

“A Shocking Spectacle”

**A Medical and Social History of Craniotomy
in Nineteenth-Century British Obstetrics**

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Abstract

At the beginning of the nineteenth century the gruesome procedure craniotomy, the surgical destruction of the foetus to facilitate delivery, was widely accepted in British obstetric practice. It was the traditional means of saving women's lives in labours that otherwise would eventuate in their death. During the nineteenth century, however, there was a profound change in British attitudes towards the practice of craniotomy. It became the centre of heated discussions, debates and anxieties that saw it move from acceptance to rejection by the end of the century. This thesis examines this transformation.

Craniotomy was understood to be about saving lives. However, with a growing concern over mortality in childbirth, significant misgivings were raised about just how successful it was in doing so. As a result, craniotomy became the focus of considerable interest and intense discussion. Based on archival research of medical literature, doctor and student's notebooks and hospital records, this thesis offers a detailed textual analysis of the documents produced by obstetricians. It traces various explanations, discussions and debates regarding this procedure. It was this dialogue that contributed to the heightened anxiety experienced by the doctor and mother about the known dangers of craniotomy. These discussion and on-going anxieties were influenced by changing medical knowledge, existing and shifting attitudes to craniotomy, and the relative value placed upon the mother and child. This led to the foetus becoming a topic of increasing medical interest, while simultaneously, validating and legitimising the place of obstetrics. Through a critical study of the complexities around this shift, this thesis seeks to provide a new understanding of craniotomy and, most importantly, to make a unique and valuable contribution to the knowledge of the histories of obstetrics, childbirth and women's bodies.

Declaration

I hereby declare that this thesis is my own work and that no part of this thesis has been published or submitted for a higher degree to any other university or institution.

I also declare that where this thesis has drawn on the work of others, published and unpublished, they have been fully acknowledged in accordance with the standard referencing practices.

Ethics approval was not required for this research.

Sign.....

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Lastly, but by no means least, I would like to thank my family. My husband, Adrian, and my children, Alex, Jenny and Cam, have given me patience, support and love, in countless

ways during the years of my research and writing. Without them this thesis would not have been so fulfilling or indeed, possible. This research journey has been particularly poignant for me, because all my children were delivered by Caesarean section, an operation that was once thought of as tantamount to murder. A big thank you to Adrian, Alex, Kelli, Cam, Emma and Sally who proof read the final copy just before it went to the printers. They, along with Jenny, provided me with words of encouragement when they were very much needed, especially during the last few weeks before submission.

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Introduction

“A Shocking Spectacle”¹

We [obstetricians] have placed in our hands the overwhelming responsibility of sitting in judgement upon the life and death of one of two human beings in circumstances where the life of both is impossible. To save the life of one we must pronounce sentence of death against the other.²

Early in the morning of the 23 May 1834, Mrs Kirby, in labour with her second child, was admitted to St Marylebone Infirmary in a dire state. Robert Lee, obstetric-physician to the British Lying-in Hospital, St Mary’s Infirmary and lecturer in midwifery was immediately called to see her.³ He lost no time in assessing her situation. Aware of her extremely distorted pelvis, Lee knew that a successful vaginal delivery was impossible, as the head of the infant could not possibly fit through her pelvis. While assessing her, she had two convulsive fits. Lee bled her but with no effect. Meanwhile, her labour pains were increasing in strength as well as frequency and by late that evening Lee observed that Mrs Kirby was:

completely insensible, with dilated pupils and constant convulsive movements of the muscles of the face. The pains continued with such violence, and recurred at such short intervals, that I dreaded rupture of the

¹ The title of this chapter and the thesis is taken from one of Dr Lowder’s lectures. John Hooper, “Lectures on Midwifery Delivered by Dr Lowder,” 2 vols., vol. 2, c. 1790, MS0104/2/2, Royal College of Surgeons, England (hereafter RCS), p. 618.

² Robert Barnes, Notebook: Caesarean Section, c. 1850–1870, S61/A/46, Royal College of Obstetricians and Gynaecologists (hereafter RCOG).

³ Any doctor (medical practitioner) could practice midwifery. Some such as general practitioners remained general doctors, while a smaller number specialised in midwifery and became obstetricians, although their title often combined this with their original qualification e.g. obstetric-physician or obstetric-surgeon. Doctors, including specialists, were often called in difficult cases.

uterus. At three P.M., other two strong convulsions fits had occurred, and the head having made no progress, I determined to deliver by craniotomy.⁴

This destructive operation involved surgically destroying the foetus so it could be extracted vaginally. Without this procedure, the mother would certainly die an extremely painful death. With this operation, the foetus would undoubtedly be destroyed, but the life of the mother would be saved.

For Lee, “the small size of the pelvis, the impossibility of applying forceps to the head, the imminent risk of rupture of the uterus” indicated that craniotomy was the only feasible option.⁵ Lee felt justified in this for “delivery could not have been completed by any other method, and the child, if alive, could not have been preserved”.⁶ Mrs Kirby survived. Following this, she became pregnant two more times and unfortunately, underwent craniotomy on both occasions. This case illustrates both the acceptance and the anxiety doctors’ faced in the treatment of obstructed labours in Britain during the nineteenth century. Evidence of the acceptance was that craniotomy was considered the best procedure in difficult and hazardous deliveries. The anxiety was apparent in that the doctor knew his action would destroy the child. Nonetheless, craniotomy was a significant part of the obstetrician’s repertoire. Facing the difficult decision to destroy the foetus, Fleetwood Churchill, obstetric-physician at the Western Lying-in Hospital Dublin and lecturer in

⁴ Robert Lee, *Clinical Midwifery: Comprising the Histories of Five Hundred and Forty Five Cases of Difficult, Preternatural, and Complicated Labour*, 1st American from the 2nd London ed. (Philadelphia: Lea and Blanchard, 1849), p. 52.

⁵ Ibid.

⁶ Ibid., p. 51.

midwifery, argued that craniotomy was “to be avoided by every possible means” but, nonetheless, was “a sad necessity”.⁷

Craniotomy was indeed a shocking procedure. It involved reducing the size of the foetus to facilitate delivery by perforating the foetal head, draining the cranial contents, sometimes removing part of the cranium or even reducing the infant bit by bit. Reducing the head was known as craniotomy or sometimes cephalotomy, while dismembering the body was referred to as embryulcia, embryousia or embryotomy. The procedure itself was horrific. As gruesome as it sounds, the infant was generally dead before such desperate measures were taken. Usually in obstructed labours it was only the head that required reduction and so craniotomy was most often performed. However, the term craniotomy sometimes referred to any type of destruction of the infant.⁸ As craniotomy was the most common term employed, unless discussing or citing a source that referred to another specific name, the term craniotomy will be used throughout this thesis.

Craniotomy is one of the oldest operations in medicine. Records date back to the ancient Greeks and Romans. To extract the infant, Hippocrates advised using crushing instruments or hooks to break up the cranium. Soranus of Ephesus recommended sharp instruments and hooks. Along with Hippocrates, he used bone forceps to remove the dead foetus.⁹ The first printed midwifery text, written by Eucharius Rösslín and translated into English in 1634 by Thomas Raynalde titled *The Byrthe of Mankynde*, explained how to perform craniotomy

⁷ Fleetwood Churchill, "Obstetric Morality," *Dublin Quarterly Journal of Medical Science* 26, no. 2 (November, 1858): p. 319.

⁸ Francis H. Ramsbotham, *The Principles and Practice of Obstetric Medicine and Surgery in Reference to the Process of Parturition*, 4th American ed. (Philadelphia: Lea & Blanchard, 1847), p. 216 fn. For specific definitions of these terms see the Glossary in this thesis.

⁹ John Stewart Milne, *Surgical Instruments in Greek and Roman Times* (New York: Augustus M. Kelly, 1907, reprint ed. 1970), p. 135.

using hooks and knives. Over the centuries, the instruments were modified, including the most common instruments such as blunt and sharp hooks.¹⁰ Sharp hooks or crochets were essential items as they could pierce the head and, if necessary, perforate the body and then extract it.¹¹ Writing in the seventeenth century, the prominent French obstetric-surgeon, François Mauriceau, made it quite clear that once the child was dead it was best to operate straightaway.¹² By the eighteenth century the need for craniotomy was clearly defined. In 1776, the renowned British obstetrician, William Smellie recommended it when the woman was “in imminent danger of her life”, she was exhausted from labour, the child’s head was large or the pelvis narrow and other methods had failed.¹³ He did not, however, limit his cases to where the child was already dead. Many agreed with Smellie’s standards, the key being if the woman’s life was in immediate danger, craniotomy was the best practice. By the nineteenth century craniotomy was widely accepted.

While most births were normal, some nonetheless, did require assistance. This often involved craniotomy. The most common scenario in which craniotomy was performed was when labour became obstructed. The most frequent cause of obstruction was cephalopelvic disproportion, the mismatch between the mother’s pelvis and the infant’s head. Usually, it was the result of a deformed and contracted pelvis, although sometimes, it was because the infant was too large. In these conditions the doctor with his surgical skill was called. By the time the doctor arrived more often than not the mother had laboured despairingly for several days. Hence, his preferred options of forceps and turning the infant

¹⁰ Fleetwood Churchill, *On the Theory and Practice of Midwifery* (London: Henry Renshaw, 1842), p. 290.

¹¹ Bryan Hibbard, *The Obstetrician's Armamentarium: Historical Obstetric Instruments and Their Inventors* (San Anselmo, California: Norman Publishing, 2000), p. 227.

¹² James A. Low, "Operative Delivery: Yesterday and Today," *Journal of Obstetrics and Gynaecology Canada* 31, no. 2 (2009): p. 134.

¹³ *Smellie's Treatise on the Theory and Practice of Midwifery*, ed. Alfred H. McClintock, 3 vols., vol. 1 (London: The New Sydenham Society, 1876), p. 292.

frequently failed. The woman was by now in a desperate state, often close to death. In such circumstances, the only recourse was to extract the child, usually dead, by means of craniotomy. This was often the last resort.¹⁴ Keen to focus on the patient's perspective, the medical historian Adrian Wilson stated that more than a last resort, craniotomy subjected the mother to a terrifying and harrowing procedure and signalled giving up hope for a live child.¹⁵ No doubt, many doctors felt uncomfortable with the destruction of foetal life but the alternative leaving the woman to die undelivered meant there was no choice.

During the first half of the nineteenth century many doctors had a positive approach to craniotomy. Its considered success was based on a practical approach that appeared to deliver the mother safely. Such views served to reinforce its well-accepted position within obstetrics during this period. This thesis will demonstrate that by the late nineteenth century, however, there was a clear shift in attitude and practice away from craniotomy. Even though craniotomy offered the only hope of saving the woman's life, for all infants it marked their gruesome and inevitable destruction. Such an appalling outcome increasingly raised dilemmas about craniotomy. Accordingly, craniotomy became the subject of considerable interest, investigation and anxiety within the medical community. The operation increasingly was condemned and eventually rejected amongst British obstetricians. Speaking out against craniotomy at this time, Murdoch Cameron, obstetrician at Glasgow's Maternity Hospital, declared that it should be abolished, as it is "antagonistic to our own feelings" and "demands the life of the child".¹⁶ The constancies

¹⁴ Judith Walzer Leavitt, "The Growth of Medical Authority: Technology and Morals in Turn-of-the-Century Obstetrics," *Medical Anthropology Quarterly* 1, no. 3 (1987): p. 233.

¹⁵ Adrian Wilson, "Participant or Patient? Seventeenth Century Childbirth from the Mother's Point of View," in *Patients and Practitioners: Lay Perceptions of Medicine in Pre-Industrial Society*, ed. Roy Porter (Cambridge: Cambridge University Press, 1985), p. 137.

¹⁶ Murdoch Cameron, "Remarks on Caesarean Section, with Notes of a Second Successful Case," *British Medical Journal* (hereafter *BMJ*) 1, no. 1524 (1890): p. 583.

and differences in the obstetrician's thinking and resulting practices are central to this analysis of the transformation of craniotomy as a crucial period in nineteenth-century British obstetrics.

