This was evidently and notoriously the case in Simpson's practice, which showed a mortality of 1 in 50. In order to obtain a true standard ratio, which shall be an attainable ideal, we should take the experience of a sufficient number of men in general class practice, partly urban and partly rural, in this country alone. With this view, then, I have collated the last eight lists of consecutive cases of this character, without selection, which have been published in the *Lancet* and *BRITISH MEDICAL JOURNAL*.

Dr. Cooper Rose	1,250 cases,	2 deaths,	= 1 in 625.
Mr. George Rigden	5,682 cases,	13 deaths (6 non-puerperal),	= 1 in 437.1
Mr. Godson	3,223 cases,	8 deaths,	= 1 in 402.8
Dr. Whalley	2,200 cases,	7 deaths,	= 1 in 314.2
Dr. Newham	1,000 cases,	4 deaths (4 non-puerperal),	= 1 in 250.
Dr. Swayne	1,069 cases,	5 deaths (1 non-puerperal),	= 1 in 213.8
Dr. H. Veale	813 cases,	4 deaths (2 non-puerperal),	= 1 in 204.5
Mr. Plaister	300 cases,	4 deaths (2 non-puerperal),	= 1 in 200.

16,022 cases, 47 deaths (15 non-puerperal), = 1 in 340.9

The total number of cases is 16,022, with 47 deaths, or a mortality equal to 1 in 340.9; or, deducting the 15 deaths from non-puerperal causes, a mortality of 1 in 500.6—say 500. This I take to be a fair standard of death in childbed under the best average conditions on the part of the locality, of the patient, and of the attendant. The inference I draw from the comparison between this ratio and all less favourable, is that the difference between them represents the amount of preventable mortality. I cannot better illustrate this proposition than by pointing out the difference between the puerperal mortality of the nearly equal populations of London, and the North-west of England Registration Districts. In the former, for the year 1879, it amounted to 372 only, while in the latter it was 687. In this same year, if the puerperal mortality of London were in proportion to that of England and Wales, it would have amounted to 496.4, instead of 372 as stated. According to the Registrar-General's Report, the average puerperal mortality for the 33 years from 1847 to 1879 inclusive, was at the rate of 4.9 per 100 of births registered, which is a rate of 1 in 244. The maximum rate was, in 1874, 6.9 per 1000, or 1 in 143; the minimum in 1874, 3.7 per 1000, or 1 in 271. In 1873, the year preceding the maximum, it was 1 in 200. In 1874, there were 1,644 more deaths registered under the head "Metria" than in 1879—the full numbers being 3,108 and 1,644, or 132 and 58 per 1,000,000 respectively. It is most satisfactory to note that the death-rate in childbed has steadily decreased during the five years including and following

1874—when it was 6.9 per 1000	
1875—	6
1876—	4.7
1877—	3.9
1878—	3.7

In 1879, it had risen to 3.8 per 1000, or 1 in 268; but this slight fluctuation detracts very slightly from this satisfactory record.

The figures which have just engaged our attention speak plainly enough. They show what amount of change for the better is taking place year by year in the bill of puerperal mortality; they also show what can be done. This mortality has two great sources indicated in the Registrar-General's headings, viz., "Childbirth", and Metria. The former is largely preventable by increased attention and skill on the part of the attendant; the latter by the adoption of those antiseptic precautions with which modern science has already accomplished so much. We must remember that the heavy death-rate is only part of

the puerperal penalty paid. We are apt to forget the fate of too many of the survivors, who leave the lying-in chamber for the last time, physically disabled, and incapable of again discharging the great function of womanhood. It was my intention to have referred in some detail to the antiseptic measures already adopted in some of the great maternity hospitals abroad; for instance, those carried out with such distinguished success by Professor von Weber in the great Landes Gebäranstalt in Prague, where the death-rate has been actually reduced to .36 per cent. But the inexorable hand of time warns me to turn to another part of my subject.

