I am, consequently, convinced that for the first time a successful transplantation has been done by the aid of corneal tissue preserved for several days in a state of vitality. I believe that I have obtained as good a result as if I had made use of fresh material. Cases of immediate keratoplasty are not numerous (Zirm, Fuchs, Löhlein, Clausen, Fox), and my method encourages the hope that this useful operation will soon be generally employed.

The proof of the vital condition of the preserved and transplanted cornea lies in the fact that although the pterygium returned after removal it grew only to the edges of the graft, whose tissues must have had sufficient vitality to defend themselves.

It must, finally, be noticed that the eye which furnished the graft was in a state of hypertension, the cornea being anesthetized and cloudy. The cloudiness disappeared after being a few hours in the preserving liquid. Eyeballs affected by absolute glaucoma may, therefore, be utilized for this operation.

So far as concerns the technic of the operation, I still believe that partial keratoplasty is the best method and that it is not necessary to make a large opening in the opaque cornea. No suture is necessary; the operation must be performed at the center of the cornea and one need not have the incisions extend into the conjunctiva.

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MODERN OBSTETRICS, WITH RELATION TO THE GENERAL PRACTITIONER, THE STUDENT, THE MIDWIFE AND THE SPECIALIST *

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Recent advances in medical science have so changed the scope of obstetrics that the term "modern" may appropriately be applied to this branch of medicine at present. To the obstetrician belongs the field comprising the physiology and pathology of pregnancy, with the complicated pathologic problems presented by toxemia and the surgical procedures required by placenta previa and other forms of ectopic gestation. His, too, are labor and its complications with the complex condition known as physiologic incompetence, and the surgical procedures made necessary by deficient development or abnormal expulsive forces.

In the puerperal period the obstetrician is especially engaged with the prevention or treatment of hemorrhage and septic infection, and with that important subject, the repair of injury received during labor, and the restoration of the mother to health through involution. Injuries to the new-born, asphyxia, inspiration pneumonia and infections acquired during labor must receive attention from the obstetrician. In no branch of medicine are more important pathologic conditions present for study, and to no one but the obstetrician is given the responsibility of operating for the saving of two human lives. It is not strange that the slow development of medicine before the advent of asepsis left obstetrics in an imperfect and unsatisfactory condition. The same methods of diagnosis and treatment which have brought modern surgery to its present development are now applied to obstetrics with equal success.

THE GENERAL PRACTITIONER

No more important question can engage the attention of the profession to-day than the relation borne by the general practitioner of medicine to obstetrics. Many of these cases inevitably come first to him when under conditions most unfavorable. Without previously seeing the patient, and without warning, he may be confronted by the most dangerous complications of parturition. Unaided he must perform difficult operations under the pressure of necessity. In no other branch of medicine is the general practitioner placed at such disadvantage.

General practitioners may be divided into two classes as regards obstetrics. The larger number are those who do obstetric work because thereby they hold the medical practice of the family. A much smaller number have natural surgical instincts, are interested in the pathology and surgery of obstetrics, and do this practice with interest and pleasure. Successful general practitioners have repeatedly told me that they would gladly avoid this branch of medicine, and that the outlay of time and effort was far greater than the remuneration; and that only the necessity for keeping the family practice unbroken led them to take these cases. This applies, however, only to those men who are successful as practitioners of internal medicine and who have no especial ambition in surgery. A considerable number of general practitioners, however, are beginning professional life, but have not as yet achieved success and are dependent for a living on all cases whose management they dare attempt. These men must do obstetrics to live, and yet have no intention or possibility of doing such work well.

Under these circumstances, how can obstetric practice be conducted in such a manner as to do justice to the general practitioner, and how can the general practitioner of medicine do justice to his obstetric patients?

The specialty of the general practitioner should be diagnosis. His opportunities for attaining skill in this branch of medicine are the best. His success as a practitioner is entirely dependent on his diagnostic power, for often he cannot avail himself of laboratory methods and must depend on his powers of observation. The success or failure of the general practitioner as an obstetrician will depend on his ability to diagnose conditions which make pregnancy dangerous and threaten difficult or disastrous labor. A thorough knowledge of the signs and symptoms of the toxemia of pregnancy, the ability to diagnose contracted pelvis, disproportion between mother and child, and abnormal positions or presentation, should be within his grasp. If to this he adds the antiseptic habit, most difficult to acquire by those not trained as hospital residents, he can successfully meet many of the conditions of obstetric practice. Under these circumstances the conduct of normal labor becomes a matter of no especial difficulty, because a man so equipped will recognize abnormality and secure in such cases the service which he himself may not be able to render.