This thesis will analyse important changes in the ideology and practice around craniotomy during the nineteenth century. It will suggest that craniotomy constituted a crucial element in the development of obstetric care. Moreover, it will show that it marked an important turning point in medical attitudes and beliefs. Equally important, this transformation will reveal the anxieties and ideological conflicts behind the doctor's decision to perform craniotomy. During this time, male doctors were firmly established in the birthing room and their work now centred on normal births rather than purely emergency work.¹⁷ As childbirth was increasingly defined as a process that required medical intervention, obstetricians had to deliver better outcomes. The problem with craniotomy was that it did not deliver a live infant. Craniotomy therefore, as this study will demonstrate, constituted an impediment to the development of the profession of obstetrics. At the same time though, it changed the landscape of nineteenth century obstetrics.

Central to the shift around craniotomy, as this thesis will show, was a growing anxiety during the nineteenth century about the place and expertise of the obstetrician and maternal morality in childbirth. Part of this thesis will chart the ways in which craniotomy facilitated this tension and how this impacted upon medical care during the nineteenth century. It will explore how crucial craniotomy was to the development of the medical view that increased intervention in childbirth would benefit both mother and child while at the same time legitimising the expertise of the doctor in the birthing room.

¹⁷ Adrian Wilson, *The Making of Man-Midwifery: Childbirth in England, 1660–1770* (Cambridge, Mass.: Harvard University Press, 1995), pp. 164–65.

Furthermore, because the discussion on craniotomy centred on childbearing and the life of the mother, obstetricians produced a considerable discourse on the maternal body. Once men had replaced women in the birthing room, childbirth was looked upon as a medical condition. In line with this, women's bodies during this period came under progressively more medical scrutiny and medicalisation. This thesis will show how doctors used craniotomy to medicalise the maternal body and to validate conventional ideas about the capabilities of this body.

Moreover, as the thesis will demonstrate, such a focus on the “problem” delivery had important consequences for the foetus. Through medical exchanges about craniotomy the obstetrician's perception of the procedure was changing. It was moving from one that saved the mother to one that always resulted in the death of the infant. The discussion, which included the infant, was crucial for the future of the operation. This thesis will reveal that discussions over craniotomy facilitated a shift towards the emergence of the foetus as a site of medical concern.

This thesis is about change over time. It is about resistance and a move to save the life of the mother and child in difficult births as told through the obstetric procedure of craniotomy. This history of change will involve a medical perspective, although it will also entail a social understanding of childbirth, women and their bodies. An analysis of the changing acceptance of craniotomy during the nineteenth century will demonstrate those attitudes, beliefs and practices which were functioning during that time and what forces shaped and drove the understanding and construction of a “successful” birth. It will show how such views affected the way the delivery of women in impossible labours was actively practised. Thus, a study of the history of craniotomy will show how attitudes towards, and

practices of, a “successful” birth have changed and how craniotomy was crucial to the thinking and practice around this.

The frequency of the procedure was not well documented. A few nineteenth-century obstetricians, nevertheless, published figures on the incidence of craniotomy. One avid collector of statistics, Fleetwood Churchill, who practiced obstetrics in Dublin from 1832, collected figures on British craniotomy and published them in his obstetric text *On the Theory and Practice of Midwifery* in 1842. From these figures, he concluded that between 1781 and 1839, the frequency of craniotomy births was one in 219 deliveries (0.46%).¹⁸ In England, for the year 1839, that represented 2,266 of total births.¹⁹ His own hospital figures were published in the *Lancet* in 1849. For every 149 births he attended, one needed craniotomy, totalling eleven cases (0.67%). His colleague’s figures varied, ranging from one in 141 to one in 1417.²⁰ The proportion of difficult cases that made up the doctor’s workload, the differing levels of obstetric experience, the prevalence of contracted pelves and the doctor’s attitude to performing craniotomy could explain the considerable variation in the number of craniotomy cases. Ten years later in 1859, William Tyler Smith, obstetrician and lecturer in midwifery at St Mary’s Hospital London, informed a meeting of the Obstetrical Society of London that craniotomy was performed about once in 340 labours (0.29%). This totalled about 1,800 cases annually in England and Wales alone.²¹ These figures, nonetheless, depended on doctors compiling and then submitting their

¹⁸ Churchill, *On the Theory and Practice of Midwifery*, p. 299.

¹⁹ This number was calculated from the figures recorded in, *Fifth Annual Report of the Registrar-General of Births, Deaths, and Marriages in England*, (London: HMSO, 1843); p. iii.

²⁰ J. Y. Simpson, “Dr. Simpson on Operative Midwifery,” *Lancet* 2 (1849): p. 649.

²¹ “Medical Societies: Obstetrical Society of London,” *Lancet* 1 (1859): p. 160. Many medical journal articles in the nineteenth century used in this thesis have this heading “Medical Societies” or similar. So, where an article is authorless and to identify and credit the exact source in the shortened form in subsequent citations just the journal name, volume, date and page number will be given. This only applies to nineteenth-century articles in medical journals.

craniotomy cases to medical publications for medical scrutiny. Moreover, it was drawn to the society's attention that Tyler Smith's figures were more reflective of difficult hospital cases than home births.²² Nevertheless, Loudon estimated that from 1800 to 1860, 0.26% of cases in private practice required craniotomy.²³ Discrepancies over recorded numbers means that it is impossible to gauge accurately the incidence of craniotomy. Most women had trouble-free labours, however, some were attended with difficulties and when circumstances were dire, craniotomy was traditionally employed.

Writing in the field of research: obstetrics and childbirth

The concept of transformation has always occupied a central place in the history of obstetrics and childbirth. The eighteenth and twentieth centuries have often been seen as periods of dramatic transformations in childbirth. During the eighteenth century, medical men rather than midwives increasingly attended birthing women for normal and abnormal births. Previously, doctors were only called in emergency situations, but during the eighteenth century they came to dominate the management of childbirth. Adrian Wilson in his seminal text *The Making of Man-Midwifery: Childbirth in England, 1660–1770* has examined this “unexplained revolution” describing it as “a massive social transformation”.²⁴ This transformation, according to the medical historian Irvine Loudon, made “the eighteenth century the most exciting period in the history of childbirth”.²⁵

²² “Obstetrical Society of London,” *Lancet* 1 (1859): p. 188.

²³ Irvine Loudon, *Death in Childbirth: An International Study of Maternal Care and Maternal Mortality 1800–1950* (Oxford: Clarendon Press, 1992), p. 141, Table 8.3. I have taken the average of “Cases of Craniotomy (rate per 1,000 deliveries)” in Table 8.3 to determine the percentage of 0.26%.

²⁴ Wilson, *The Making of Man-Midwifery*, p. 3.

²⁵ Irvine Loudon, “Review Essay: The Making of Man-Midwifery,” *Bulletin of the History of Medicine* 70, no. 3 (1996): p. 508.

The twentieth century saw another dramatic transformation: the move from the home to the hospital to give birth. During the nineteenth century most confinements took place at home whereas by the first half of the twentieth century the vast majority of births took place in hospital. This shift led to the practice that presently exists in the Western world where the majority of births take place in hospital. This “marked transformation in birth practice” has been the topic of much historical analysis.²⁶ Part of analysing this change of location of childbirth has focused on increased medical intervention before and during labour. Marjorie Tew noted that hospitals lent themselves to “continuous intensive supervision” of the parturient woman, although she questioned whether the increase in obstetric interventions, such as induction and foetal monitoring, were responsible for the improvement in prenatal mortality.²⁷ Her focus was on the twentieth century.

Transformation in obstetric practice in the nineteenth century has been discussed, but it has often concentrated on the last part of the century. Loudon in his monumental work *Death in Childbirth: An International Study of Maternal Care and Maternal Mortality 1800–1950* has argued that “the practice of obstetrics ... was virtually the same in 1870 as it had been in 1780”.²⁸ He claimed that any major shifts in obstetric practice from anaesthesia, antisepsis, and surgical technique came from other branches of medicine and except for anaesthesia did not occur till the end of the century.²⁹

²⁶ Richard W. Wertz and Dorothy C. Wertz, *Lying-In: A History of Childbirth in America* (New York: The Free Press, 1977), p. 133.

²⁷ Marjorie Tew, *Safer Childbirth: A Critical History of Maternity Care*, Forward by Sheila Kitlinger (London: Free Association Books, 1998), p. 9. See also, Ann Oakley, *The Captured Womb: A History of the Medical Care of Pregnant Women* (Oxford: Basil Blackwell, 1984).

²⁸ Loudon, *Death in Childbirth*, p. 172. For a similar view see, for example, William Ray Arney, *Power and the Profession of Obstetrics* (Chicago: University of Chicago, 1982); Anne Digby, *The Evolution of British General Practice, 1850–1948* (Oxford: Oxford University Press, 1999), p. 200.

²⁹ Ibid.

Certain obstetrics procedures were examined in the history of childbirth in the nineteenth century. Some texts outlined the whole history of forceps and Caesarean section, but none have been produced for craniotomy.³⁰ This is surprising as craniotomy was the forerunner to Caesarean section. Craniotomy's success was due to the fact that it saved the mother. However, once Caesarean could also do that it then carried the potential to save two lives, which marked the end for craniotomy. Notwithstanding, craniotomy is part of the unwritten history of Caesarean section. As Caesarean section came to triumph in obstetric practice, it was only Caesarean section that mattered in historical accounts. Hence, the history of craniotomy has largely been ignored. Wilson noted a similar situation in relation to the vectis and the fillet. The vectis was a single-bladed instrument through which traction was applied to the foetus. The fillet was a noose-like instrument that was slipped over the foetal head and through which force could be applied. By the end of the nineteenth century, forceps had successfully replaced these and, just as with craniotomy, their history ignored.³¹

This historical omission was most evident when examining the literature that focused on Caesarean section and craniotomy. Both procedures were used in desperate situations when labour, if allowed to continue, signalled death to the mother. Craniotomy was used far more often in this situation in the nineteenth century than Caesarean section. However, craniotomy was generally mentioned as a side issue to the wider story of Caesarean section. Even though J. H. Young detailed how much more often craniotomy was

³⁰ W. Radcliffe, *The Secret Instrument* (London: Heinemann, 1947); Kedarnath Das, *Obstetric Forceps: Its History and Evolution* (Calcutta: The Art Press, 1993); Dyre Trolle, *The History of the Caesarean Section* (Copenhagen: C. A. Reitzel, 1982); Helen Churchill, *Caesarean Birth: Experience, Practice and History* (Chester: Books for Midwives Press, 1997); Michael Odent, *The Caesarean* (London: Free Association Books, 2004); Rosemary Mander, *Caesarean: Just Another Way of Birth?* (London and New York: Routledge, 2007).

³¹ Wilson, *The Making of Man-Midwifery*, pp. 65–66.

performed in Britain compared to Caesarean section, in the end Caesarean section won over craniotomy.³² As a result, there was little interest in a procedure that was considered destructive and its replacement was seen as a vast improvement on craniotomy. At the same time, its history has seemed irrelevant because it is not practiced today.

Some discussion on craniotomy during the nineteenth century, nevertheless, was found within histories that related to other obstetric issues. Rickets, the main reason for performing craniotomy, has received some attention.³³ Loudon, in examining maternal mortality, claimed that as a result of rickets many obstetricians “became expert at craniotomy”.³⁴ The development of gynaecology often included a select discussion in obstetric procedures. Ornella Moscucci in *The Science of Woman: Gynaecology and Gender in England 1800–1929*, for instance, compared the operation of ovariectomy (the removal of one or two ovaries or ovarian tumour) to craniotomy and Caesarean section. In cases of contracted pelvises, she explained, British obstetricians opted to perform craniotomy rather than Caesarean section.³⁵

In general, and as outlined above, it is for all these reasons that the history of craniotomy has largely been overlooked in the history of obstetrics and childbirth. Other issues, such as Caesarean section, have tended to dominate historical accounts instead.

³² J. H. Young, *Caesarean Section: The History and Development of the Operation from the Earliest Times* (London: H. K. Lewis, 1944).

³³ Edward Shorter, *A History of Women's Bodies* (London: Allen Lane, 1983), pp. 24–28; Anja Hiddinga and Stuart S. Blume, "Technology, Science, and Obstetric Practice: The Origins and Transformation of Cephalopelvimetry," *Science, Technology, & Human Values* 17, no. 2 (1992): pp. 159–60; Anne Hardy, "Rickets and the Rest: Child-Care, Diet and the Infectious Children's Diseases, 1850–1914," *Social History of Medicine* 5, no. 3 (1992): pp. 389–412.