We shall now, gentlemen, turn our attention for a short space to the subject of gynaecology.

From their greater organic mobility, women react much more than men to their environment. They are more affected physically by the conditions under which they live; and in no respect are the continuous influences of civilised life more apparent than in the effect they have had of modifying or disturbing the sexual functions in women, and so increasing their morbid liabilities. The higher the civilisation, the more delicate the human product, seems to be a law of social development. The diseases of women naturally arrange themselves round the two great distinguishing functions of their sex. We have one group characterised by disturbances of the function of menstruation, accompanied by, or dependent upon, organic changes in the ovaries, in which the essential phenomena of ovulation are initiated, or in the uterine mucous membrane where they are principally manifested. Another group consist of morbid conditions arising in connection with the reproductive function—conception, pregnancy, parturition. All healthy women living in normal conjugal relations during the greater part of the period of menstrual activity should bear children. It follows, therefore, that, when this has not occurred, or when child-bearing is suspended, morbid conditions, either original or acquired, are present in the sexual apparatus. A heavy puerperal mortality, as I have elsewhere shown, is but part of the penalty the gentler sex pay for the precarious privileges of maternity. Far too many of them rise from the perils of childbed crippled in health and sexually disabled, perhaps for ever. In how many families do parental anxieties centre round an only child?

The diseases of women form so numerous and important a class, that even if we are not, as physicians and surgeons, called upon to treat them ourselves, yet we ought to be able to recognise them, if only to exclude them as powerful factors in other ailments. Gynaecology is a comparatively modern study. There is no department of medicine in which so much remains to be done, notwithstanding what has already been accomplished within the comparatively short time since its revival. This progress, however, unfortunately, has been much more rapid than satisfactory. Perhaps in this respect it has only reflected the character of every new and rapidly extending branch of knowledge. In none has progress been so much from the side of experiment and empiricism. The pathology of uterine affections is still obscure, and requires further investigation as a basis for more and greater precision in treatment. The physiology even of the genital apparatus in women is still capable of much elucidation. No class of diseases present themselves in such protean shapes, obscuring diagnosis and baffling ordinary treatment, as those which engage the attention of the obstetric physician. They are indeterminate in form and progress; they run no regular course; they are very rarely uncomplicated; and in nearly all of them there are neurotic elements which add vastly to the difficulties of the situation. The progress of gynaecology so far has been marked by distinct periods of development, which unfortunately correspond less to advances in physiology and pathology, than to the application of new means of physical investigation and the introduction of therapeutic novelties largely mechanical in character. The progress which might have resulted from these experiments in diagnosis and therapeutic resources has been greatly retarded by too hasty generalisation from isolated and imperfectly observed and recorded facts; hence, narrow views, erroneous theory, and empirical practice, if not worse, have followed one another in a sequence which would be amusing were it not very serious in some of its aspects. The memory of this generation is carried back to an almost prehistoric time, as far as gynaecology is concerned, when diseases of the womb were either altogether ignored or held to be beyond the province of legitimate medicine. The period when the importance of uterine disease began to dawn was yet one of darkness. Prolapsus and leucorrhœa were the presiding pathological conditions; vaginal plugs and injections composed the therapeutics. Next came the speculum or ocular period, disclosing inflammations and ulcerations of the cervix, with caustics and scarifications as their treatment. Then came the distinction—anatomical, physiological, and pathological—between the cervix and body of the uterus, developing intra-uterine medication, to the extent