The multiplication of hospitals throughout the country and the development of obstetrics as a specialty have placed at the disposal of the general practitioner the conditions necessary for the management of complicated cases. When the diagnosis of abnormality has been made, such cases should be referred by the general practitioner to the hospital where especial skill can be procured for their management. A successful general practitioner can better afford to send his complicated obstetric cases to a hospital than to have them do poorly in their own houses. In a case of appendicitis or ovarian

* Read before the Academy of Medicine, Buffalo, N. Y., March 13, 1912.

tumor he does his duty to the patient when he makes a diagnosis, afterward confirmed as correct, and puts the patient in the way of securing proper treatment. In a complicated case of parturition the same is true. No successful general practitioner can afford to do that which he cannot do well.

The ambition of every successful practitioner of internal medicine is to limit himself to the field of internal medicine, and under these circumstances such a man attending a family naturally refers obstetric cases to obstetricians.

The general practitioner who is not yet successful, and who must take everything which comes in his way is driven to attempt the management of complicated and dangerous parturition under the most adverse circumstances. A medical reputation can be made among the poor as well as among the rich. It is difficult to persuade him that it is better to lose \$10 or \$15 by transferring a complicated obstetric case to a hospital than to hold on to the case, although it terminates in the death of the fetus and the prolonged illness of the mother by septic infection. Abundant observation shows; however, that as it would not pay him to retain a case of appendicitis or ovarian tumor with twisted pedicle in the patient's tenement, under his care, so it will not pay him to act in a similar manner with a case of complicated parturition.

Outside of cities one finds within a radius of perhaps 100 or more miles, one or two general practitioners so-called, with a marked taste for surgery and often for obstetrics. These men may have no hospital positions, but from long experience and honest effort have attained ability in the domestic management of complicated labor. They practice asepsis; they have the necessary instruments and appliances, and abundant experience and observation. Such men, although not common, do excellent work in spite of unfavorable surroundings, and in any but the most difficult complications of obstetric practice are competent and successful.

When one considers the fact that the general practitioner is the one person to whom come the acute contagious diseases, we wonder that the parturient woman, so susceptible to infection, should so long have remained under his care.

THE STUDENT

Recent advances in medical science have greatly changed the field of instruction in obstetrics. All properly equipped medical schools now teach biology and embryology in the first two years of a four-year course. Anatomy, general and regional, is so thoroughly covered that the anatomy of the female body is well taught. The physiologist teaches the facts concerning impregnation. The teacher of obstetrics is thus relieved from the necessity of including these branches in his instruction because it is better done by his colleagues. On the other hand, the widened scope of obstetrics in the pathology of pregnancy, and the greatly increased field of modern obstetric surgery give to the obstetric teacher as much as he can possibly cover in the ordinary course. Obstetrics is best appreciated by junior and senior students who have had a good groundwork in anatomy, physiology, biology and embryology, in the first two years.

In common with a number of obstetric teachers in this country, I am accustomed to divide our class at Jefferson into men midwives and obstetricians. Both receive as good instruction as can be given concerning pregnancy and its complications, spontaneous parturition, the low application of forceps, version and extraction, the treatment of post-partum hemorrhage, the prevention and

management of septic infection and the immediate closure of ordinary lacerations.