³⁴ Loudon, *Death in Childbirth*, p. 137.

³⁵ Ornella Moscucci, *The Science of Woman: Gynaecology and Gender in England 1800–1929* (Cambridge: Cambridge University Press, 1990), pp. 141–43.

Much of obstetric and more broadly medical historiography prior to the 1960s was hagiographical, written by, and for, the medical profession. It described obstetrics in terms of it benefiting women and humanity. This was achieved by omitting to mention any aspect that threw a negative light on its history. Much of the work focused on enduring techniques and instruments.³⁶ A typical example of this was *Our Obstetric Heritage: The Story of Safe Childbirth*, written by Herbert Thoms, Professor Emeritus of Obstetrics and Gynaecology at Yale University. The history of obstetrics, he claimed, was inspirational and exciting.³⁷ The two developments he discussed were forceps, “the most beneficial surgical instrument ever devised”, and Caesarean section, “the greatest operation”.³⁸ A more recent publication by doctors Michael O’Dowd and Elliot Philipp has examined the history of obstetrics in *The History of Obstetrics and Gynaecology*.³⁹ They highlighted how forceps in the seventeenth century saved countless numbers of women and children that otherwise would have undergone craniotomy. As a result, the history of craniotomy was not mentioned. Instead, they cover events and changes over the centuries that have benefited the health of women in their positivist account. Other medical writing centred on distinguished obstetricians who were seen as leading lights and inventors of procedures that could advance the profession and benefit birthing women.⁴⁰ Hence, another reason for

³⁶ See, for example, Herbert R. Spencer, *The History of British Midwifery from 1650 to 1800* (London: John Bale, Sons & Danielsson, 1927), pp. 73–92; J. M. Munro-Kerr, R. W. Johnstone, and Miles H. Phillips (eds.), *Historical Review of British Obstetrics and Gynaecology* (Edinburgh and London: E. & S. Livingstone, 1954); Michael J. O’Dowd and Elliot E. Philipp, *The History of Obstetrics and Gynaecology* (New York and London: Parthenon Publishing Group, 1994).

³⁷ Herbert Thoms, *Our Obstetric Heritage: The Story of Safe Childbirth* (Hamden, Conn.: Shoe String Press, 1960), p. xi.

³⁸ *Ibid.*, pp. 52, 79.

³⁹ O’Dowd and Philipp, *The History of Obstetrics and Gynaecology*.

⁴⁰ See, for example, Harvey Graham, *Eternal Eve: The History of Gynecology and Obstetrics* (New York: Doubleday, 1951); Theodore Cianfrani, *A Short History of Obstetrics and Gynecology* (Springfield, Illinois: Charles C. Thomas, 1960); Irving S. Cutter and Henry R. Viets, *A Short History of Midwifery* (Philadelphia: W. B. Saunders, 1964); Edwin Jameson, *Gynecology and Obstetrics* (New York: Hafner, 1962); W. Radcliffe, *Milestones in Midwifery* (Bristol: John Wright, 1967).

craniotomy's omission was that its history did not reflect a great enduring technique or distinguished doctors.

Overall, the medical history of obstetrics, like early histories of medicine, was one of unproblematic progress driven purely by humanitarian concern for the mother and infant. For the most part it was Whiggish history written in a non-confrontational style. It was, therefore, unlikely that these long triumphant surveys would focus on craniotomy. Furthermore, this approach leaves out the challenging dilemmas faced by the doctor and the patient, as well as the medical and social conditions of the women. As it generally leaves out the mistakes or embarrassments of medical science, craniotomy has often been ignored or mentioned merely in passing in these texts. What this does is to dismiss the history of craniotomy and treat it as a subject unworthy of study. Accounts of its place in nineteenth-century obstetric history, therefore, are at best inadequate, but generally non-existent.

During the 1960s and 1970s the non-critical medical historiography gave way to an investigation of the social history of medicine within a social, cultural, economic or political context. It sought new approaches and re-evaluations of existing historical fields. This, it was argued, was achieved by examining beliefs, values, structures and activities of groups and their relation to health and illness within the wider social context. It promoted new ways of analysing the past.⁴¹

This different way of writing medical history together with the rise of the women's liberation movement in the 1960s brought a new interest women's history. Alongside this,

⁴¹ Dorothy Porter, "Historical Perspectives. The Mission of Social History of Medicine: An Historical View," *Social History of Medicine* 8, no. 3 (1995): pp. 345–59.

a feminist debate developed in the 1960s and 1970s. At its core were issues of empowerment and control.⁴² By the 1970s, social historians many of whom were feminist scholars had produced a vigorous challenge to the positivist medical histories. Stemming from second-wave feminism, which addressed the wider issues of women's oppression, the focus of their investigations narrowed and centred on reproduction, maternity and childbirth as a site of male patriarchal control.⁴³ Hence, there emerged some competing and new accounts of the past.

In line with this particular feminist theme, some scholars highlighted a medical bias against midwives and sought to readdress the balance. Viewed as antagonistic towards each other, these scholars claimed that medical men, who saw midwives as their competition, deliberately undermined the midwife's management of childbirth. Accordingly, men, from financial and professional gains, drove women from midwifery.⁴⁴ Tanya McIntosh in her study of maternity in twentieth-century England has described this style of writing as "conflict writing".⁴⁵ Jean Donnison, working on the legal foundation of midwifery, sought to explain the subordination of women in the birthing process. In doing

⁴² Anna Green and Kathleen Troup, *The Houses of History: A Critical Reader in Twentieth-Century History and Theory* (Manchester: Manchester University Press, 1999), pp. 253–54.

⁴³ See, for example, Mary O'Brien, *The Politics of Reproduction* (Boston: Routledge & Kegan Paul, 1981); Adrienne Rich, *Of Women Born: Motherhood as Experience and Institution* (New York and London: W. W. Norton 1976); Barbara Katz Rothman, *In Labour: Women and Power in the Birthplace* (New York and London: W. W. Norton, 1982); Emily Martin, *The Woman in the Body: A Cultural Analysis of Reproduction* (Boston: Beacon Press, 1987). This setting was seen as one of many sites that were fundamental in explaining male dominance over women. Others sites included the law, education and employment. J. L'Esperance, "Doctors and Women in Nineteenth Century Society: Sexuality and Role," in *Health Care and Popular Medicine in Nineteenth Century England: Essays in the Social History of Medicine*, ed. J. Woodward and D. Richards (London: Croom Helm, 1977), pp. 113–17.

⁴⁴ See, for example, Barbara Ehrenreich and Deirdre English, *Witches, Midwives, and Nurses: A History of Women Healers* (New York: The Feminist Press, 1973); Jean Towler and Joan Bramall, *Midwives in History and Society* (London: Croom Helm, 1986); Margaret Versluysen, "Midwives, Medical Men, and 'Poor Women Labouring with Child': Lying-in Hospitals in Eighteenth-Century London" in *Women, Health and Reproduction*, ed. Helen Roberts (London: Routledge & Kegan Paul, 1981), pp. 18–49.

⁴⁵ Tanya McIntosh, *A Social History of Maternity and Childbirth: Key Themes in Maternity Care* (London and New York: Routledge, 2012), p. 9.

so, the history of birth became a contested site: doctors against midwives, men against women.⁴⁶

This “conflict writing” saw the struggle for professional power. As a result, women, it was argued, were subjugated either through doctors or by regimes. Intervention became one mechanism for control. Typical of this argument was the sociologist Ann Oakley’s explanation of antenatal care and obstetric intervention in the twentieth century. This, she claimed, was a “strategy for the social control of women”.⁴⁷ Within such a framework, intervention such as antenatal care was an indicator of the wider social control of women. At the same time, medical regimes and technology medicalised pregnancy.

Following on from Oakley’s study, Jo Murphy-Lawless, a sociologist, defined obstetrics as “a fine example of patriarchal power” which overrode any control that women had in childbirth.⁴⁸ She indicted that obstetrics created an anxiety around birth that categorised it as an abnormal and dangerous event. Medical practices frequently and unnecessarily deemed labours as difficult and doctors too readily resorted to an instrumental approach. This, in turn, put the woman’s life at risk.⁴⁹ These obstetric procedures, for Murphy-Lawless, was an invasion of women’s bodies and denied women’s agency, despite the fact that medically it was justified as it saved maternal life.⁵⁰ Moreover, she interpreted obstetric intervention as an act of violence. Through this discourse, craniotomy could be read as harmful to women, even an act of violence.

⁴⁶ Jean Donnison, *Midwives and Medical Men: A History of the Struggle for the Control of Childbirth* (London: Historical Publications, 1988).

⁴⁷ Oakley, *The Captured Womb*, p. 250.

⁴⁸ Jo Murphy-Lawless, *Reading Birth and Death: A History of Obstetric Thinking* (Cork: Cork University Press, 1998), p. 233.

⁴⁹ *Ibid.*, p. 95.

⁵⁰ *Ibid.*, pp. 95–97.

This style of “conflict writing” was concerned with exposing what these scholars viewed as the patriarchal basis of obstetrics and how this was reflected in the medical treatment of women’s bodies. The value of their argument was that they put midwives and birthing women back into the history of childbirth. They also highlighted the role that obstetrics played in the medicalisation of childbirth.⁵¹ This has influenced this thesis because it revealed that within such a framework obstetric interventions could be read as a site of confrontation. From my research, however, this view that medical intervention was a form of male control presented a problem. The trouble with this approach was that it ignored any complexities or controversies within the medical system. Furthermore, it categorised obstetricians as one entity, who over time, took control away from women. Under such a critique, any thoughts about the women whose lives were saved through medical techniques such as craniotomy were largely ignored. Any understanding of how these procedures were used and the obstetricians’ thoughts about them were very limited. By taking a broader perspective on craniotomy, as this thesis has done, it becomes apparent that medical intervention did not necessarily impact negatively on women’s experiences. In some cases they would have suffered horrific deaths without it.

Feminist approaches to the history of obstetrics changed from the 1970s. Some scholars challenged this particular polemical view of power. They believed that the power and unity of obstetrics in the nineteenth century has often been exaggerated. A more nuanced view emerged which viewed the interactions between doctors and women as complex.⁵² Judith Walzer Leavitt has noted the tensions and uncertainties in the doctor’s thinking towards the

⁵¹ See also, Ann Oakley, *Women Confined: Towards a Sociology of Childbirth* (Oxford: Martin Robertson, 1980), p. 10.

⁵² See, for example, Jan Williams, “The Controlling Power of Childbirth in Britain,” in *Midwives, Society and Childbirth: Debates and Controversies in the Modern Period*, ed. Hilary Marland and Anne Marie Rafferty (London: Routledge, 1997), pp. 232–47; McIntosh, *A Social History of Maternity and Childbirth: Key Themes in Maternity Care*.

decision to intervene in difficult births. Leavitt demonstrated that while doctors took control of these situations, women, family, friends and the clergy did have a say in the procedure used. Moreover, women often relied on the doctor to provide the best possible option available. She analysed the ways in which decisions were inconsistent and limited because the doctors did not always grasp the reason for the outcome, often made mistakes, had limited knowledge and experience, generally called in other doctors, and did not always anticipate the difficulties that they might face.⁵³ As a result choosing between craniotomy and Caesarean section “became the focus of the most intense obstetrical debates”.⁵⁴ She indicted that the intersection between ideology and practice was far from simple. This more balanced view rests more comfortably with the stance taken in this thesis in that obstetricians often struggled in choosing medical intervention. Such writings were valuable to the history of craniotomy as they recognised that opting to perform craniotomy was complex.

Feminists were not the only scholars interested in power. The French philosopher Michel Foucault rejected the medical histories that read as straightforward narratives of progress. Instead, he was concerned with the ways the state engaged with structures of power and knowledge to control the body.⁵⁵ Foucault’s *The Birth of the Clinic*, published in 1963 and translated into English in 1973, outlined his analysis of power and a different perspective

⁵³ Leavitt, "The Growth of Medical Authority: Technology and Morals in Turn-of-the-Century Obstetrics," pp. 231–36. See also, Joseph G. Ryan, "The Chapel and the Operating Room: The Struggle of Roman Catholic Clergy, Physicians, and Believers with the Dilemmas of Obstetric Surgery, 1800–1900," *Bulletin of the History of Medicine* 76, no. 3 (2002): p. 486.