even of pyrotechnics in the form of a sound at a red heat. The uterine sound inaugurated a new era, that of mechanics in uterine pathology and treatment. All ailments were obscured in versions and flexions of the womb, which mechanical appliances could alone relieve and cure. The cervix again became the object of attention. Dysmenorrhœa and sterility were referred to peculiarities in its configuration and to stricture of its canal, which could only be removed by slitting it up. Next the clitoris, as the subject of clitoridectomy, to cure certain reflex troubles, had fortunately only a brief inglorious reign. The ovaries, in turn, long credited with the highest pathological honours, are now apparently doomed to general extirpation unless they ceased to trouble. The female perineum also, always an object of solicitude to obstetricians, has quite recently been elevated by certain American gynaecologists into a position of eminence in relation to the causation of uterine difficulties, displacements, and such like, almost as great as that accorded by another school to the cervix uteri; indeed, lacerations of the former are made to share with lacerations of the latter in all the pathological honours. According to this school, "the perineal body is a great factor in co-ordinating all the parts within the pelvic cavity". An old acquaintance has again turned up with a new face, in the lacerated puerperal cervix, which, to use the words of one of the latest authorities, "should be stitched up, however slight the laceration". A distinguished American gynaecologist, writing me lately about sundry professional matters in his department, says, in characteristic style, with reference to this procedure and that of oöphorectomy: "Battey's operation is a formidable one, and rarely resorted to as compared with the trifling one of sewing up a lacerated cervix uteri, which seems greatly to occupy some American gynaecologists at present. The frequency of this operation by some has been equalled, in our day, only by the frequency with which the cervix used to be slit as a cure-all. The field is a wide one, and I daresay many old slits will be repaired. Our great master, Simpson, has left behind him a few. The pendulum swings. Time alone will bring the verdict. We are too near the period to speak plainly and judge intelligently about it." The lesson to be learned from all this is, that scientific method has been faulty or wanting, our art has been advancing experimentally in narrow grooves, without unity or comprehensiveness of design, our observations have been partial, and our treatment speculative where not empirical. In fact, our therapeutics have had no foundation in sound pathology. Improved methods of investigation, and refinements in physical diagnosis, have had, unfortunately, the effect of drawing attention from general conditions, in which a large proportion of local troubles have their origin. They have elevated into importance objective symptoms at the expense of subjective. Objective symptoms have the merit of accessibility and exactness; they are easily recorded and readily compared. They are, in a word, more definite. Subjective symptoms ought not, however, to be ignored. They afford information and evidence of changes experienced and felt by the patient preceding those capable of objective recognition. We should not forget that all the knowledge that constitutes the inheritance of modern medicine was thus alone derived. This exclusive study of objective symptoms has undoubtedly had a most injurious effect on the dignity, character, and progress of gynaecology. There has been far too great attention paid to local treatment. The use of instruments for diagnosis and treatment, and direct personal medication, have been greatly overdone. The *nimia diligentia* has been too rampant. I cannot help recalling to your mind the remark of the late Sir John Forbes, in his classic work on *Nature versus Art in Disease*, about "over-active perturbative treatment and mischievous polypharmacy". I am not sure that many of us are capable of realising the effort that is necessary to enable a virtuous, or indeed any woman, to submit to the painful ordeal of local examination and manipulation, or the gradual deterioration of delicacy which in too many its frequent repetition tends to accomplish. When I read of a gynaecologist who states that he has made a vaginal examination by speculum "almost daily for two years", I cannot help thinking that the moral deterioration has extended also to the medical attendant. When we read of an uterine sound being used with such force as to bend it, we remember that it should not be used with much more force than necessary to pass a catheter into a male bladder. Another gynaecologist recommends the approximate determination of the volume and shape of the uterus being ascertained by a bimanual examination "before sounding"! Another recommends the sound, and yet another tents for cervical dilatation, to be passed through the speculum! I cannot do better than quote, in this connection, what appeared a few days ago in one of our medical journals from the editorial pen, under the title of *Uterine Therapeutics*. "There are few things more characteristic of an untutored intellect than the propensity to 'discover' unlooked-for and startling phenomena as associated with common-place and trivial causes.

