

BUSEY (S. C.)

FIRST
ANNUAL ADDRESS

OF THE PRESIDENT.

SAMUEL C. BUSEY, M.D., LL.D.,

DELIVERED BEFORE THE

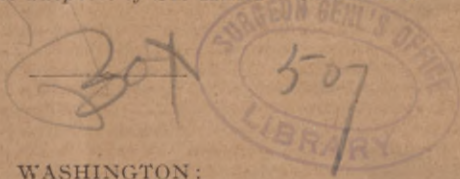
Washington Obstetrical and Gynecological Society,

OCTOBER 5, 1888.

*Reprinted from THE AMERICAN JOURNAL OF OBSTETRICS AND DISEASES OF WOMEN AND CHILDREN, Vol. IVII., No. 2, 1884; and
Reprinted under the auspices of ST. MARY'S SEMINARY.*

WASHINGTON:

WM. H. LEPLLEY, BOOKSELLER AND PUBLISHER, 725 15th St., N. W.
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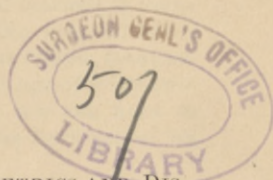
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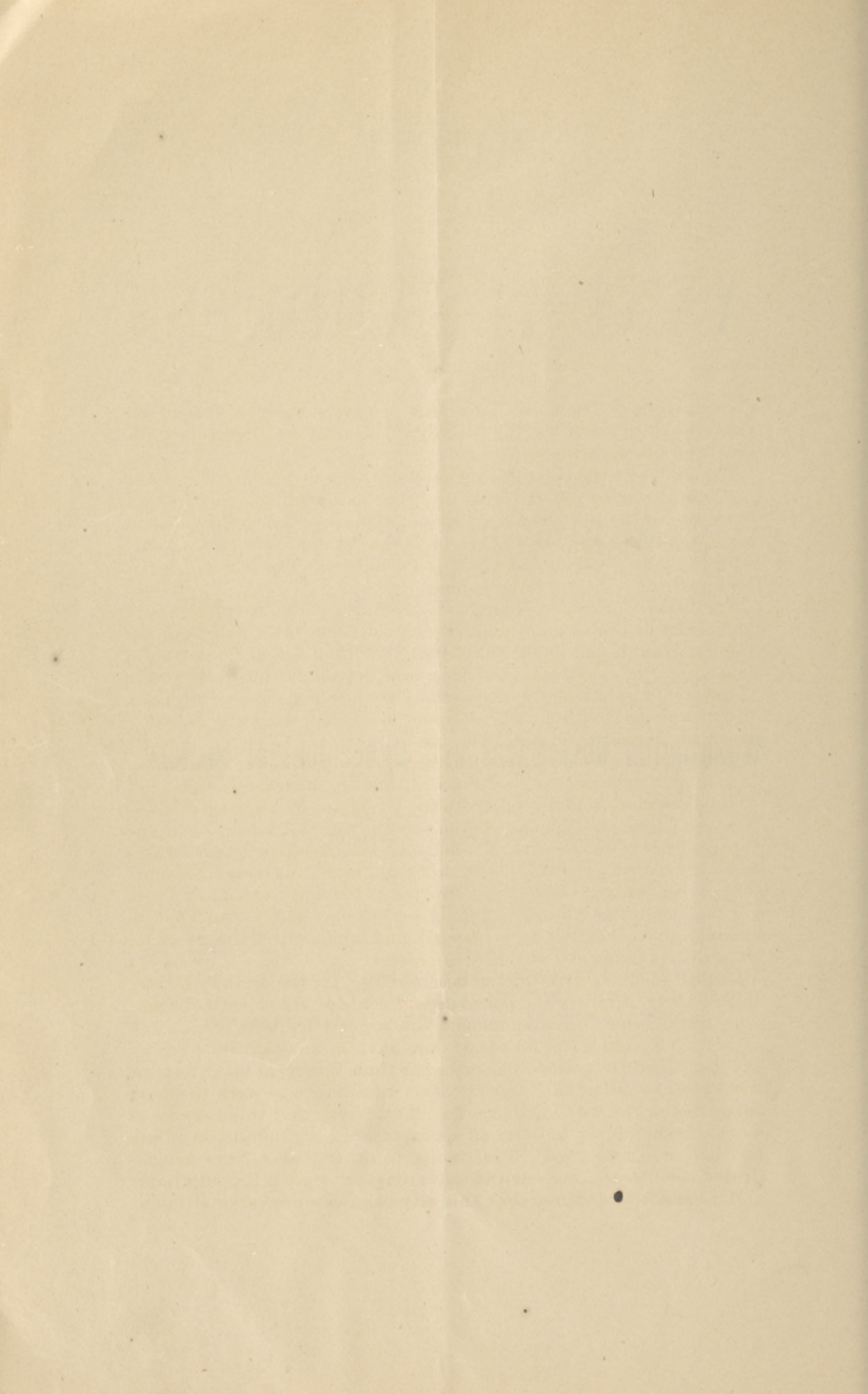
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CRANIOTOMY UPON THE LIVING FETUS IS NOT JUSTIFIABLE.

GENTLEMEN: The meeting to-night completes the first year of the existence of this society, and it gives me pleasure to congratulate you upon the success attained.

The duties of the presiding officer have been exceedingly light and pleasant. During the entire session there has not occurred a single infraction of the rules and courtesies of deportment, or of parliamentary order or decorum, and there has been but one failure to comply with the individual obligations of the members. The attendance has been prompt and the average unusually large.