⁵⁴ Leavitt, "The Growth of Medical Authority: Technology and Morals in Turn-of-the-Century Obstetrics," p. 235.

⁵⁵ Colin Jones and Roy Porter, "Introduction," in *Reassessing Foucault: Power, Medicine and the Body*, ed. Colin Jones and Roy Porter (London and New York: Routledge, 1994), pp. 1–3.

on medicine.⁵⁶ He put the body at the forefront of historical investigation. In doing so, he has influenced, in part, medical history because he provided a new way of understanding the body, and the way the maternal body was constructed through the medical gaze. In relation to this thesis it has demonstrated the ways in which the medical gaze could represent women who required craniotomy.

Other medical histories were influenced by medical sociology, medical anthropology, gender history, and by the idea that patients had certain rights concerning their treatment. One result of this was that historians began to write medical history from the patient's perspective.⁵⁷ Roy Porter was concerned that most medical histories focused on doctors, but patients were equally important as "it takes two to make a medical encounter".⁵⁸ Concentrating on the patient's perspective allowed for a level of interpretation not possible from other doctor-centred approaches. It could explore the choices patients made and why. As a result, Porter reasoned, the history would show that patient's were not necessarily compliant to doctors and their regimes. Yet, these "histories from below" are dependent on available sources. These are not always easy to locate and, therefore, can be difficult to write.⁵⁹ Unfortunately, the history of craniotomy does not readily lend itself to the study of the patient's perspective because some died and few patients wrote of their experiences. Their voices are only mediated through the doctor. Even so and importantly for the history of craniotomy, Porter's viewpoint offered a way to understand that there was a process of

⁵⁶ Michel Foucault, *The Birth of the Clinic: An Archaeology of Medical Perception*, trans. A. M. Sheridan Smith (New York: Vintage, 1973). Foucault was particularly concerned with the history of the body and in the ways it was structured by power and knowledge. *Madness and Civilization* (1965), *Discipline and Punishment* (1975) and *History of Sexuality* (1976) also dealt with this theme.

⁵⁷ Keir Waddington, *An Introduction to the Social History of Medicine: Europe since 1500* (London: Palgrave Macmillan, 2011), pp. 9–10.

⁵⁸ Roy Porter, "The Patient's View: Doing Medical History from Below," *Theory and Society* 14, no. 2 (1985): p. 175.

⁵⁹ Flurin Condrau, "The Patient's View Meets the Clinical Gaze," *Social History of Medicine* 20, no. 3 (2007): p. 536.

negotiation between women, doctors and society. It presented different aspects to consider, both from doctors whose own values influenced their decisions to perform craniotomy and from women who endured the clinical experience of craniotomy.

Such a change in perspective had an important impact on the way historians wrote about women's bodies. A number of histories of medicine and science have looked at the way science represented women. Much of it has examined the role obstetrics played in reinforcing gender roles and how it has influenced the cultural constructions of the maternal body.⁶⁰ As such, they have resulted in an understanding of how influential ideas and attitudes can be in medicine. For example, Moscucci in her study on gynaecology and gender remarked on the ways in which medicine represented the woman's body. She indicted that doctors described and defined women in terms of pathology.⁶¹ As such they defined women as either "disease or disorder".⁶² In this way women were described as pathological, weak and delicate. In relation to this thesis, gendered ideas about the fragility of the maternal body intersected with abnormal births. Craniotomy can be seen as taking these ideas and playing a part in heightening this sense of the fragile and pathological woman.

⁶⁰ Regina Morantz-Sanchez, *Conduct Unbecoming a Woman: Medicine on Trial in Turn-of-the-Century Brooklyn* (New York and Oxford: Oxford University Press, 1999); Londa Schiebinger, *The Mind Has No Sex? Women in the Origins of Modern Science* (Cambridge, Mass.: Harvard University Press, 1989); Ludmilla Jordanova, *Sexual Visions: Images of Gender in Science and Medicine between the Eighteenth and Twentieth Centuries* (Wisconsin: University of Wisconsin Press, 1989); Emily Martin, "The Egg and the Sperm: How Science Has Constructed a Romance Based on Stereotypical Male-Female Roles," *Signs* 16, no. 3 (Spring 1991): pp. 485–501. See also, Susan Pitt, "Midwifery and Medicine: Gendered Knowledge in the Practice of Delivery," in *Midwives, Society and Childbirth: Debates and Controversies in the Modern Period*, ed. Hilary Marland and Anne Marie Rafferty (London and New York: Routledge, 1997), pp. 218–31; Marianne van der Wijngaard, *Reinventing the Sexes: The Biomedical Construction of Femininity and Masculinity* (Indianapolis: Indiana University Press, 1997); Rosemary Pringle, *Sex and Medicine: Gender, Power and Authority in the Medical Profession* (Cambridge: Cambridge University Press, 1998).

⁶¹ Moscucci, *The Science of Woman*, p. 102.

⁶² Ibid.

A number of scholars have addressed the lack of women's agency in childbirth.⁶³ However, some scholars have moved away from the "victim" theory and challenged the idea of the lack of women's autonomy in childbirth.⁶⁴ They noted that even though the patient frequently accepted the authority of the doctor, women sometimes did make choices regarding their treatment. Amelia Kass in her study of doctor's case diaries provided evidence that women were able to exert some level of control. It was women who requested particular procedures such as forceps, determined when and if the doctor could examine them, and decided whether to provide information about their labour.⁶⁵ Kass has focused on women's choices. Clearly, the conditions in which many women lived, became pregnant and had children did enable choices, however, not all had the same choices. In relation to this history of craniotomy women's lack of agency was created through their situations. In dire and life-threatening circumstances it was difficult for these women, often by this stage delirious, to impose their own values and choices upon the way their delivery was handled. In order for the woman to survive, the doctor had to make the decision based upon the woman's best chance for life. In this thesis, it will be shown that evidence for women's agency was limited not because they were denied agency but rather because it was undermined by their hopeless situation.

Another theme that is present in the history of obstetrics and childbirth is maternal mortality. Loudon, a retired doctor, in his study on maternal care and mortality from 1800

⁶³ Paula A. Treichler, "Feminism, Medicine, and the Meaning of Childbirth," in *Body/Politics: Women and the Discourses of Science*, ed. Evelyn Fox Keller and Sally Shuttleworth Mary Jacobus (London and New York Routledge, 1990), pp. 113–38; Murphy-Lawless, *Reading Birth and Death*; Rich, *Of Women Born*.

⁶⁴ Leavitt, "The Growth of Medical Authority: Technology and Morals in Turn-of-the-Century Obstetrics,"; Alison Nuttall, "'Because of Poverty brought into Hospital: ... ' A Casenote-Based Analysis of the Changing Role of the Edinburgh Maternity Hospital, 1850–1912," *Social History of Medicine* 20, no. 2 (2007): pp. 263–280.

⁶⁵ Amalie Kass, "'Called to Her at Three O'clock Am": Obstetrical Practice in Physician Case Notes," *Journal of the History of Medicine and Allied Sciences* 50, no. 2 (1995): pp. 208–11.

to 1950, explored the culpability of midwives and doctors to explain the high level of maternal mortality in the modern period.⁶⁶ Importantly for this thesis, Loudon revealed that the success of a procedure was measured by its mortality rates. The acceptance of these mortality rates became indicators of safe and successful practice. This will be important for this thesis, as it will help to explain the practice and swing away from craniotomy.

This thesis has been influenced and informed by all the above literature. Generally, they have shown that the history of obstetrics was complex. My research into the practice of craniotomy will confirm this and will show that the history of obstetrics was more than merely one of progress or bitter struggle for power. The main point of difference from the above approaches is the main focus of this thesis, that is, it is a history of transformation and involves the notion of change. Looking at the change in philosophy and practice and their connections will allow for a new view of obstetrics, childbirth and women's bodies.

Thesis aims

The main aim of this study on craniotomy during the nineteenth century is to add to the limited literature on its history. Generally seen as a grisly and shocking procedure, this thesis will show that the practice of craniotomy was an important, complex and challenging operation that occupied a significant place in nineteenth-century obstetrics. It will provide a context within which to better understand the specific and wider problems

⁶⁶ For other studies on maternal mortality in the nineteenth century see, William Gilliatt, "Maternal Mortality – Still-Birth and Neonatal Mortality," in *Historical Review of British Obstetrics and Gynaecology*, ed. J. M. Munro Kerr, R. W. Johnstone, and Miles H. Phillips (Edinburgh and London: E. & S. Livingstone, 1954), pp. 257–93; Roger Schofield, "Did the Mothers Really Die? Three Centuries of Maternal Mortality in 'the World We Have Lost' " in *The World We Have Gained: Histories of Population and Social Structure*, ed. Lloyd Bonfield, Richard M. Smith, and Keith Wrightson (Oxford: Basil Blackwell, 1986), pp. 231–60; Irvine Loudon, "Obstetric Care, Social Class, and Maternal Mortality," *BMJ (Clinical Research Edition)* 293, no. 6547 (1986): pp. 606–08; "Maternal Mortality, 1880–1950: Some Regional and International Comparisons," *Social History of Medicine* 1 (1988): pp. 183–228.

and discussions around childbirth before the twentieth century. Above all, this thesis is an attempt to challenge the representations of craniotomy as a footnote in the historical accounts of obstetrics, childbirth and women's bodies.

A further purpose of this thesis was to show that craniotomy and indeed medicine could not be simply viewed as a rational science. There was little doubt that craniotomy fitted into the science of obstetrics. It was an obstetric procedure that dealt with the clinical problem of obstructed labour.⁶⁷ Even though it fitted neatly into this context as a link between the doctor's expertise and the dangers of childbirth, it was also informed by beliefs, ideologies and attitudes. It also proved to be an important point of intersection between medical practice and ideologies. By following the history of craniotomy it becomes evident that a shift in attitude and thought produced a major influence on practice. The change in the philosophy and practice of craniotomy marked a change in attitude to the idea of a "successful" birth.

Thesis site and scope

Nineteenth-century Britain provides an excellent case study for analysing craniotomy. Modernity in the form of the Industrial Revolution had arrived in Britain by the start of the century. The agrarian rural society was being transformed into an industrial and urban

⁶⁷ It found its place in the growing literature in obstetrics on difficult parturition or obstructed labours. See, for example, Samuel Merriman, *A Synopsis of the Various Kinds of Difficult Parturition, with Practical Remarks of the Management of Labours*, 4th ed. (London: Callow and Wilson, 1826); John Hall Davis, *Illustrations of Difficult Parturition* (London: John Churchill, 1858); Edward W. Murphy, *Lectures on Preternatural and Complex Parturition and Lactation* (London: Taylor, Walton and Maberly, 1852); Lee, *Clinical Midwifery: Comprising the Histories of Five Hundred and Forty Five Cases of Difficult, Preternatural, and Complicated Labour*; Robert Barnes, *Lectures on Obstetric Operations Including the Treatment of Haemorrhage, and Forming a Guide to the Management of Difficult Labour*, 3rd ed. (London: J. & A. Churchill, 1876).

society.⁶⁸ The cities and towns attracted a constant flow of people, either as immigrants, workers or traders. For example, the population of London increased by 330,000 between 1841 and 1851.⁶⁹ These urban environments had denser populations, more illness and generally higher mortality.⁷⁰ Such surroundings caused health problems especially rickets, the primary reason for craniotomy.

Enlightened thinking challenged the traditional idea that God inflicted disease and illness.⁷¹ At the same time, scientists were making new discoveries. There was a new spirit of inquiry in terms of knowledge and attitudes. Medicine was moving towards a more scientific approach. Advances in anatomy, physiology, chemistry and biology led to new clinical methods.⁷² Moreover, childbirth was increasingly seen as a condition that required expert medical attention. Doctors became important in delivering labouring women.⁷³ Thus, Britain with its large industrial and urban population, and its scientific ethos, together with the flourishing field of obstetrics provides an excellent site to analyse craniotomy.