Speaking generally, it is a case in which either the intelligence or the veracity is open to the gravest suspicion. That a pernicious and demoralising amount of interference with the genital apparatus of females is chargeable against certain practitioners is likewise a proposition, to the truth of which, we are sorry to believe, assent will be accorded by the best men in the ranks of the profession." I trust I shall not be misunderstood in thus expressing myself. I do so, because I feel keenly all that concerns the dignity of that department of medicine with which I have identified myself. As I have said on a previous occasion, I deprecate in the strongest terms the *nimia diligentia* in the treatment of uterine diseases generally. I am strongly of opinion that an endeavour should always be made in the first place to correct the local trouble by treatment directed to correct the general health when affected, and only when this unaided has failed, should local treatment involving manual or operative interference with the parts be attempted. Generally speaking, the speculum should never be used, unless local medication, first by the patient herself, have failed to arrest the abnormal discharges and relieve the local symptoms. The sound should never be introduced unless there be presumptive evidence of uterine flexion, displacement, subinvolution, or the reverse. And, finally, let me say, mechanical treatment of every kind should certainly be withheld in all cases, until relief by rest, position, and local medication has failed to be afforded. The diagnosis in all cases should be inductive—under no circumstances either speculative or experimental.

Time will not admit of my doing more, before leaving the subject of gynaecology, than referring very briefly to one or two of the more recent contributions to the science and art of gynaecology. One of the most valuable is Dr. Hart's (of Edinburgh) investigations into the anatomy of the pelvis and its contents. They shed most valuable light on the physical relations of the uterus and its appendages, especially with reference to the mechanism by which it is supported and maintained *in situ*, and its bearings on displacement of that organ. He shows that the womb is more dependent on the support of the pubic and sacral oblique planes of the pelvic fasciæ, which form a true pelvic floor, than on its so-called ligaments. Prolapsus is caused by the pubic portion slipping past the sacral portion. The pubic layer is triangular, and has comparatively loose attachments, and the uterus lies anteverted (inclined forward) on it. The sacral layer is quadrilateral in outline, and has strong bony attachments. Prolapsus is caused not so much by the weight of the uterus, as by laceration or thinning of the anterior edge of the sacral layer, the plane allowing the relaxed pubic segment to slip past. Increased weight of the uterus does not initiate the movement, but must of course exaggerate it. There are three primary factors in the movement, viz.: (a) loss of apposition of the pubic and sacral portions, in most cases started by perineal laceration; (b) loss of "tone" in the anterior triangle or pubic plane; (c) intra-abdominal pressure. It is on such a basis as this that a system of mechanical therapeutics should be founded.

It has been remarked that the tendency of gynaecology is becoming more and more surgical. Indeed, the operations with which the names of Spencer Wells and Thomas Keith are so gloriously identified must be regarded as common ground. It is not so very long since the operation of ovariectomy was pronounced by the unanimous voice of the profession practically as well as theoretically justifiable. The same question can hardly yet be answered in the affirmative with reference to the operation first introduced in America by Dr. Battey, of Rome, Georgia, under the name of Normal Ovariectomy or Oöphorectomy, as a remedy for neurasthenic and other troubles having their origin in ovarian irritation. It has since been extensively repeated in America, on the Continent, and in this country. Call the result what they may, "simply reaching the climacteric earlier than usual", "attaining premature sexual senescence", or "anticipating menstrual senescence", it is a grave matter under any circumstances literally to unsex a woman by an operation dangerous to life, which may even fail to relieve, for what, as far as can be ascertained, is a purely functional derangement. Nothing but conditions immediately threatening life or reason can justify such a proceeding, the necessity for which must always constitute an opprobrium in our art. It seems to me that the systematic treatment of neurasthenic disorders practised with such success by Dr. Weir Mitchell of Philadelphia, and recently brought to the notice of the profession by Professor Playfair with such corroborative record of success, offers an alternative to Battey's operation of the most promising kind. Dr. Weir Mitchell's book was brought to me about four years ago by a lady whose sister had been restored to health under the treatment. Skilled nursing is the great difficulty in connection with carrying out the system successfully.