The essays and discussions have exhibited study, thought, and a high order of professional and scientific attainment. There has not been one indifferent paper submitted. The zeal and enthusiasm displayed by the essayists should command the admiration of the entire membership, and every member must acknowledge the value of the instruction derived from the efforts of his colaborers in this field of obstetric, gynecic, and pediatric study.

This young and vigorous society has not, however, been permitted to complete its first year's existence without a sorrow. The memory of the lamented Ashford lingers in the freshness of commingled affection and grief. We who knew him so well, who had learned to value the qualities of his heart and mind, and had so often listened to his terse and cogent utterances, will not soon forget our friend, companion, counsellor, and co-worker. He died at the early age of forty-two, yet had made for himself a reputation which but few can hope to attain, and he has left to his friends and family the heritage of an untarnished name and unsullied character.

Medical societies with limited memberships, for the mutual instruction of their members in special departments of the science of medicine, have become quite common in the larger cities, both abroad and at home. Societies similar to our own have been established during the last decade in many cities no larger than Washington. The time had surely come when it was the duty of those who were specially interested in the study and practice of obstetrics and the diseases of women and children to unite and concentrate their individual efforts for their common good. The results in other places have demonstrated the literary and scientific advantages of similar organizations, and it cannot be doubted that this city possesses professional talent

which will cope with the highest order of medical intellect. This position cannot, however, be won if individual capacities and acquirements are confined to the privacy and isolation of the sick room. Enlarged thought and advanced study demand the broader field of intellectual comparison, analysis, and trituration. These desiderata can only be secured by organized effort, systematic presentation of well-considered opinions, clinical experience and observation, and the examination and discussion of these by men engaged in the same field of scientific labor. The success of the past year gives assurance of the complete fulfilment of the paramount objects of the association. The first being mutual improvement in scientific knowledge and practical skill, and the second a more intimate mutual acquaintance and personal intercourse.

A careful record of the proceedings and the publication of its transactions constitute the chief incentives to intelligent, systematic, and persistent work. No medical society prospers long and continuously without these aids. Upon the Recording Secretary and Committee of Publication important duties are devolved, to the complete and impartial discharge of which the continued existence and success of this society mainly depends. The committee should be clothed with full and necessary powers, and the society should hold it to a strict responsibility. The duties, though very onerous, are too important to be neglected, and the committee should feel that the life, usefulness, and standing of the society will be the measure of a careful and exact observance of its duty.

It would be invidious in me to select any one of the papers read before this society for special commendation or criticism. It will, however, be pardonable to recall your attention to a subject which, in somewhat different aspects, was discussed on several occasions.

I am induced to again refer to the justifiability of the operation of craniotomy upon the living fetus because of the great importance of the subject and the increasing interest which it is now exciting, hoping that with the re-examination now in progress there will result a modification of the extreme views which have been held by a large majority of the ablest and most renowned obstetricians of the past, and, perhaps, of those living of equal ability.

IS CRANIOTOMY UPON THE LIVING FETUS A JUSTIFIABLE OPERATION ?

It is, probably, the most ancient of obstetric operations, and the hook and perforator are, perhaps, the most antique of obstetric instruments. The operation means death and mutilation of the fetus, and is performed solely in the interest of the mother. When the fetus is already dead it is an accepted procedure, within certain well-defined limits, to effect delivery. But then, as well as when the fetus is living, it demands skill and dexterity. In a large percentage of cases it is attended with serious dangers to the woman, and, according to Churchill and Tyler Smith, with a mortality in the proportion of one

to five. Many other authors claim a higher death-rate, and a few a lower one. When performed upon the living fetus it necessarily involves the deliberate killing and mutilation of a human being. In every case of labor two lives are more or less in danger. Fortunately, in a vast majority of cases both lives are conducted safely through and past the perils of parturition. For the comparatively few cases in which delivery cannot be accomplished without artificial aid, the operation of craniotomy was originally devised in the interest of the mother, and from the times of Hippocrates and Celsus it has been recognized as a justifiable procedure, even when the fetus was alive.

In the remote periods of antiquity many pregnant women must have perished in the travail of labor undelivered, but even after the invention of the hook and perforator, and through all subsequent time down to the present, with the progressive improvements in instruments, advances in obstetric knowledge and science, and the acquisition of manual dexterity, no operator has ever yet assured the life of the mother, even after the life of the fetus had been sacrificed, and the best result that can be offered is, according to the standard * of Churchill and Smith, the saving of the lives of four mothers out of five, or, in other words, the saving of four lives out of ten, imperilled.

In the earlier times, when obstetric operations had their beginning and were at best performed with rude appliances in a bungling and unscientific manner by operators lacking knowledge and experience, the preservation of four lives out of ten which would certainly have perished must be cherished as a blessing to humanity, and the means by which it was accomplished must be regarded as a great advance in the obstetric art. But as yet there is no proof that Hippocrates, Celsus, or the Arabian physicians ever deliberately destroyed the life of the fetus preliminary to the extraction of the mutilated body of the unborn child. It may be that their mortality of mothers was greater, perhaps far greater, than it is to-day, but when Baudeloque and Kluge rated it at more than fifty per centum, Rokitanski at forty-one, and Hemming, Jones, Churchill, and Smith at twenty, the comparison of our later-known results with the unknown of the remote past does not conduce to a very high appreciation of the progressive improvement in the operation of craniotomy. If, however, the question of mortality be studied chronologically, it will appear that the death-rate of mothers has diminished with the lapse of time and advance of obstetric science, and that it is now less than at any former period. It must, nevertheless be admitted that whilst the mortality of mothers has been diminished by the more dexterous performance of the operation and the better management of the cases, the relative proportion of feticides has greatly increased, and the sum-total of