This teaching is reinforced by a thorough drill by competent demonstrators, with the use of charts and manikins, and also by observation on the living patient; especial attention is paid to obstetric diagnosis, and students are warned that this is of primary importance. Major obstetric surgery is taught only in the senior year. The effort is commonly made to place this on the same level as the major operations of general surgery. The class is advised to master thoroughly the groundwork of obstetrics, to obtain hospital experience after graduation in a fifth additional year, and then to take at least several years in general practice. During this time they are advised to study their natural bent and inclination, and also the circumstances under which they are placed. If they have early formed the ambition to do good surgical work, and are also so circumstanced that they have opportunity to learn it practically, and if they have the means to obtain the necessary equipment for asepsis, they are then advised, in common with work in abdominal surgery, to undertake the major obstetric operations. They are urged to connect themselves with the nearest available hospital, or to obtain the privilege of taking complicated cases to hospital. Those, on the other hand, who find themselves drawn more strongly to medicine or to the non-surgical branches of medicine, are advised by no means to undertake the management of complicated parturition. Diagnosis they should and must know, and in recognizing difficulties which they are not competent to overcome they are urged to send their patients to hospital as soon as possible.

In dealing with the complications of parturition which may suddenly confront the general practitioner, two courses of action are placed before the senior student: He is urged, if possible, immediately to transfer the case to a hospital. When this is impossible, he is taught the simplest methods of treatment available in private houses. The comparative mortality and morbidity of complicated cases properly handled in hospital, and those in which the best possible is done under adverse circumstances is placed clearly before him, and the effort is made to show him how great is the advantage of modern obstetric surgery.

While it is too soon to judge extensively of the result of such teaching, I have been gratified to know that some of our comparatively recent graduates developing in surgery have successfully performed the major operations of obstetric surgery.

A most important element in the development of the obstetric surgeon is hospital experience. In 1910 the obstetric teachers of the leading American colleges met and agreed on a concerted effort to improve clinical teaching. It seemed to us at that time that each student should at least have conducted six cases of parturition before graduation. While this may be taken as a minimum, our constant effort is to urge men who find themselves fond of obstetric work to take as much clinical experience as possible. Opportunities are given to the students of the Jefferson Medical College to do additional clinical work during vacation time, and they are urged to take special courses in the various obstetric hospitals of the country. A number of them go to the New York Lying-In Charity, where, I am glad to say, their record is a good one. These are the men who afterward should develop into competent obstetricians.

I believe that polyclinic teaching in all branches of operative work may have advantages, but that it also has a distinct disadvantage. Men ambitious to operate see

difficult operations performed with accuracy and apparent ease by experienced operators. After a brief course of study they return to their homes and attempt the same procedures—not always successfully. In postgraduate teaching as in undergraduate teaching, I believe that the best service which the postgraduate school can render the general practitioner is to give him opportunities for improving his ability in diagnosis. If a man wishes to become proficient in any branch of operative work, he must learn this as an assistant to a good operator, and not in the brief period of a course in which operations are demonstrated, but in which he has comparatively little actual part.

I am well aware that the trend of this method of obstetric teaching will be to produce a comparatively small number of competent obstetricians, and I hope that such will be the result. Obstetrics, like other branches of surgery, is difficult and arduous, and a comparatively small number of medical graduates have the ability, the patience and the endurance to do it well. I believe in the interests of humanity that it would be better to have a small number of good men than a large number of indifferently prepared men doing this work.

In out-patient medical teaching the superstition has long prevailed that the best way to teach a student obstetrics is to send him without instruction, and formerly without instruments or apparatus, to meet the accidents and emergencies of labor. This curious fallacy existed in no other branch of medical teaching. At present, out-patient obstetric teaching is conducted in the best colleges by instructors, and often with the assistance of trained nurses, as well as in the houses of the poor. A man does not learn best by making mistakes, but by avoiding them, and the antiseptic habit cannot be gained by seeing it practiced in hospital and neglecting it in out-patient service. Much useful material for teaching has been wasted by the mistaken notion that out-patient obstetric service should be conducted in a careless and slipshod manner.

THE MIDWIFE

Of late considerable attention has been devoted to the question of midwives, their training, supervision and function in America.

To understand this condition clearly, one must recall the conditions under which the European midwife exists. She is trained in hospital schools maintained by the government, and is taught under regulations prepared by the best authorities in her country and by some of its most competent teachers. She is strictly limited and licensed by government regulations, and these regulations apply equally in all parts of her country, and are void in any other country. Her license is immediately revoked if she does not obey the regulations. Under no circumstances is she allowed to interfere with labor or to attempt the repair of lacerations. There is throughout her country one uniform method of medical control.