The thesis begins at the end of the eighteenth century. By this time, many prominent men-midwives were publishing their own obstetric texts. One such influential obstetrician was William Osborn. In 1783 he published the details of a craniotomy involving Elizabeth

⁶⁸ David Christian, *Maps of Time: An Introduction to Big History* (Berkeley: University of California Press, 2005), pp. 410–26; John Rule, *The Labouring Classes in Early Industrial England 1750–1850* (London and New York: Longman, 1986), pp. 16–17.

⁶⁹ Roy Porter, *London: A Social History* (London: Hamish Hamilton, 1994), p. 205.

⁷⁰ Andrew Wear, *Knowledge and Practice in English Medicine, 1550–1680* (Cambridge: Cambridge University Press, 2000), p. 12.

⁷¹ Roy Porter, "Spreading Medical Enlightenment: The Popularization of Medicine in Georgian England and Its Paradoxes," in *The Popularization of Medicine 1650–1850*, ed. Roy Porter (London and New York: Routledge, 1992), pp. 215–16; Geoffrey Chamberlain, *From Witchcraft to Wisdom: A History of Obstetrics and Gynaecology in the British Isles* (London: RCOG Press, 2007), pp. 65–66.

⁷² W. F. Bynum, *Science and the Practice of Medicine in the Nineteenth Century* (Cambridge: Cambridge University Press, 1994), pp. 118–41.

⁷³ Moscucci, *The Science of Woman*, p. 50.

Sherwood. Her infant was wedged in her severely contracted pelvis and many thought her pelvis too narrow even for craniotomy. Undaunted, Osborn delivered her by craniotomy.⁷⁴ Osborn claimed it proved “that it is possible to deliver a child, when the head is lessened, through almost any pelvis, however small its dimensions may be”.⁷⁵ He laid down the rules for craniotomy. This set the standard by which many doctors practiced craniotomy during the nineteenth century. The thesis ends at the dawn of the twentieth century. By this time craniotomy had been challenged and subsequently rejected by the majority of obstetricians. Summing up the general feeling of doctors at this time, A. E. Chisholm, obstetrician at the Royal Infirmary Dundee, decried craniotomy as “at best, a revolting operation”.⁷⁶ Craniotomy no longer held an unassailable place in the obstetrician’s repertoire.

Britain forms the geographical focus of the thesis, including English, Scottish, Welsh and Irish doctors. Their writings and practice of craniotomy will be explored through medical journals and obstetric texts.⁷⁷

Methodology and source material

This thesis follows on from my study on nineteenth-century Caesarean section as reported in the *Lancet*. This explored a neglected topic in the history of obstetrics.⁷⁸ I began my research on the history of craniotomy by analysing a variety of British medical journals

⁷⁴ William Osborn, *An Essay on Laborious Parturition: In Which the Division of the Symphysis Pubis Is Particularly Considered* (London: T. Cadell, 1783), pp. 73–90. Osborn republished this as his second and only other obstetric text, *Essays on the Practice of Midwifery, in Natural and Difficult Labours* (London: J. Johnson, 1795), pp. 189–203.

⁷⁵ Osborn, *Essays on the Practice of Midwifery, in Natural and Difficult Labours*, p. 212.

⁷⁶ A. E. Chisholm, “Symphysiotomy, Craniotomy, and Caesarean Section,” *Lancet* 2 (1923): p. 276.

⁷⁷ Following the Act of the Union in 1800, Ireland became part of the United Kingdom – of England, Wales, Scotland, and Ireland – for the period covered in this thesis. I have therefore incorporated Ireland into the discussion of Britain.

⁷⁸ This study sparked my interest in the procedure craniotomy that was frequently mentioned in nineteenth-century medical journals, but almost never in twentieth-century journals.

and textbooks published in the nineteenth century.⁷⁹ Substantial collections of these exist in the medical library at Sydney University, the State Library of NSW, the Royal Australasian College of Physicians, the Wellcome Library of Medical History, the Royal College of Obstetricians and Gynaecologists and the Royal College of Physicians and Surgeons Glasgow. Further research included reading student notes, doctors' case notes and notebooks, and hospital records. Collections of these were found in the Wellcome Library of Medical History, the British Library, the Royal College of Obstetricians and Gynaecologists, the Royal College of Surgeons, and the National Health Service Greater Glasgow and Clyde Archives.

Detailed textual research and analysis formed the basis of this thesis. It largely used a qualitative approach, asking questions, seeking themes and patterns from the written records. Nonetheless, a quantitative investigation of the published numeral data occupied a select place in this study. Documentary evidence, however, was at the core of this study.

Medical journals proved to be central to this study because they contained many references to the practice of craniotomy. Since the invention of the printing press in the fifteenth century, medical publishing flourished. With the growth of the medical professions in the nineteenth century, countless medical texts and journals appeared. Between 1801 and 1840, 100 journals were launched. Of these only the *Lancet*, first published in 1823, survives today.⁸⁰ Its founder, Thomas Wakley, a general practitioner, aimed its readership at the medical profession in general. Starting out as the *Provincial Medical and Surgical*

⁷⁹ See the bibliography for a list of medical journals used in this thesis.

⁸⁰ Richard Smith, *The Trouble with Medical Journals* (London: Royal Society of Medicine, 2006), p. 33. For a list of the publication time-spans of selected medical journals see, W. F. Bynum and Janice C. Wilson, "Periodical Knowledge: Medical Journals and Their Editors in Nineteenth-Century Britain," in *Medical Journals and Medical Knowledge: Historical Essays*, ed. W. F. Bynum, Stephen Lock, and Roy Porter (London and New York: Routledge), "Appendix": pp. 44–46.

Journal in 1840, the *British Medical Journal* was first published in 1857. The common aim of these journals was to inform practitioners.⁸¹ On the whole, clinical papers, case notes, letters, book reviews, lectures, commentaries and medical meetings were published in these weekly journals. The overall view was to inform, educate and provide an opportunity for discussion and debate amongst the profession.⁸² As well, weekly journals gave time and space for immediate correspondence and comment. They represented the latest in practice and thought.⁸³ While general medical journals flourished in the nineteenth century, specialist obstetric journals did not appear until the beginning of the twentieth century.⁸⁴ The first publication of the *Journal of Obstetrics and Gynaecology of the British Empire* was in January 1902.⁸⁵ Prior to this, obstetric articles were submitted to and published in general medical journals. Therefore, the topic of craniotomy was found in these journals.

Alongside nineteenth-century journals, a number of contemporary obstetric texts and treatises were consulted. Medical men usually wrote these for other doctors or students.⁸⁶

⁸¹ Smith, *The Trouble with Medical Journals*, pp. 33–34. The *Provincial Medical and Surgical Journal* and its successor the *British Medical Journal* struggled until the 1860s and was close to being abolished until the editor, Ernest Hart, took over in 1866. He transformed the journal from obscurity into a successful weekly publication. See, Peter Bartrip, "The *British Medical Journal*: A Retrospect," in *Medical Journals and Medical Knowledge: Historical Essays*, ed. W. F. Bynum, Stephen Lock, and Roy Porter (London and New York: Routledge, 1992), pp. 126–45.

⁸² W. F. Bynum and Janice C. Wilson, "Periodical Knowledge: Medical Journals and Their Editors in Nineteenth-Century Britain," pp. 29–48; Christopher C. Booth, *Doctors in Science and Society: Essays of a Clinical Scientist* (Cambridge: Cambridge University Press, 1987), pp. 208–09.

⁸³ Bynum and Wilson, "Periodical Knowledge: Medical Journals and Their Editors in Nineteenth-Century Britain," p. 38.

⁸⁴ Smith, *The Trouble with Medical Journals*, p. 6.

⁸⁵ "A Brief History of BJOG," RCOG, www.rcog.org.uk, accessed 1 June 2014.

⁸⁶ A number specifically mentioned in the preface that their text was written for doctors and students. See, for example, Merriman, *A Synopsis of the Various Kinds of Difficult Parturition*, (1826); John Burns, *The Principles of Midwifery; Including the Diseases of Women and Children*, 9th ed. (London: Longman, Orme, Brown, Green & Longmans, 1837); Churchill, *On the Theory and Practice of Midwifery*; Joseph Griffiths Swayne, *Obstetric Aphorisms: For the Use of Students Commencing Midwifery Practice* (Philadelphia: Henry C. Lea, 1870).

Many were widely read as they went into multiple editions.⁸⁷ For this thesis, these texts offered information about and an understanding of the procedure and data, as well as, an appreciation of how and what knowledge was diffused. As well as texts and treatises, medical journals also helped to disseminate information and kept discussions in circulation.

Other types of source material included hospital records, comprising of minutes, case notes, annual reports and patient registers from the Glasgow Lying-in Hospital and Dispensary between 1834 and 1898, accessed through the National Health Service Greater Glasgow and Clyde Archives in Glasgow. They revealed what procedures were advocated and performed. Importantly, they also revealed the social circumstances of a number of the women who underwent craniotomy. In some cases, numbers and statistics have been recorded, such as the number of women admitted to the hospital and the breakdown of the type of procedures performed.⁸⁸ However, the case notes were incomplete and the doctor in attendance was not recorded. The patient registers from 1834 to 1896 were complete. Better notes were taken for in-hospital than for domiciliary patients, perhaps because the more difficult labours were transferred to hospital. Hence, there was more to record. What was selected to record and thus preserved was a limiting factor of hospital records. They may, for example, have ignored the reason for treatment, occupations, state of health of mother and infant on discharge. They may have simply been damaged over time. In the case of the Edinburgh Infirmary its ward records were part of a recurrent paper-recycling

⁸⁷ For example, Burn's text *The Principles of Midwifery* went into ten editions.

⁸⁸ For the types of analysis possible from hospital records see, Guenter B. Risse, "Hospital History: New Sources and Methods," in *Problems and Methods in the History of Medicine*, ed. Roy Porter and Andrew Wear (London: Croom Helm, 1987), pp. 175–204.

programme.⁸⁹ Despite this, these records were valuable in painting a medical and social history of craniotomy and the shift in its practice.

As well as this unpublished material, there was valuable documentary evidence in the form of student's lecture notes, doctor's hand-written notebooks, case notes, and medical papers. In particular, the Wellcome Library and the library of the Royal College of Surgeons holds a number of hand-written notes taken down by midwifery students in the late eighteenth and nineteenth centuries. These were not always legible. Nonetheless, these lecture notes formed a source for revealing the training, existing knowledge and ideas, in addition to the dissemination and circulation of information to students. These are important elements because they would have had a bearing on the doctor's clinical practice.

Despite the vast amount of medical publications, there were few handwritten notebooks by obstetricians. A set of such notebooks written by the eminent London obstetrician Robert Barnes between 1850 and 1870 is housed in the archives of the Royal College of Obstetricians and Gynaecologists.⁹⁰ His notes formed the basis for his text, *Lectures on Obstetric Operations Including the Treatment of Haemorrhage* first published in 1870. They reflected his views on what he perceived to be the dilemmas of practice involving craniotomy and Caesarean section. These included what to do if the infant were alive, the relative value between the life of the mother and infant, and his uncertainty of the success of new procedures. Yet, the quality of evidence is variable. At times he wrote detailed passages on these issues illustrated with cases, other times he jotted down a couple of lines and sometimes just a heading or two.

⁸⁹ Ibid., p. 186.

⁹⁰ The notebooks written by Robert Barnes that I examined from the RCOG were: Craniotomy, S61/A/9; Caesarean Section, S61/A/46; Turning, S61/A/2; Lacerations, S61/A/8; Statistics, S61/A/31; Fistula, S61/A/51; Rickets. Osteomalacia, S61/A/23.

The main primary sources of this study were medical writings but they have limitations as sources. Like all texts, they were filtered through the voice of the author. They provided a view of the practices that the doctors wished to promote. Medical journals, although providing room for discussion and debate, often had an agenda. For example, the academic *Edinburgh Medical and Surgical Journal* often reminded its readers that Edinburgh, and not London, produced the most advanced medicine in the world.⁹¹ Moreover, the first editor of the *Lancet*, Wakley, used his position to attack medical men and corporations, and to promote medical reform.⁹² For the majority of doctors, success in clinical practice was the gauge by which their contemporaries measured them. Thus, it was not unusual for medical practitioners to publish cases, present ideas and commentaries, in order to promote themselves, their ideas and their speciality.⁹³ Case studies, therefore, were slanted to a positive outcome or the best-case situations, rather than failures. The interest of the doctor was in the clinical rather than the personal. The situation, the clinical practice and the participants were all mediated through the voice of the medical profession. Written for a medical audience and wishing to push particular opinions, it was not surprising that bias was found in such records.