* In view of the advantages of antiseptics in surgical operations, this standard may be unfavorable to craniotomy, but as the object is to illustrate the fact that it is attended with a mortality, not now possible to ascertain, it answers the purpose.

lives lost and sacrificed has been greater during the present than during any previous century since the operation was devised. The more frequently the operation is performed on the living fetus the greater the number destroyed, for half of the lives imperilled must necessarily be sacrificed, and the chances of saving the remaining half can only be enhanced by a percentage equal to the death-rate of the mothers, whatever that may be. The most expert and experienced operator cannot save more than half the lives at risk, and the more dexterous the greater the number of ventures, consequently the greater the loss and sacrifice of life. No one has or can hope to attain the success of saving a possible fifty per centum of the lives at stake.

Just here I will be confronted with the statement of those who have performed one, two, three, four, or five craniotomies without the death of a mother. The assertion of such a fact is probable proof that the operations were hasty and unnecessary. The successful craniotomist, more often influenced by ambition than judgment, and dazzled by the desire to gain an additional success, precipitates the death of the fetus that the dangers of delay may be avoided. If it is justifiable during the lifetime of the fetus, it is best to proceed to its execution before the exhaustion of the patient by ineffectual efforts, and before the contusion of the soft parts incident to attempts to effect delivery by the more conservative intrapelvic methods. But if such a rule should become the established practice, it is only the exceptional few who can avoid the guilty killing of a human being in cases where delivery of a living child might have been accomplished *per vias naturales*. Even so distinguished an obstetrician as Albert Smith* relates a case where a living child was born while the messenger had gone for the instruments of death, and more than once the shocking illustration of bungling haste has been exhibited in the cries of a mangled infant.

Craniotomy offers no hope, not even a ray of the promised life to the unborn, but proclaims from the altar of professional justification death by violence to the fetuses of women who are physically incapacitated to give birth to a living child. Nay, more, it offers immunity from the travail of labor, and protection from the annoyances of maternity to those who have accepted the pleasures of concubinage or wedlock, and have become copartners in the creation of a new being and a new soul to live forever, but who cannot complete the highest and noblest purpose of woman's creation. So repulsive does it present itself in this aspect, that many who have advocated and performed it recoil from its repetition upon the same woman. The renowned Meigs†, who had twice successfully delivered Mrs. Reybold, refused to incur the responsibility of a third operation; Gibson subsequently twice delivered her by Cesarean section of a living child, and she lives to day

* Med. Times, March 10, 1883, p. 412.

† Prof. Charles D. Meigs.

in the ripeness of a happy old age in the enjoyment of two children and six grandchildren.*

With such a showing it must follow that the operation is detestable where a living child is at stake. If so, is it entitled to a place among the scientific surgical procedures of the present time? Does the fact that in a limited number of those cases where the mother's life only is in peril, an early and skilful performance secures a reasonable prospect of recovery, give it such a place? Must this one fact, the only one in justification, and always embarrassed by the probability of repetition, and the consequent variations in the chances of success, counterbalance the enormity of deliberately taking the life of the unborn? To admit this in the fulness of its import is to concede that intrauterine life forms no part of the heritage of human existence, and that the violent destruction of a new being just at the moment when nature has completed the processes which fit it for an independent life, is a matter of such trivial concern that it can be determined upon the probabilities of enhancing the prospects of the woman's recovery.

If craniotomy is justifiable, science and the good of mankind demand that the limits of its application should be definitely fixed. This question is now engrossing the attention of some of the ablest and most conscientious members of the profession. It cannot be disposed of by words or sentiment, but must be settled by an examination of the facts derived from an intelligent experience, and an impartial study of the complications of labor and the methods of relief.

It matters not whether craniotomy is, or is not, the most ancient of obstetric operations; in a scientific aspect all the other methods and procedures, which have for their purpose the saving of the lives of both the mother and child, must be regarded as its substitutes. These may be divided into intra and extra-pelvic. Under the first must be classed delivery by the forceps, by turning, the induction of premature labor, and symphysiotomy; under the latter, the Cesarean section and its substitutes, laparo-elytrotomy, the utero-ovarian amputation, and the total extirpation of the uterus, in all eight. The mere enumeration of this number of obstetric devices, and the constant and persistent efforts to improve and popularize them, constitute a reasonable presumption of a widespread detestation of craniotomy, and the present revival of interest in, and discussion of the relative merits of the extra-pelvic methods, and their advantages over craniotomy, would seem to be conclusive against its continued acceptance as a scientific procedure, and relegate it to the class of desperate expedients, of doubtful propriety under any circumstances.

* Several of the subjects of Cesarean delivery have reached advanced life in the United States, the oldest known being sixty-eight and seventy-four years respectively. Several of the children have been heads of families, and one in this city (Philadelphia) is now forty-eight years old, and has given birth to eight children, three of whom have grown up.—*Medical News*, October 13, 1883, p. 411.

According to Tyler Smith, about half of the cases of craniotomy are occasioned by contraction of the pelvis. This estimate is too low. The great improvement in the forceps, and greater dexterity acquired in the execution of the intra-pelvic substitutes, have vastly lessened the field of application formerly claimed for it, other than in cases of pelvic deformity. This, I believe, is now universally conceded by competent authority. And, even in very many cases of faulty pelvis to which, until recently, it was applicable, the better result to mothers, now obtained by other methods, have entirely excluded it.