In contrast to this in the United States but little instruction is given to midwives. Their licenses are municipal and are used in the careless manner in which much of our municipal work is done. They are under no direct supervision and soon learn to evade the lax regulations under which they practice. It is my belief that they are a menace to the health of the community, an unnecessary evil, and a nuisance. It is true that they furnish interesting pathologic cases, but this is no excuse for their existence.

If midwives are to practice properly in the United States they must be under national supervision, so that a

uniform system of regulation and education may prevail throughout the entire country. They should be educated as carefully, and watched as strictly as in Europe, and none but licenses from the best European schools should be recognized by our government. Without a national board of health, and a secretary of hygiene, this is impossible.

In our great cities the plea is often raised that the midwife greatly helps the family of the poor by caring for other children and acting as housekeeper as well as nurse. Few do this and those who attempt it do not always do it wisely or well. The visiting obstetric nurse and the sociologic worker in our large cities do the work of the midwife far better. The maternity department of the Jefferson Hospital employs two visiting nurses for its out-patient work, with most gratifying results. Senior students under instructors are safer persons to deliver normal cases than are midwives, and complicated cases are brought to hospital.

It may be said that in small villages and towns and in the country the midwife would prove a great help; but again we can obtain no competent midwives without proper education and regulation, and the absence from medical supervision, the infrequent visits of the doctor in sparsely settled districts make the midwife doubly dangerous.

A recent interesting paper by Baker¹ sets forth the present status of the midwife in the United States in a most clear and interesting manner, but this able presentation of the subject does not alter my belief in this matter.

THE OBSTETRIC SPECIALIST

Obstetrics shares with other branches of medicine in the development of the obstetric specialist. The tendency to specialism is so strong in medicine that the general practitioner may well ask, "What is left for me?" and many cling to obstetric practice as the last resort. The general practitioner of medicine must deal with contagious diseases, with the great infectious disorders like typhoid and pneumonia, and must, as we have already remarked, be especially proficient in diagnosis. A thorough knowledge of preventive medicine is urgently needed in his case. His diagnostic ability must include obstetrics.

There have always been among general practitioners men operating from time to time, of such native wisdom and insight that they have, unaided, grasped the great principles, and alone performed deeds of actual valor. The early history of cesarean section affords examples of this, but these men are exceptions to the rule; and if the surgeon to-day is a specialist, so must the obstetrician be to obtain the greatest success.

Williams,² in his recent interesting paper, has drawn attention to the imperfect obstetric education in America to-day, and especially to the inability of many obstetric teachers. I agree with him in his conclusions and in the accuracy of his observations. When one considers what is embraced in modern obstetrics, the large and interesting field of the pathology of pregnancy, and the necessity for thorough knowledge, skill and experience in obstetric surgery, one can see that this field can be adequately covered by no one who does not give to it a thorough preliminary education and his undivided strength and attention.

A substantial reduction in the mortality of parturient women from puerperal septic infection will not take place in general practice until complicated parturition

1. Baker: *Am. Jour. Obst.*, February, 1912.

2. Williams: *THE JOURNAL A. M. A.*, Jan. 6, 1912, p. 1.

receives the same special attention now given to appendicitis and abdominal tumors. The septic mortality rate of puerperal hospitals under the care of obstetricians has been reduced to less than 1 per cent., but the septic mortality of general practice has never been accurately obtained, and never can be.

Among the advances in the saving of life and health due to the work of obstetric specialists, we may instance the treatment of contracted pelvis, which has ceased to be a source of great mortality and morbidity, and is a complication which now gives the operator little anxiety. The treatment of ectopic gestation by abdominal section has acquired a new meaning, when we remember that we have ectopic gestation outside the uterus and ectopic gestation in placenta praevia outside the usual zone of ovular attachment, but within the uterus. The application of surgical principles to both these conditions is a distinct advance. The enlargement of the field of cesarean section to cover cases of physiologic incompetence for labor, and cesarean section without waiting for labor, are distinct advances. While these seem radical measures and indicate an increased tendency to operation, we may point, on the other hand, to the treatment of puerperal septic infection by obstetricians, which now rarely calls for surgical operation. We have learned that here is a field for wise conservatism and application of a recent discovery in pathology—the use of vaccines. Rupture of the uterus and accidental separation of the placenta receiving surgical treatment show improved results. The repair of lacerations by the obstetrician has greatly lessened the field of secondary operation. An obstetric surgeon must be competent to deal with the results of parturition at any period in the life of the individual. The surgery of the new-born in the treatment of depressed fracture of the cranium shows a notable advancement.