A similar situation was found in the Annual Reports of Glasgow Maternity Hospital. These reports were written for its subscribers. As well as acknowledging the subscribers, they informed them about any developments, as well as providing the basis for fund-raising. As such, these reports have an optimistic view of the hospital. They stressed the excellent care given to those women who were admitted. For example, on the first page of the Thirty-

⁹¹ Jean Loudon and Irvine Loudon, "Medicine, Politics and the Medical Periodical 1800–50," in *Medical Journals and Medical Knowledge: Historical Essays*, ed. W. F. Bynum, Stephen Lock, and Roy Porter (London and New York: Routledge, 1992), p. 60.

⁹² Smith, *The Trouble with Medical Journals*, p. 33.

⁹³ *Ibid.*, p. 34.

fourth Annual Report it stated that the directors in submitting the report to the subscribers “find themselves in a position to report favourably of the state of the Hospital”. They “also beg to express their satisfaction at the growing popularity, increasing usefulness, and greatly improved condition of the Institution”.⁹⁴ Therefore, like the medical journals these reports have a bias. This must be borne in mind when using them as a source material.

Another limitation of the sources was that they rarely contain the voices of women as patients. Nowhere do they record the voices of women telling their story: of their lives, the problems of childbearing or their perceptions of their treatments. As the focus of this thesis is the obstetric procedure craniotomy, the unavoidable consequence of the archival research is that it revolves around medicine rather than women. I have, nonetheless, tried to include references to women and their experiences, even if mediated through the doctor. Even so, we can glean certain perspectives on these women. While many accepted the doctor’s advice, some women did display certain strength of mind as they were reported as ignoring advice regarding their treatment. Those who underwent craniotomy were generally poorer working-class women. They faced severe medical as well as social problems.

The methodology employed in this thesis is textual analysis of the medical literature of the period under discussion. This provides an understanding of key medical theories, concepts, practices and attitudes as well as patterns of change. This in turn addresses the focal point of the thesis: a medical and social history of craniotomy. The instruments used in difficult births also form an important part of this study. However, instruments such as the vectis, a single bladed instrument that assisted delivery, that lost their popularity during the

⁹⁴ “Thirty-fourth Annual Report of the Glasgow Maternity Hospital and Dispensary,” 1867–1868, HB 45/3/1, National Health Service Greater Glasgow and Clyde Archives (hereafter NHSGGCA), p. 1.

nineteenth century are only briefly mentioned. Moreover, this thesis will make clear that during the nineteenth century forceps and craniotomy were often used in different circumstances. Forceps, which eventually displaced the vectis, were frequently used to hasten labour or in mild cases of obstructed births while craniotomy was generally used in more difficult and desperate obstructed labours. Also this study will demonstrate failed forceps delivery would usually lead to craniotomy. However, as this thesis embraces a social and medical history, it is beyond the scope of this work to give a detailed history of the forceps and their broader surgical application to the use of craniotomy.

It is important to note that medical publications were written for men by other men, namely fellow doctors. There were only a handful of women doctors in the nineteenth century because most members of the medical profession felt that women were not suitable to what they perceived to be the challenges and difficulties of medical education and practice.⁹⁵ Even though women worked as midwives, medicine was still an overwhelming male field. For example, it was not until 1921 that Dame Anne Louise McIlroy was appointed the first women professor of obstetrics and gynaecology at the University of London.⁹⁶ For this reason, in this thesis doctors were men.

Despite all these limitations and silences, these sources were invaluable in demonstrating conflicting ideas among doctors and the profession as a whole. This was important, as it was essential to this thesis to uncover differing and shifting philosophies and practices.

⁹⁵ Bynum, *Science and the Practice of Medicine in the Nineteenth Century*, pp. 206–08. For a history of women practitioners see, Digby, *The Evolution of British General Practice, 1850–1948*, pp. 154–86; Laura Kelly, "The Turning Point in the Whole Struggle: The Admission of Women to the King and Queen's College of Physicians in Ireland," *Women's History Review* 22, no. 1 (2013): pp. 97–125. While acknowledging the gendered nature of education, it is beyond the scope of this thesis to analyse it in any detail.

⁹⁶ Susan J. Pitt, "McIlroy, Dame (Anne) Louise," *Oxford Dictionary of National Biography* (hereafter *ODNB*), (Oxford: Oxford University Press, 2004), online ed. May 2010, www.oxforddnb.com/view/article/47540, accessed 20 October 2014.

Thesis structure

This thesis is structured both thematically and chronologically. It is divided into eight chapters. The first chapter explores the roles of women and men in midwifery in the late eighteenth and early nineteenth centuries. It will reveal that their aims of the preservation of life were the same, but their approach and methods were different. It will suggest ways in which their spheres intersected and diverged. This chapter will establish a framework for medical intervention through which the analysis of craniotomy can be understood.

Chapter two will focus on education and the legitimisation of knowledge around craniotomy. It begins by examining the position of the obstetrician within the medical community and the quality of education he received in the late eighteenth century. Obstetricians, turned lecturers, were the key authorities for validating knowledge. Specifically, it will focus on William Osborn, a well-known obstetrician, lecturer and strong advocate for craniotomy. His standing legitimised his ideas and his lectures transmitted these ideas to his students. From his clinical experience, Osborn developed a paradigm in relation to craniotomy. Disseminated widely, this was repeatedly discussed and practiced throughout much of the nineteenth century.

Chapter three, on the criteria of craniotomy, will examine the medical and social circumstances that necessitated this procedure. It will explore how the maternal body was classified, and how the doctors read this body. During the first half of the nineteenth century in particular, most obstetricians accepted craniotomy's place in obstetrics. Yet, as cruel as craniotomy appeared, the fourth chapter will look beyond this to its aim. It was designed to save the mother's life in impossible labours because if women were left undelivered they would die. This chapter will explore the decision making process in

relation to the value of the mother and the clinical factors that determined craniotomy and how this changed.

Chapter five will develop this concern as it explores the tensions around the life of the child that craniotomy created. Craniotomy always resulted in the death of the foetus. The decision to perform craniotomy was often uncertain, was the child dead or alive, who decided, and what happened if the decision was questioned? The chapter will argue that the emergence of the foetus as a focus of medical interest was in part prompted by the heart-breaking dilemma of craniotomy. By the mid-nineteenth century craniotomy was posing serious medical, ethical and social concerns. Chapter six will contextualise the debates over the life of the mother and child through an examination of the concerns raised over craniotomy's results concluding with a call for its abolition. It will explore the shift in thinking, as craniotomy came to be portrayed as dangerous to both mother and child. Chapter seven will deal with the medical responses to the call for the abolition of craniotomy and the ways in which craniotomy and its potential replacements revealed anxiety and conflict amongst doctors. These last three chapters will emphasise the tensions that resulted when the various concepts and attitudes of different doctors and discourses came into conflict, a conflict that was crucial to the changing view regarding the place of craniotomy.

Caesarean section will be the finale to the story of craniotomy, its re-evaluation and eventual demise. This last chapter, chapter eight, will offer another layer of understanding by situating the discussion through the nineteenth century in relation to Caesarean section. At the beginning of the century Caesarean section did not offer a practical alternative. Throughout the period however, the balance between foetal life and death became central in any obstetric intervention. The key to the survival of both mother and child was

emphasised as Caesarean section's greatest advantage. This chapter will argue that Caesarean section was a defining point, it signalled the end of craniotomy.

Finally, it is not the purpose of this thesis to compare the values of nineteenth-century Britain with current values. Nor does it seek to criticise the medical knowledge of the period and those doctors who practiced it. It must be acknowledged, for example, that the cause of infection and rickets were not understood, suturing the uterus during Caesarean section was viewed as unnecessary and medical reluctance for vaginal examination was accepted at the time. Rather, by contextualising the discussion on craniotomy this thesis seeks to understand and unravel the story and the context through which the meanings and practice of craniotomy changed over the long nineteenth century.

Chapter 1

Crossing Boundaries:

Medical Men, Midwives and the Practice of Midwifery

I have ordered, answered my father, the old midwife to come down to us upon the least difficulty;—for you must know, Dr. *Slop* ... you are no more than an auxiliary in this affair,—and not so much as that ... Sir, replied Dr. *Slop*, it would astonish you to know what Improvements we have made of late years in all branches of obstetrical knowledge, but particularly in that one single point of the safe and expeditious extraction of the *foetus*.⁹⁷

Prior to the rise of the man-midwife in the eighteenth century, women controlled the confinement. The midwife ran the birth, aided by female neighbours and friends, colloquially known as the “gossips”. Men, on the other hand, were excluded from the lying-in room. Surgeons were only summoned when difficulties arose and, generally, as a last resort.⁹⁸ During the eighteenth century in Britain, the doctor’s role in childbirth changed. Frequently taking the term man-midwife, or sometimes the French name *accoucheur*, this new style of practitioner, became increasingly involved in the management of routine deliveries. As no formal qualifications were required to take on midwifery cases, all practitioners: physicians, surgeons and surgeon-apothecaries could practice midwifery.⁹⁹ Some focused on midwifery, these men-midwives were the forerunner to obstetricians, but most others adopted it as part of their general practice.¹⁰⁰

⁹⁷ Laurence Sterne, *The Life and Opinions of Tristram Shandy, Gentleman*, ed. Melvin New and Joan New (London: Penguin, First published 1759–67, this edition 2003), pp. 127–28. Original italics.

⁹⁸ Wilson, *The Making of Man-Midwifery*, p. 1.

⁹⁹ By 1820 the term “obstetrics” was used to describe this branch of medicine, but it was later in the nineteenth century that the term “obstetrician” was commonly used to describe practitioners of this discipline. See Wertz and Wertz, *Lying-In*, p. 66. In this thesis the term “midwifery” is used for the eighteenth century while the terms “midwifery” and “obstetrics” are used interchangeable in the nineteenth century.

¹⁰⁰ Irvine Loudon, “Obstetrics and the General Practitioner,” *BMJ* 301, no. 6754 (1990): p. 703.

By the eighteenth century men were increasingly engaged in normal confinements and not just called in as surgeons.

There have been several theories put forward to explain this shift in the management of childbirth and resulting acceptance of men-midwives. The introduction of obstetric forceps, causing a rapid expansion in the medical market, has often been cited to explain this change.¹⁰¹ Developed, utilised and kept secret by the Chamberlen family for about 100 years, forceps were in general use by the second quarter of the eighteenth century. Edmund Chapman (1680–1756) first published an account of the use of the forceps in Britain in his 1735 text, *A Treatise on the Improvement of Midwifery*.¹⁰² The earliest recorded case in which forceps were used in Britain was by a London surgeon-man-midwife, William Giffard in 1726.¹⁰³

The “forceps” theory though has lost favour with eminent scholars such as Loudon and Wilson, who claim that forceps were not used extensively enough to bring about the shift from midwife to man-midwife.¹⁰⁴ Wilson has shown that from the mid eighteenth century there was a growth in men-midwives attending normal deliveries and increasingly they came to replace midwives in normal births. In the final section of his book *The Making of Man-Midwifery: Childbirth in England, 1660–1770* he attributed the rapid growth in man-midwifery to the breakdown of female neighbourhood networks, as a consequence of

¹⁰¹ Radcliffe, *The Secret Instrument; Milestones in Midwifery*. In his text *Milestones in Midwifery* Radcliffe devoted a whole chapter to the forceps, titled “The Key to the Lying-in Room,” pp. 28–45, in which he explained how forceps were fundamental to the rise of the man-midwife.

¹⁰² Edmund Chapman, *A Treatise on the Improvement of Midwifery, Chiefly with Regard to the Operation. To Which Are Added Fifty-Seven Cases, Selected from Upwards of Twenty-Seven Years Practice*, 2nd ed. (London: Printed for John Brindley, John Clarke and Charles Corbett, 1735).

¹⁰³ Spencer, *The History of British Midwifery from 1650 to 1800*, p. 19; Radcliffe, *Milestones in Midwifery*, p. 33.