In the justo-minor or equally contracted pelvis, it is inadmissible. In support of this statement, I need only quote two recent authors. Lusk, in 1879, reported* a case in which the conjugate diameter measured, in the dried specimen, three and one-sixth inches, craniotomy proved fatal. In his review of the subject, he could find but five recorded cases of "generally contracted pelvis, in which the conjugate ranged from three to three and a quarter inches, and all died as a consequence of delivery through the natural passages." In the same paper he refers to the case of Korman, nearly identical with his own, in which, "after more than three days' labor, the head adapted itself to the pelvis, and the child was delivered alive by forceps. The mother died of peritonitis." Even in cases of such extreme general contraction, nature and the timely application of the forceps have yielded better results than craniotomy. In discussing the proper management of such cases, he says that laparo-elytrotomy, which had been recently revived by the "genius of Thomas and the daring of Skene," is peculiarly fitted to such conditions, and concludes with the assertion that, after a careful study, he is convinced that "where there is a diminution of nearly an inch in all the diameters, Cesarean section or, probably, laparo-elytrotomy holds out the best chances of success."

Professor Isaac E. Taylor, in a masterly paper on the equally faulty or justo-minor pelvis, recently published,† asserts that "in almost all the cases recorded of equally faulty or contracted pelvis, when the diminution is from three-fourths to one inch, both mother and child are lost." In considering the treatment he declares, with marked emphasis, that the loss of lives of mothers by craniotomy and cephalotripsy in such cases, when the diminution is from three-fourths to one inch (and the total loss of life to the child even in the minor degree of lessening of from one-third to one-half inch) is so disastrous that a conscientious discharge of duty demands the substitution of Cesarean section or some of its modifications, or symphysiotomy even in the minor degree of one-half inch. In the higher grades of contraction a more appalling presentation than by either of these operations could not exist. In the justo-minor pelvis craniotomy is inadmissible.

The most common form of deformed pelvis is the simple flat, rickety or non-rickety, in which the faulty condition is mainly in the conju-

* Gynecological Transactions, vol. iv., p. 358.

† AM. JOUR. OBST., Aug., 1883, p. 811.

gate diameter, hence it is usual to discuss the relative applicability of the various methods of treatment with special reference to the measurements of the conjugate. There is not, perhaps, living to-day a single obstetric authority of accepted repute who will claim the practicability of craniotomy in cases where the conjugate is one and a half inches or less. Indeed, but few hold it justifiable when the conjugate is two and one-half inches or less. Parry, as early as 1878,* demonstrated that in pelves with a conjugate of two and one-half inches or less, craniotomy gave no better results to mothers than Cesarean section. When the total number of lives at stake is considered, the results are vastly less favorable than from Cesarean section, even when performed under disadvantageous conditions, for one-half of the lives are certainly sacrificed by the murderous operation, and in those pelves where the conjugate is less than two and one-half inches Cesarean section is preferable whether the fetus is dead or alive. "As much as I have advocated," says Taylor, "craniotomy in preference to Cesarean section, in simple flat pelves, in my former papers on craniotomy and cephalotripsy, I am constrained to believe that one of the external operations, as the Cesarean section, or laparo-elytrotomy, early performed, or symphysiotomy when the labor is more advanced and the head wedged in the cavity, should be selected." In fact, in the light of recent experience and the improved results obtained from the intra and extra-pelvic substitutes, professional opinion seems to be rapidly approaching the definite conclusion, that when the conjugate is less than two and one half or two and five-eighths inches, craniotomy is absolutely inadmissible.

"As we have," says Montgomery, in a very able paper read before the Philadelphia County Medical Society,† but three-fourths of an inch between three and twenty-five-hundredth inches, the maximum diameter at which craniotomy is supposed to be necessary, and two and one-half inches, the minimum diameter, in which it is safer for the mother than Cesarean section, we have certainly reached a period when we are justified in abolishing the murderous operation of craniotomy from the list of elective operations when the fetus is still alive." In the same paper, with equal ability and fairness, he discusses the relative advantages and merits of other alternatives, and reaches the following conclusions, which I accept in their entirety. These methods are equally safe to the mother, and afford the child a chance for life. They are suggested in the following order: Where the conjugate measures three and one fourth inches or over, the forceps; two and three-fourths or over, version; two and three eighths or over, symphysiotomy, followed if necessary by the forceps. In all subsequent pregnancies, and in the first, when distortion is discovered sufficiently early, premature labor should be induced."

I need not pause to portray the value of the forceps. Perhaps no

* Amer. Jour. Med. Sci., vol. lxxiv., 1878, p. 323.

† E. E. Montgomery, Medical Times, March 10, 1883, p. 387.

other instrument ever invented has contributed as much toward the alleviation of suffering, and saved so many lives. It is almost universally recognized as both a mother's and a child's instrument, and it is a significant fact that those who most frequently use forceps have least occasion to resort to either of the deadly expedients. The danger, if any, is not the result of their application, but of delay in using them.

When the conjugate measures between three and one fourth and two and three-fourths inches,* version offers greater prospect of success than craniotomy. The mortality of version has been generally estimated at one in sixteen of mothers and one in three of children. This is believed to be too high; but whatever it may be it is in marked contrast to that of craniotomy, even when the latter is limited to like conditions of pelvic deformity or other causes of obstruction in which either is claimed to be admissible. The mortality in cases of version is not, however, due wholly to the method, but quite as often to the causes which indicate it, as in placenta previa and rupture of the uterus, which may make it speedily imperative.