The operation introduced in America, by Dr. Emmett, of stitching up lacerations of the cervix uteri, has already gained extensive

acceptance on the Continent. This accident is alleged to cause eversion of the os uteri, endometritis, leucorrhœa, sterility, abortion, to disturb involution, and to prevent the cure of displacements and flexions of the womb. Verily, a grave catalogue! This accident must certainly be more frequent in its occurrence and more serious in its effects elsewhere than in this country. Dr. Pallen of New York says he has operated on nine hundred cases in six years, in only two hundred of which, however, was there interference with the generative functions, or other symptoms produced. It is very rare to find a multiparous cervix in any other than a dilapidated condition with more or less laceration. I have often found, as no doubt all of you have, a hard fissure on one or other side of the cervix causing pain on pressure, but at once relieved by free scarification, as one would treat a rectal or other fissure.

The name of Dr. Emmett is also associated with another most valuable but very much simpler contribution to uterine therapeutics, in what is known as the "hot vaginal douche". Of this, Dr. Dudley of Chicago says, "in uterine therapeutics, the value of the hot-water douche is perhaps greater than that of all other topical applications combined"; and I heartily endorse the opinion. It should be used as hot as can be borne for twenty to thirty minutes at a time. It can be tolerated comfortably by the vagina at a temperature which the hand cannot bear. It acts by first dilating the arterioles, followed by the tonic result of contraction, which continues for some time. The mucous membrane becomes blanched, the calibre of the vagina diminished, and the surfaces astringed. The whole pelvic circulation is thus influenced and relieved through the vagina. It has also secondarily the valuable effect of removing the restlessness and insomnia of nervous women. Drs. Windelband of Vienna and Lombe Atthill of Dublin recommend it in *post partum hæmorrhage*.

My last reference is to the diseases of children, and it must necessarily be a very brief one.

The association of the diseases of women and children is entirely conventional. There is no essential relation between them. The diseases of children constitute in themselves an entirely new and independent departure from the domain of general pathology. The subjects embraced under the general term *pædiatrics* form a group so characteristic and interrelated, and otherwise so distinct from either obstetrics or gynaecology, that they merit separate treatment. I trust the time is not far distant when they will attain the dignity of a separate section at our annual meetings. In the meantime, it will be impossible for me to do more than reiterate the assertion of their claims to independent consideration. I would, however, draw your attention for a moment to what I believe to be one of the most interesting aspects of children's diseases. It is their constitutional nature as derived by inheritance. The prevention of disease is now wisely held to be the highest object of medical science, and at no period of life is it so easy to interrupt the hereditary sequence of morbid influences, and prevent their subsequent development. A large proportion of the diseases of adult life result from the environment of the individual, his habits as regards food, stimulants, and exercise, unequal strain on the organic system, the effects of the complex and anomalous conditions of civilised life, in addition to those from specific infections, and other essentially morbid influences. But these conditions not only affect the individuals immediately exposed to them, developing types of humanity more or less physically retrograde, but they produce in the offspring marked diathetic states from their transmission. We accordingly, in infancy, meet with numerous temperamental developments, and diatheses of hereditary origin. They give a distinct complexion to, and largely influence, the character and progress of acquired disease. We are also called upon to treat their corresponding cachexiæ or characteristic morbid developments, which constitute in themselves so many distinct morbid entities or diseases. To a great extent, fortunately, many of these inherited diatheses and their cachexiæ are capable of cure, and all of them of amelioration. The vegetative activity and developmental mobility of youth lend themselves readily to the influences—hygienic, nutritive, and therapeutic—which may be skilfully brought to bear upon them. It is impossible to overestimate the importance of these considerations in relation to the pathology and therapeutics of children's diseases. They certainly have not met with that recognition to which their pathological value entitles them, and I refer to them merely to point out what a field there is here presented to the student of *pædiatrics* for independent and original research.

BACTERIA.—A Boston professor said, after a late lecture, to one of his class: "The views in regard to bacteria are now so conflicting that I do not understand them." "Why, Profes:or," said the student, "*that is what we all say.*"