¹⁰⁴ Irvine Loudon, *Medical Care and the General Practitioner 1750–1850* (Oxford: Clarendon Press, 1986), p. 89–90; Wilson, *The Making of Man-Midwifery*, pp. 99–101.

industrialisation. The overall effect was the emergence of a middle-class female culture that could afford and increasingly sought the services of the man-midwife.¹⁰⁵

Doreen Evenden has looked at the topic from another perspective. She concluded in her analysis of local and church records in *The Midwives of Seventeenth-Century London* that there were three causal factors: the decline of licensing midwives, the establishment of lying-in hospitals and, in particular, the economically driven aspirations of the practitioners themselves that warned about the danger of midwives.¹⁰⁶ Margaret Versluysen has also suggested that it was the lying-in hospitals that promoted men-midwives over midwives.¹⁰⁷ Loudon disagreed with the “hospital” explanation arguing that lying-in hospitals were a result not a cause of the shift.¹⁰⁸ Lisa Cody has explored the shift in relation to scientific trends. Cody argued that it was the fascination with embryology, life sciences and population studies that contributed to undermining women’s knowledge about their bodies and childbirth and also their professional status as midwives.¹⁰⁹

Clearly, this shift has created much scholarly debate. Given the growth of the middle class driving the emergent market for medicine, interest in population numbers, the rise of science and secularisation, it was not surprising that traditional midwifery changed. While it is beyond the scope of this chapter to establish the cause of the emergence of the man-midwife, the acceptance, nevertheless, of medical practitioners as childbirth experts

¹⁰⁵ Wilson, *The Making of Man-Midwifery*: pp. 185–92.

¹⁰⁶ Doreen Evenden, *The Midwives of Seventeenth-Century London* (Cambridge: Cambridge University Press, 2000), pp. 170–203.

¹⁰⁷ Versluysen, “Midwives, Medical Men, and ‘Poor Women Labouring with Child’: Lying-in Hospitals in Eighteenth-Century London,” pp. 18–49.

¹⁰⁸ Loudon, *Medical Care and the General Practitioner 1750–1850*, p. 90.

¹⁰⁹ Lisa Forman Cody, *Birthing the Nation: Sex, Science, and the Conception of Eighteenth-Century Britons* (Oxford: Oxford University Press, 2005); “The Politics of Reproduction: From Midwives’ Alternative Public Sphere to the Public Spectacle of Man Midwifery,” *Eighteenth-Century Studies* 32, no. 4 (1999): pp. 477–95.

probably came as a result of a number of factors that worked together to redefine childbirth as a medical specialty.

Much of the historiography of midwifery has tended to concentrate on three specific areas: the socio-economic status and significance of the traditional midwife in the birthing scene, the professional rivalries between male and female midwives, and medicalisation.¹¹⁰ Moreover, the literature on the history of midwifery has been divided along gender lines. On one hand, midwives were viewed as accepting birth as a natural process, and remained cautious about intervention. On the other hand, historians of midwifery have often portrayed midwives as witches, aged unskilled crones, or community experts on childbirth. Scholars such as David Harley, Hilary Marland and Evenden have researched many of these representations.¹¹¹ In contrast, men were depicted as treating childbirth as a problem and have, at times, been viewed as unnecessarily rushing in with instruments, and so causing more harm than good.¹¹²

This chapter will show that the relationship between male and female midwives was more complex than some of these readings suggest. To clarify this, the chapter, using midwifery texts written by men and women in the eighteenth and nineteenth centuries, will explore

¹¹⁰ See, for example, Donnison, *Midwives and Medical Men*; Ehrenreich and English, *Witches, Midwives, and Nurses*; *Complaints and Disorders: The Sexual Politics of Sickness* (New York: The Feminist Press, 1973); Joan Lane, "The Medical Practitioners of Provincial England in 1783," *Medical History* 28, no. 4 (1984); Judith Walzer Leavitt, *Brought to Bed: Childbearing in America 1750–1950* (New York, Oxford: Oxford University Press, 1986); Towler and Bramall, *Midwives in History and Society*; Versluysen, "Midwives, Medical Men, and 'Poor Women Labouring with Child': Lying-in Hospitals in Eighteenth-Century London."; Wertz and Wertz, *Lying-In*; Evenden, *The Midwives of Seventeenth-Century London*; Samuel S. Thomas, "Early Modern Midwifery: Splitting the Profession, Connecting the History," *Journal of Social History* 43, no. 1 (2009); Murphy-Lawless, *Reading Birth and Death*; Heather A. Cahill, "Male Appropriation and Medicalization of Childbirth: An Historical Analysis," *Journal of Advanced Nursing* 33, no. 3 (2001): 334–42.

¹¹¹ David Harley, "Historians as Demonologists: The Myth of the Midwife-Witch," *Social History of Medicine* 3, no. 1 (1990): pp. 1–26; Hilary Marland (ed.), *The Art of Midwifery: Early Modern Midwives in Europe* (London and New York: Routledge 1993); Evenden, *The Midwives of Seventeenth-Century London*.

¹¹² Murphy-Lawless, *Reading Birth and Death*, pp. 149–50; Rich, *Of Women Born*, pp. 142–51.

their philosophies and views regarding normal/pathological childbirth and the best way to manage this. This was determined by: timing and safety especially in relation to intervention with forceps, a code of behaviour, the death of Princess Charlotte, views on each other's management, developing specific techniques, successes and positions for labour. It will also trace how these changed over time. Underpinning these were social influences that helped shape ideas and views on the maternal body. In looking beyond the distinct male and female domains, it will reveal not only how male and female opinion were divided but also how they intersected on these issues. By widening the scope of inquiry, this chapter will provide a richer understanding of the ways in which midwifery operated and the relationship between medical men and midwives.

“Watchful waiting” versus “meddlesome midwifery”

Throughout the eighteenth and nineteenth centuries pre-arranged calls to confinements made up more of the doctor's call-outs than emergencies. His practice was increasingly centred on normal births and he was solely in charge of them. Moreover, doctors were expected to deliver a live child at these trouble-free labours.¹¹³ With medical midwifery a relatively new phenomenon there was no coherent regime of practice. Men-midwives were deliberating over what constituted a normal or abnormal labour and hence when and how to intervene in labour. Consequently, a debate raged within the medical community over whether childbirth was a natural event requiring the practitioner to wait, or a pathological crisis that demanded active intervention. The “watchful waiting” versus “meddlesome

¹¹³ Wilson, *The Making of Man-Midwifery*, pp. 164–65.

midwifery” dispute revolved around the nature and timing of the labour, while simultaneously addressing the safety of the mother.¹¹⁴

Reflecting this division was the discussion over the use of forceps. When skilfully used forceps could replace craniotomy in cases of slightly obstructed labour and thus save lives. However, with the growing use of forceps, came the key issue of safety, as forceps could cause infection, tears, haemorrhage and compression of the foetal head.¹¹⁵ Around 1770 William Hunter, London’s most eminent man-midwife of the time, lamented their invention, maintaining, “where they save one they murder twenty”.¹¹⁶ Childbirth was thus managed along two lines: the non-intervention, or what came to be seen as the conservative position of men such as Hunter or the faction who believed in intervention and the usefulness of forceps.¹¹⁷ Most prominent men-midwives positioned themselves in one or other camp.

Indicative of one side was Robert Collins (1801–1868), Master of the Rotunda in Dublin, who favoured the dictum of his father-in-law Joseph Clarke (1758–1834), of non-interference in tedious labours. In his text, *A Practical Treatise on Midwifery*, published in 1826, he maintained that “so long as the pulse remains good, the bowels and bladder act well, the soft parts remain free from severe pressure, and uterine action continues, so as to cause the presenting part to descend ever so slowly” no intervention was necessary. He

¹¹⁴ Murphy-Lawless, *Reading Birth and Death*, pp. 68–88.

¹¹⁵ Wertz and Wertz, *Lying-In*, pp. 33–37. According to Wilson, up until 1750 the use of the forceps was linked to political affiliations: forceps supporters were Tories, while those against them were their rivals, the Whigs. This connection suggested that politics was a strong link for medical practitioners, who, in turn, often based their medical opinions on shared political values. Wilson, *The Making of Man-Midwifery*, pp. 72–83.

¹¹⁶ Quoted in Spencer, *The History of British Midwifery from 1650 to 1800*, p. 73.

¹¹⁷ Moscucci, *The Science of Woman*, pp. 49–50.

continued, “he who does so, wantonly exposes both mother and child to danger”.¹¹⁸ Of the 15,850 cases that he delivered, he listed that: 15,084 (95%) were delivered within twelve hours; 15,586 (98.3%) within twenty-four hours; 15,671 (98.8%) within thirty hours; 15,720 (99.2%) within thirty-six hours; and the remaining 130 (0.8%) between thirty-six and ninety hours.¹¹⁹ What he was really pointing out in publishing these figures was that many women could labour and deliver, for some considerable time, quite successfully. Clearly, Collins did not use time as the criterion to intervene. This positioned him as a believer of non-intervention in tedious labours and of the “watchful waiting” philosophy.

In London, other prominent men-midwives were also following this way of thinking. Part of the non-interventional philosophy, involved a swing away from instrumental deliveries. Brudenell Exton, physician and man-midwife, initially at Kingston-on-Thames and then in 1792 at Middlesex Hospital, acknowledged the harmful nature of intervention with instruments, as he stated in his text, *A New and General System of Midwifery in Four Parts*, “If Deliveries can be performed by the Hand, without the Use of Instruments, it is much the safest”.¹²⁰ Thomas Denman (1733–1815), an eminent London man-midwife and lecturer, also followed the conservative line. He trusted nature more often than intervention to deliver the infant. In his chapter on “Difficult Labour” in his popular text *An Introduction to the Practice of Midwifery* (1807), his position on intervention was apparent as he gave the following advice:

¹¹⁸ Robert Collins, *A Practical Treatise on Midwifery: Containing the Result of Sixteen Thousand Six Hundred and Fifty-Four Births, Occurring in the Dublin Lying-in Hospital, During a Period of Seven Years, Commencing November 1826* (Philadelphia: Haswell, Barrington & Haswell, 1838), p. 12.

¹¹⁹ *Ibid.*, pp. 18–19.

¹²⁰ Brudenell Exton, *A New General System of Midwifery in Four Parts*, 4th ed. (London: J. Heard, 1771), p. 6.

*It must however be acknowledged, that all the errors of practice do not proceed from ignorance of the art. Some of them may justly be imputed to our entertaining too high an opinion of the art, or too much confidence in our own dexterity, or too little dependence on the natural efforts and resources of the constitution”.*¹²¹

Clearly, his trust in nature along with judicious intervention was something he passionately believed in and wanted to emphasise, as he italicised this advice. His use of instruments was very limited, but when occasion demanded, the vectis, a lever-like instrument, and not the forceps was his instrument of choice.¹²² Andrew Thynne, lecturer at St Bartholomew’s Hospital in the early nineteenth century, told his medical students, when attending a birth, “it is right to be armed with a tolerable degree of Patience”.¹²³ But, what some argued was correct, others dismissed as unsafe.

The supporters of the alternative position claimed that they put the mother’s safety first, as these practitioners questioned whether the mother would be safe if labour continued for too long. It was in this context that some men-midwives began to defend intervention, both medical and instrumental. Professor James Hamilton from Edinburgh claimed in 1836 that, for the mother’s safety, the first stage of labour should be completed within fourteen hours. Beyond this time period, he recommended artificial dilation followed by forceps, to bring labour to an end and thus ensure the mother’s life.¹²⁴ Hamilton argued his case in the context of birth becoming a dangerous event. Even prior to this, William Smellie (1697–1763), a highly regarded London man-midwife and lecturer, made no stipulation on the length of labour in his classifications, nonetheless, he believed that if labour became too

¹²¹ Thomas Denman, *An Introduction to the Practice of Midwifery* (Brattleborough (Vt.): William Fessenden, 1807), p. 183. Original italics.

¹²² *Ibid.*, p. 252–54.

¹²³ William Prosser, “Notes of Lectures by Andrew Thynne,” early nineteenth century, MS0081/5, RCS.