The induction of premature labor offers a more decided antagonism to craniotomy, because it is specially applicable in those conditions of pelvic distortion in which the craniotomist insist the latter operation is the proper elective procedure. Its application lies within the limit of two and one-half inches minimum, and three and one-half inches maximum measurement of the antero posterior diameter. It is conceded that a viable child cannot be extracted through a pelvis with a conjugate less than the minimum, and that a living child at full term can be delivered through the natural passages with a pelvis measuring not less than three and one-half inches antero-posteriorly. Ritgen has constructed from the various measurements of the size of the head (quoted from Montgomery), at different periods of utero-gestation the following table showing the application of induced premature labor after the period of viability, to various grades of pelvic deformity. He says labor may be induced at the

	29th week, when ant. post. diameter of pelvis is	2''	7'''
†	30th " " " " " " " "	2''	8'''
	31st " " " " " " " "	2''	9'''
	35th " " " " " " " "	2''	10'''
	36th " " " " " " " "	2''	11'''
	37th " " " " " " " "	3''	0'''

From statistics of artificially induced premature labor, in cases of pelvic deformity, which I collated some years ago, when studying the value of the procedure in aggravated uremia, I determined the mater-

* In pelves whose conjugate ranges from 2.75 to 3.25 inches, turning should be the initial step.—Goodell AMER. JOUR. OBSTETS., vol. viii., p. 215.

† Kiwisch says 2½ inches conjugate is necessary for a viable fetus at 30th week to pass safely.

nal mortality at five and twenty-seven hundredths per cent., and that of children at forty per cent. In these figures were included a large number of operations performed in the interest of the mother and under conditions which necessarily sacrificed the life of the fetus. With the improvement in the management of such cases greater safety has been secured to mother and child.

It thus appears that the induction of premature labor covers the exact limits of pelvic obstruction, and offers better results than craniotomy. It will, however, be said that, as a rule, it can only apply to second and subsequent pregnancies, because the incapacity will not have been discovered until labor has begun. This, unfortunately, is too true; but it is not an argument against the induction of premature labor, or in favor of the practice of craniotomy. It is simply proof of failure or neglect to ascertain the fitness of the pregnant woman to give birth to a living child *per vias naturales*, before it is too late to advise her, and to adopt the means science offers for the better protection of herself and her offspring from the dangers incident to her condition.*

I must express my detestation and abhorrence of the widespread vice of criminal abortion. I hold with that most eminent man and pious physician, the elder Hodge, that conception brings into existence a new being and an immortal soul, and that it is alike criminal in the mother and in the physician to employ means to destroy that being that sin and shame may be concealed or pride maintained. No reputable and conscientious physician will engage in or connive at the criminal production of abortion. Does the crime consist in the performance of the operation, in the effort to conceal vice, hide shame, prevent disgrace, obviate the discomforts of maternity, or in the deliberate act of killing? If in the latter, then tell me where the obligations of professional duty cease and crime begins? To me abortion as a substitute is equally as reprehensible as craniotomy. It cannot, however, occupy a place among the conservative methods, for in those cases in which pelvic deformity will not afford a chance to a viable fetus, craniotomy is conceded to be inapplicable.

The revival of the invention of Sigault, by Professors Morisani and Novi in the Neapolitan hospital for incurables has supplied another conservative procedure, which promises most favorable results. Harris† informs me that in the last twenty-one years seventy-one operations have saved fifty-three women and fifty-five children. This result "is equal to that of early performed Cesarean section under favorable circumstances." It has been alleged that symphysiotomy, even when the pubic joint "was opened to the extent of three inches,

* There have been as many as sixteen children sacrificed in the successive labors of one lady in this city [Philadelphia], each head having been locked in her pelvis, which was small but not deformed; a seventeenth was saved, by an accident inducing labor, when she was eight months pregnant.—Harris, Amer. Jour. Med. Sci., vol. lxxxv., p. 3L

† Personal communication, Dec. 22, 1887.

without impairing or injuring the sacro-iliac joint, only three or four lines at most could be gained." This is true in regard to the antero-posterior diameter, but the transverse and oblique diameters (Taylor, Harris) "are increased to the extent of one inch for the cavity and inferior strait." If the conjugate is not materially lengthened, the cavity is greatly amplified.* This amplification is what is needed to effect delivery in the class of pelvic distortions which have been considered. If necessary, delivery may be facilitated by the forceps.† In fact, symphysiotomy, premature labor, and the forceps may be combined, and the delivery of a living fetus accomplished without detriment to the mother. The pubic section is not, however, recommended when the conjugate is less than two and five-eighths inches,‡ and consequently does not cover the precise limits of three-fourths of an inch between two and one-half and three and one-fourth, in which its advocates claim that craniotomy is, par excellence, the elective operation.

If I should rest the argument here, it might be maintained that version, the induction of premature labor and symphysiotomy failed to supply sufficient opportunities for delivery between those limits only separated by a fraction of an inch, and that craniotomy would be equally preferable in conditions of pelvic obstruction other than those caused by bony deformity, as in those cases where version or the forceps had proved ineffective. Its advocates cannot be permitted to cover retreat even under such ambiguous assumptions. The important and substantial improvements in the external methods leave it without justification even as an ultimate resort in these debatable conditions.

The Cesarean section and its substitutes offer additional preferable procedures. The weight of the later and more recent authorities, other than the British, is vastly in favor of this operation when the conjugate is one and one-half inches or less. In fact, it cannot be said that craniotomy competes with it when the conjugate is two inches or less, and even when the measurement reaches two and one-half its performance is considered by some of its warmest adherents of

* In Naples, the section is made subcutaneously with the probe-pointed and sickle-shaped bistoury of Galbiati. An incision is made above the pubis, and the knife slowly passed behind the symphysis until it reaches the pubic arch, when the ligaments are divided from below upwards. The pelvis is not forced open, neither is the fetus turned or dragged upon, but when the head presents, the case is left mainly to nature. In about one case out of four the forceps are applied. The incised part is treated antiseptically, and by irrigation if in warm weather. And as soon as convenient the ossa pubis are kept in apposition by an immovable apparatus, to secure an early union of the severed parts.—Harris, loc. cit., p. 27.