As the population of this country increases, and the struggle for existence grows more difficult, the burden of life will fall more heavily on those who earn the smallest wage and on the very poor. Most helpless of all these is the parturient woman. Unfortunately in the past she has often had little or no skilled attention. Has not this been wrong and can it not be made better?

Too often, among the rich, conditions have been overlooked or recognized too late which brought about a tragedy during parturition. The life of the child has been lost which might have been preserved and whose continuation might have meant great happiness, and even the success of a family. Why should such patients demand the best skill for other complicated situations and be satisfied with less because labor is supposed to be a physiologic process? There is nothing so dangerous as a half-truth, and the statement that labor is a physiologic process has done more to retard the development of obstetrics than any other one thing. Labor is a physiologic process in physiologic individuals, but not in pathologic specimens. On the one hand, poverty and vice weaken and depress the poor, stunt the skeleton, and sap nervous and muscular energy. On the other hand, luxury, dissipation and degeneration, with the results of excessive development of the nervous system, enfeeble the rich, and in both of these parturition becomes from start to finish a pathologic process. Much is often paid for the successful removal of abdominal tumors of an undesirable nature. Is not the successful removal of a living child in sound condition of equal importance?

I remember distinctly the great disadvantage in which I found myself in my first efforts at obstetric practice

before I had acquired special education and surgical training. I realize fully the very unfavorable and unjust position in which the general practitioner is placed in attempting, without sufficient assistance and favorable surroundings, to deal with the dangerous complications of obstetric practice. It is my hope and purpose not only to secure better care for parturient women, but to place the general practitioner in a proper and just position amid his professional brethren and before the public.

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READING A BOOK—PAGE INSTANTANEOUSLY: A CASE OF UNIQUE VISUAL POWER

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Mr. C. had the power of reading a page of an ordinary book, duodecimo or octavo at a glance. His eyes and attention were fixed on the page for but a second or two, and it was read, its statements or contents so fixed in memory that they could be brought forth from that "vast deep" whenever in after-years desired. Page after page was thus read; and book after book, year following year. Several volumes might thus be gleaned in an evening. It scarcely needs the saying that it was necessary that the book should be "easy reading," its English of good style, the subject treated not essentially unfamiliar, recondite, or philosophic, but within the easy grasp of the man's intellect, such as well-written novels, narrative, history, essays, poetry, the magazines, etc. In reading poetry, of which he was extremely fond, he could by a glance store his memory with the line or stanza of a page or poem which to his critical judgment stood out with superior excellence.

This ability began to show itself in late midlife, growing more and more perfect in his later years. It was often put to the test by his assistants or secretaries, and more frequently he vainly tried to prove that they possessed the same celerity of reading as himself. Not one could even remotely rival him. In directing such tests by others he persistently urged that they could carry them out as speedily and correctly as himself, if they followed his own rule and habit, namely, fixing the gaze and attention on the center of the page, thus causing at once the entire page to swim into view, to be perceived and to be photographed in memory. He was scornful of the ordinary fashion of reading line after line, or sentence after sentence. Of course none ever succeeded in reading as did he, and he could not understand it; he was even vexed by it, and bluntly said that their inability was due to mental causes or lack of exercise. He never dreamed that his ability in the act of reading so rapidly sprang from a strange peculiarity of disease in his own eyes.

Every student of vision knows that, as a general fact, it is optically impossible for the two normal and immobile eyes to look intently on a small object such as a word or two in the center of a page, and, at the identical instant, see and understand all the sentences at the limits of the page above, below, etc. The structure of the human retina and the history of its function absolutely forbid that. The "field of vision," it is true, may be thus mapped, and its widest boundaries localized by means of the mere existence of illuminated objects placed at the periphery, i. e., by the perimeter—but that is not intellectual vision, and memory is not called in.