† In the new symphysiotomy of Naples, version is never used, hence the escape of pelvic injury, and the diminished fatal death rate.

‡ In the cases reported, the conjugate ranged between three and one-quarter and two and one-half inches. Raffaele reports for Morisani a case operated on at the beginning of the eighth month in which the conjugate measured only two and three-sixteenths. The patient, forty days after the operation, walked without inconvenience. Labor was artificially induced, and the woman delivered herself.

doubtful propriety.* If the relative merits of the two methods are to be studied with impartiality, they ought to be measured by their respective results in like conditions of pelvic obstruction below the maximum conjugate at which either is admissible, and not by excluding from the mortality of craniotomy its disastrous results to mothers in the higher grades of diminution of the conjugate and the total loss of children at all grades. It does not subserve the purposes of science to limit one to an elective sphere of very narrow proportions, where, even its best results will not save fifty per centum of the lives imperilled, and compare such percentage of maternal recoveries with those obtained from Cesarean section and its substitutes extended over a far larger field, and applied to less favorable conditions. But even this method of investigation does not present the external operations performed during the past five years in a less advantageous aspect than craniotomy. Harris has shown that when Cesarean section has been performed during the first twenty-four hours after labor has begun, seventy-four per cent. of women † were saved and eighty-one per cent. of children delivered alive. Deuffellay (Lusk) has shown that in timely operations eighty-one per cent. of mothers are saved. In the Santa Caterina of Milan, and the Krankenhaus of Vienna (Harris), the Porro-Cesarean operation has saved seventy-three per cent. of women and all the children. The application of antiseptics has so greatly improved the results in other abdominal operations that no one can doubt that it will prove equally beneficial in these. This seems to have been already demonstrated by the immensely (Eustache) more favorable results to both mother and child which have been achieved in recent years. "The effects of antiseptic (Harris) measures and greater cleanliness have been shown by the results of the Porro and other capital operations in large lying-in institutions, and in nothing more than the entire change of results in the two maternities of Naples, in which the old and the new pubic sections have been performed. Perhaps no tabular record of Italian surgery is so much to the point in exhibiting the possible variation of results from unfavorable to favorable as that prepared upon the first, second, and third hundred ovariectomies by Dr. Peruzzi. From having lost nine of the first operations in succession before achieving one success, they have gradually improved in results until now the mortality is reduced to a moderate percentage."

Even when limited to the narrow area of its chosen field of election, craniotomy can never save the percentage of lives already obtained

* According to the investigations of Parry, whose decision I have verified by my own researches, craniotomy has scarcely a fractional advantage in saving life over gastro-hysterotomy in cases where the conjugate diameter of the superior strait measures two and one-half inches or less, and not even this claim when the latter is performed, as it should be, very early in labor.—Harris, *Amer. Jour. Med. Sci.*, vol. lxxvii., p. 46.

† Of the one hundred and thirty-two operations performed in North America prior to July, 1882, forty-five and five-elevenths per cent. of women were saved.—Harris, *Amer. Jour. Med. Sci.*, vol. xxxiv., p. 155.

by gastro-hysterotomy and its modifications, nor can it ever attain the brilliant results of the Porro substitute, which for the whole number of operations has saved forty-five and five-eighths per cent. of mothers and seventy-seven and one-twelfth per cent. of children. In fact, from a later classification by Harris (*Amer. Jour. Med. Sci.*, Oct., 1883, p. 438), it appears that the Porro operation, carried out as originally designed, has saved 46 14-41 per cent. of the cases, the Porro-Müller method, unmodified, has saved 52 16-17 per cent., and the two combined 48 8-29 per cent. of women, and 90 out of 118 children.* In view, then, of the greater number of lives saved, and, in fact, when all the conditions and circumstances are impartially considered, the greater number of mothers saved, the classical Cesarean section and its modifications and substitutes must be regarded as conservators of life. But this is not all; Cesarean section may restore to women incapacitated by pelvic deformity the privilege and power of giving birth to an indefinite number of living children. Lungren† has shown that in one hundred and nineteen multiple operations upon forty-eight women, there were only eight mothers lost. In three of these cases, the operation was performed seven times, in two six times, in one five times, in three four times, and in three three times, all of which recovered. The Porro modification has not only saved a larger percentage of lives, but prevents subsequent pregnancies, and therefore in such cases there cannot occur such successive repetitions of craniotomy as related in the case before cited. In the face of such facts, can the most enthusiastic craniotomist continue to class the operation among the elective procedures?‡ It has been alleged that in occasional instances women have after one craniotomy given birth *per vias naturales* to living children, and such is probably true; but it only proves that either the operation was hasty and unnecessary in the first pregnancy, or that the obstruction was due to disproportion of the fetal head, or to impaction of the foetus in a transverse position. The rule is that each subsequent fetus has been killed and mutilated, as in the case cited by Harris (see note, page 11), or one of the external operations has been finally resorted to, as in the case of Mrs. Reybold, with equally satisfactory results.§

It is not necessary in this connection to discuss the relative merits of the classical Cesarean section and its substitutes, nor to point out

* The Sanger operation in Europe saved forty women and forty-eight children out of the first fifty, in chronological order, and the Porro twenty-one in fifty.—Harris, personal communication, Dec. 22, 1887.

† *AMER. JOUR. OBSTET.*, vol. xiv., p. 78.

‡ Keyser estimates the mortality from second operations on the same woman at twenty-nine per cent.; in the United States it has been twenty-five.—Harris, *Amer. Jour. Med. Sci.*, vol. lxxii., p. 61.

§ We have had women in this country who have endured several hours of suffering under craniotomy, and narrowly escaped with their lives, who were afterwards delivered safely of living children by gastro-hysterotomy.—*Amer. Jour. Med. Sci.*, vol. lxxvii., p. 59.

the indications which should give one or the other the preference. Garrigues,* Harris, and others have so fairly and ably reviewed these questions that, even if relevant to the present issue, I could afford to pass them with this reference.

Nor is it necessary that I should review in detail the comparative merits of craniotomy and its alternatives in the minor and rarer forms of obstruction to labor. In the very rare forms of pelvic distortion, as in the oblique-ovate, the Cesarean section is generally most strongly advocated. The time has probably passed when any one would hold craniotomy on the living fetus justifiable in cases of cancer of the cervix uteri or advanced phthisis. The results in either case are equally, if not more, favorable when left to nature unaided, or, at most, assisted by the forceps or version. In transverse positions, Harris has shown that in the United States twelve Cesarean sections have yielded nine successes. But neither cancer, malacosteon, exostoses, or uterine fibroids contraindicate Cesarean section or its substitute. In pregnancy complicated with fibroid tumors of the uterus, it has, however, proven very unfavorable in this country, because of the attending exhausting hemorrhage; yet in some it is not only the best but the only possible operation (Garrigues), as in Sanger's case, where a fibroid as large as a child's head sprang from the posterior wall of the cervix.

Prof. G. Eustache (Lille, Belgium) concludes a paper on the "Parallel between Embryotomy and the Cesarean Section," read before the London International Congress, as follows: "Considering, on the one hand, (1) the recent results of ovariectomy and of all other abdominal sections, (2) the improvement in the prognosis of all surgical injuries under antiseptic treatment, (3) the success of Porro's operation, (4) the immensely favorable results both to mother and child after the Cesarean section, which have been published during recent years."

"And considering, on the other hand, that embryotomy, while it always sacrifices the child, exposes the mother to as grave dangers as the Cesarean section; that it is inapplicable in many cases of deformed pelvis, *e. g.*, when the conjugate is five centimeters and under."

"I. When the child is living at the beginning of labor, and when the pelvic strait is under seventy-eight mm.—the extreme limit for the application of the forceps—the Cesarean operation should be performed early, that is to say, as soon as labor has really set in, and with antiseptic precautions."

"II. When the child is dead and the superior strait measures five centimeters recourse should be had to embryotomy. Below five centimeters the Cesarean section becomes an operation of necessity."

"To sum up, the Cesarean section should be the method of election, embryotomy that of exception." †

* AMER. JOUR. OBSTET., vol. xvi., p. 337.

† AMER. JOUR. OBSTET., vol. xiv., pp. 944-5.

Harris * struck the keynote of success when he wrote "that the first and most important step is to make the operation one of anticipation and choice rather than one of dire necessity and last resort." The largely increased percentage of recoveries in the timely operations has demonstrated beyond dispute that delay is the chief factor of danger. The exhaustion of the patient and bruising of the soft parts by long continued ineffectual efforts to accomplish delivery through the natural passages have, in very many cases, destroyed every prospect of recovery before the operation was begun. "A very early operation (Harris) in the United States will save three out of four women and as many children; a moderately late one will lose about two out of three, and one-half the children; and a very late operation, that is from three to fifteen days or more after the commencement of labor, will lose three, four or five to one, according to circumstances."† The application of antiseptics,‡ improvements in the method of operating, management of the uterine wound, and subsequent treatment of the patient have contributed largely to the better success. And to-day the prospect is so encouraging that even the most skeptical will soon be compelled to accept the results as conclusive.

So much for the obstetric and surgical substitutes for craniotomy. There is another plan of treatment even more conservative than either of the procedures heretofore considered. Nature, says Lusk,§ will, under favorable circumstances, in all but the extreme forms of pelvic contraction, "do her own work with the least expense of infant life, and with a relative small maternal mortality." He cites the fact that, in cases of contracted pelvis in the Dresden, Leipzig and Breslau Maternities, "four hundred and seven spontaneous deliveries took place with the loss of fifty-three children, and, from puerperal diseases, of twelve mothers, the latter representing very nearly the usual mortality in lying-in hospitals." By favorable circumstances he means a "presentation and position of the child's head suited to the form of the pelvis, and a sufficient degree of uterine activity." I have previously incidentally referred to unnecessary and hasty craniotomies and to the dangers of delay in the performance of its substitutes. These can only be avoided by a careful and accurate study of the existing conditions, based upon a complete knowledge of the obstacles presented and applicability of the methods of procedure. The wisest course will always yield the best results, but where to interfere and how to proceed are not always either easily or quickly determined. Human judgment, even when supported by intelligent experience and the highest scientific attainments, is not infallible. The expectant plan of treatment is not mere guess-work, or the haphazard conclusion of the tyro, but the deliberate judgment of one who

* Amer. Jour. Med. Sci., vol. lxxxiii., p. 374.

† Amer. Jour. Med. Sci., vol. lxxvii., p. 62.

‡ Garrigues, AMER. JOUR. OBSTET., vol. xvi., p. 508.

§ The Science and Art of Midwifery, p. 476.

knows what not to do, as well as what to do, and when to do it. It is not the sloth of idle expectations, but the masterly inactivity of experience, discretion, and knowledge.

But, after all, the question hangs upon the right of election between two lives at stake. Just so long as this right is maintained just so long craniotomy will have its advocates and operators. The law of justification will always be invoked to cover the plea of necessity. If the life of the mother could certainly and only be saved by the killing of her fetus, and the death of both was otherwise inevitable, the execution of the child might be justifiable as the only alternative. But no such relation of conditions ever did or can exist. Unless delivery is accomplished, both lives will be sacrificed, but the killing of the fetus is not necessary to, and does not guarantee, the recovery of the mother. Neither are the two lives in equal danger. Either may be saved with or without the saving of the other. Craniotomy offers no chance to the fetus, but a reasonable prospect of recovery to the mother. Its substitutes offer three out of four chances to the fetus, and quite equal, or, at most, but slightly lessened chances to the mother. Then it must follow that this right of election subordinates the life of the fetus and the larger number of lives to the possible enhancement of the chances of life to the mothers, and relegates the resources of obstetric science, which offer in the aggregate largely more favorable results, to the category of methods of dire necessity and almost hopeless resort. It is not then the greatest good to the greatest number, but the offer of possibly improved prospects to the chosen few. Is that the humanity which the science of medicine should espouse and proclaim to the world as an illustration of its beneficence?

This right of election is furthermore based upon the alleged greater value of the life of an adult woman than that of her unborn child. By whom, and in what manner, is this valuation to be estimated? Is it a mere matter of trade and business to be determined always in favor of one because the future and possibilities of the other cannot be known? Are social position, personal qualities and domestic relations commodities of value to be purchased at the cost of the life of the unborn? But it so happens that one such life would rarely liquidate such indebtedness. If the right to take life on such a pretext is indisputable, the number of such sacrifices can only be determined by the number of subsequent pregnancies, and the breeding and killing may go on at the pleasure of the woman and will of the executioner. Even the most uncompromising advocate of the murderous operation could not view such a picture without the utmost abhorrence.

The relative value of two lives cannot be the only arbiter, for every life is of equal value to every holder. It is true that the fetus has not gained an independent existence. It is, nevertheless, true also that in these cases it is the life of a woman who cannot give birth to a living child *per vias naturales*. And such incapacity is the one and only

claim of right to destroy the fetus. Can such a right rest exclusively upon such a basis, when it is established that other procedures offer almost, if not quite, equal chances of the mother's recovery, and rescue the larger number of children imperilled?

It is, moreover, claimed that a mother's life is above and beyond any and every consideration of a fetus in utero. A specious subterfuge! But very few, if any, such women could ever become mothers, unless the delivery of a living child is accomplished by one of the conservative methods. Not one of the forty women cited by Lungren could ever have had a child to foster, or could ever have experienced the first pleasure of a realized maternity, but for the Cesarean section or one of its substitutes; and the woman who had submitted sixteen fetuses to destruction might have added one or more but for the timely accident which Providence interposed as its expression of abhorrence.

It is also alleged that the law of moral responsibility imposes the obligation of professional duty to destroy the fetus that the chances of the woman's recovery may be improved. In timely Cesarean sections seventy-four per cent. of women, and eighty per cent. of children; in the recent Porro-Cesarean operation seventy-three per cent. of mothers and all the children have been saved; and in the first fifty Sanger operations eighty per cent. of mothers and ninety-six per cent. of children have been saved. These results are comparable with eighty per cent. of recoveries of women and loss of all the children after craniotomy. It may be that if the comparison were based upon the results of craniotomy during the last few years, it would be less unfavorable. Surely such a law or duty cannot find its vindication in such data, and its supporters must seek some other defence than results. If such a law or rule of conduct has any foundation at all, it is the unwritten *ipse dixit* of by-gone periods—the outgrowth and excuse of a dire necessity, which science never did accept and can no longer tolerate.

The beneficence of medical science consists in the alleviation of suffering, and the prolongation and saving of life. In the face of the facts hereinbefore presented, there can be no rule of morals or of duty which clothes it with the prerogative to take life as a mere choice of obstetric or surgical procedures, and this too when such choice incurs the responsibility of its repetition, whilst another operation might have either prevented any subsequent pregnancy, or fitted her to bear living children independent of her physical incapacity.

If more attention were paid to the saving and more regard held for the life of the fetus, more women would be saved. The dangers of delay would be avoided, and the life of the fetus would not be lost in ineffectual and unskilful efforts to accomplish delivery of a living child through the natural passages, when the obstruction precluded its possibility. It would demand an early diagnosis of the condition, and invoke a more minute and more general study of the causes of obstructive labor and the proper methods of procedure. The sentiment of a higher responsibility would be infused, and the pride and

glory of saving two lives would oftentimes supplant the detestable act of killing one and possibly losing both.

In conclusion, I disclaim any assault upon individual opinion or practice. I have endeavored to consider the question in its scientific aspect, and entirely free from the influence of ecclesiastical doctrines. I fully realize the embarrassment of individual cases when a professional brother may be dizzied by the emotional appeals of a false and sentimental humanity, and his judgment made to swerve from a sound discretion and logical conclusions to the adoption of a plan of treatment which the experience of past ages has handed down to us, and vindicated by the assertion of the right to take one life rather than leave two to die. But, in the interest of a broader humanity and a far wider field of usefulness, I would follow the pathway illumined by science and supported by the results of recent progress, and offer chances to two lives rather than take the one which cannot assure the safety of the other.