¹²⁴ Murphy-Lawless, *Reading Birth and Death*, pp. 82–83.

tedious, the woman would be placed in danger, and so, must be assisted “with the operator’s hand, fillet, forceps, blunt hook, or crochet”.¹²⁵ In endorsing such assistance, Smellie was well aware of the criticism against him and his contemporaries, for their supposedly rash use of instruments, especially the forceps.¹²⁶

While conceding that instruments could cause harm, Smellie wanted to placate the fears of his colleagues, women and the public, in general. He was not just concerned over the outcome but also over his reputation and business. In trying to dispel the criticism over his perceived frequent use of instruments, he admonished earlier practitioners, mainly Giffard and Chapman, for resorting to them too often. He also claimed that only ten out of one thousand of his cases needed instruments.¹²⁷ The concern in Smellie’s writings encapsulated the uncertainty and variance surrounding the medical philosophy of midwifery and indicated that not all were quick to intervene, or insist on instruments.

The practicalities and boundaries of medical practice

The shift towards men-midwives initially began with upper and wealthy middle-class women, and then trickled down the socio-economic scale.¹²⁸ This doctor-patient relationship was made fraught by both class and gender considerations. As Judith Schneid Lewis has shown in her study of aristocratic childbirth, relationships were complex between male midwives and their patients. As well as medical understanding, men had to practice social awareness when delivering these women.¹²⁹ The rise of capitalism and the

¹²⁵ Smellie's *Treatise on the Theory and Practice of Midwifery*, 1, pp. 195–96.

¹²⁶ Ibid., pp. 240–41.

¹²⁷ Spencer, *The History of British Midwifery from 1650 to 1800*, pp. 52–53.

¹²⁸ Wilson, *The Making of Man-Midwifery*, pp. 186–91.

¹²⁹ Judith Schneid Lewis, *In the Family Way: Childbearing in the British Aristocracy, 1760–1860* (New Brunswick, NJ: Rutgers University Press, 1986), pp. 101–12.

middle class at this time also generated ideologies of domesticity that constructed women as perfect wives and mothers.¹³⁰ Hence, medical childbirth practices echoed eighteenth and nineteenth century societal attitude toward middle and upper class women, including notions of femininity and decency. This required sensitive management. The clearest example involved William Hunter's practice of attending predominately aristocratic and upper-class women, which dictated his ideas on intervention. He considered "touching" or examining a lady as indelicate, and so vaginal examinations should be avoided if the man-midwife wanted to enhance his reputation and keep his business.¹³¹ With the increase in Hunter's non-emergency calls, intervention decreased and the minimal use of hands was linked to delicacy.¹³² This had implications for midwifery practice, as the gendered concept of female modesty framed a standard of care among obstetricians.

Establishing conventions of medical behaviour to protect the mother's modesty was essential in any midwifery practice. As part of the sensibility surrounding modesty, both doctor and mother were concerned over women's possible exposure during examination.¹³³ Francis Kingston, a student attending Denman and William Osborn's midwifery lectures from 1777 to 1778, was taught the appropriate techniques to protect modesty. Recorded in his notes was their advice on vaginal examination. While Denman viewed examination as essential, he nonetheless, recommended doctors should always have another person in the room, lie her on her left side facing away from the doctor, "always cover her, before you Examine her" and "do it Tenderly, and Effectively, for if you Hurt her, she will be afraid

¹³⁰ Robert B. Shoemaker, *Gender in English Society, 1650–1850: The Emergence of Separate Spheres* (London and New York: Longman, 1998), pp. 6–7.

¹³¹ Moscucci, *The Science of Woman*, pp. 49–50; Adrian Wilson, "William Hunter and the Varieties of Man-Midwifery," in *William Hunter and the Eighteenth-Century Medical World*, ed. W.F. Bynum and Roy Porter (Cambridge: Cambridge University Press, 1985), p. 362.

¹³² Wilson, *The Making of Man-Midwifery*, p. 177.

¹³³ Wertz and Wertz, *Lying-In*, p. 84.

of you, & they will judge of [*sic*] your abilities by it". Osborn agreed with this sentiment and concluded "In England, we do it in the most Delicate and Effectual way".¹³⁴ Denman and Osborn also imparted lessons about the proper demeanour of the man-midwife, such as, paying the mother particular attention, talking of nothing too frivolous or serious and keeping up the spirits of those in the room.¹³⁵ To put the mother at ease, one text even guided him through suggested conversations about children and the weather.¹³⁶ By adopting such protocols medical practitioners protected the patient's modesty and their own reputations.

Then again, in the experience of Thomas Bull, physician-*accoucheur* at the Finsbury Institute in central London and author of *Hints to Mothers, for the Management of Health during the Period of Pregnancy, and in the Lying-in Room* first published in 1836, he found that from "delicacy the patient does not consent".¹³⁷ Also, George Ernest Herman, obstetric-physician to the London Hospital, lecturer and examiner in midwifery, claimed that internal examination was unusual and "the patient may not like it".¹³⁸ These women in refusing examinations made it clear that they felt the stresses caused by society's view of female modesty, and had an opinion about how their bodies should be examined.

¹³⁴ Fran[cis] Kingston, "Notes Abstracted from Several Courses of Lectures on Midwifery, Given by Dr. Denman, & Dr. Osborn," In 2 Books, 1777–1778, MS2099, Wellcome Library, p. 115.

¹³⁵ *Ibid.*, p. 131.

¹³⁶ Anon, *The London Practice of Midwifery: Including the Treatment During the Puerperal State, and the Principal Infantile Diseases. To Which Is Added Notes, Plates and Denman's Aphorisms*, 6th ed. (Concord, NH: Isaac Hill, 1826), p. 128.

¹³⁷ Thomas Bull, *Hints to Mothers, for the Management of Health During the Period of Pregnancy, and in the Lying-in Room; with an Exposure of Popular Errors in Connexion with Those Subjects*, from the 3rd London ed. (New York: Wiley & Putnam, 1842), p. 131.

¹³⁸ G. Ernest Herman, *First Lines in Midwifery: A Guide to Attendance on Natural Labour for Medical Students and Midwives* (London: Cassell, 1902), p. 90.

The problems of modesty involved not just touch but also sight, whether the doctor could see the woman's genitalia.¹³⁹ English practitioners preserved modesty by attending deliveries under the cover of a sheet, which they tied around their necks. Smellie even used forceps under cover, so as not to alarm the woman.¹⁴⁰ However, it meant that men-midwives did examinations or manipulations blind with unpredictable consequences. Some men-midwives would leave the woman fully dressed. At a delivery attended by Chapman, he lost the screw from the forceps "in the clothes at the delivery" but only realized this at the subsequent delivery and was forced to use them screw-less!¹⁴¹ With no thought of cleaning his forceps between deliveries, instruments became an inevitable vehicle in the transmission of puerperal fever.

At the core of the concern over the "modesty" was the issue of trust. Men-midwives needed to show their practiced regimes to deal with modesty, which gained the woman's trust. This then helped secure their success in midwifery.¹⁴² It seemed though that doctors were concerned about not transgressing their position during examination. William Lowder, a lecturer in midwifery at St Saviour's Churchyard Southwark, warned his students to never "examine her unless a third person is present" as he had known of cases where "as soon as you begin to examine her, she will scream out, & give it out to others that you wanted to be rude with her".¹⁴³ Yet, Lewis has shown in her study of aristocratic childbearing women that not all women were as concerned about modesty as has been assumed. Doctors acted on social expectations about modesty and appeared more anxious

¹³⁹ Wertz and Wertz, *Lying-In*, p. 84.

¹⁴⁰ *Smellie's Treatise on the Theory and Practice of Midwifery*, 1, p. 265.

¹⁴¹ Edmund Chapman, *An Essay on the Improvement of Midwifery; Chiefly with Regard to the Operation. To Which Are Added Fifty Cases, Selected from Upwards of Twenty-Five Years Practice* (London: A. Blackwell, 1733), p. 16.

¹⁴² Wertz and Wertz, *Lying-In*, p. 93.

¹⁴³ John Hooper, "Midwifery Lectures by William Lowder," 2 vols., vol. 1, c. 1790, MS0104/2/1, RCS, p. 372.

about it than women.¹⁴⁴ Nevertheless, modesty challenged both men and women's experience of childbirth and reinforced codes of gendered behaviour. Medical boundaries were thus drawn in relation to the parturient woman. The way the man-midwife treated his patients, therefore, was determined in part by his attitudes toward women's bodies, by the social construction of women as modest and pure, and to some degree by developments in medical knowledge and his belief that he knew the best way to bring about a successful delivery.

A paradigm shift: the tragedy of Princess Charlotte

At the start of the nineteenth century, many leading men-midwives, particularly those in London, favoured the practice of leaving matters to nature. The non-intervention school however, suffered a great set back when Sir Richard Croft (1762–1818) a fashionable and experienced physician-man-midwife attended Princess Charlotte in 1817.

Princess Charlotte was born on 7 January 1796.¹⁴⁵ As such she was only legitimate child of the Prince of Wales, later crowned George IV in 1820. As Prince Regent and later King he was unpopular due to his self-indulgent, irresponsible and dissolute way of life. In contrast to the rest of the family, Charlotte was warm-hearted, agreeable and unpretentious and was therefore, the most popular and indeed the only admired member of the royal family.¹⁴⁶ As heir to the British throne she was considered “the brightest ornament” and had “the love of the whole nation”. According to one of her biographers, Robert Huish, she became “the

¹⁴⁴ Lewis, *In the Family Way*, pp. 112–13.

¹⁴⁵ The man-midwife, Michael Underwood, who delivered Princess Charlotte, would have been paid £700 if Charlotte were a boy. It seemed that Underwood was disappointed to deliver a girl as he was paid less. Thea Holme, *Prinny's Daughter: A Life of Princess Charlotte of Wales* (London: Hamish Hamilton, 1976), p. 5.

¹⁴⁶ James Chambers, *Charlotte & Leopold: The True Romance of the Prince Regent's Daughter* (London: Old Street Publishing, 2007), p. 3.

pole-star of its hopes, the tenderest object of its solicitude".¹⁴⁷ Thus, the adoring nation was delighted when in July 1817 newspapers announced that a royal birth was expected in October.¹⁴⁸

Three practitioners were responsible for the Princess' care during her pregnancy and labour: Croft, Matthew Baillie the Royal physician and John Sims as assistant man-midwife who had some expertise with forceps. Croft and Baillie were connected by marriage, having married the twin daughters of the prominent man-midwife Thomas Denman. Baillie was the nephew of Hunter. Both Denman and Hunter were against the use of forceps. Denman's position greatly influenced Croft, as the two worked together and eventually Croft inherited his practice. During his working life, Croft rigidly adhered to his father-in-law's teaching.¹⁴⁹ And, it was Croft who was brought in as the principal *accoucheur* to Princess Charlotte.

On 3 November 1817, at her home in Claremont House, Charlotte started a long and very difficult delivery. In keeping with his principle, Croft allowed her to go fifty-four hours without any assistance, even though forceps were available. Her son was delivered stillborn on 5 November. The placenta had to be removed manually, by which time she was very weak. At first she seemed to recover but hours later complained of stomach pains, chills, singing in the head, tightness in the chest, and difficulty in swallowing and breathing. She died the following morning on 6 November.¹⁵⁰ No details of the cause of

¹⁴⁷ Robert Huish, *Memoirs of Her Late Royal Highness Charlotte Augusta, Princess of Wales* (London: Thomas Kelly 1818), pp. iii–iv.

¹⁴⁸ G.S. Thomas, "The Death of Princess Charlotte of Wales: An Historical Incident in Obstetrical Practice," *Historical Bulletin* 19, no. 4 (1955): pp. 103–04.

¹⁴⁹ Jack Dewhurst, *Royal Confinements: A Gynaecological History of Britain's Royal Family* (New York: St. Martin's Press, 1980), pp. 111–12.

¹⁵⁰ Radcliffe, *Milestones in Midwifery*, p. 50; Munro-Kerr, Johnstone and Phillips (eds.), *Historical Review of British Obstetrics and Gynaecology*, p. 14.

her death were released, perhaps because the doctors themselves were unsure. In 1872 the obstetrician William Playfair suggested Charlotte died from a clot in the left lung. Some doctors today agree with Playfair, others think she died from postpartum haemorrhage.¹⁵¹

The news of Princess Charlotte's death produced a grief that profoundly affected the nation, with the *Times* calling it a "national calamity" and declaring that "all amusements have been suspended, all public meetings postponed".¹⁵² According to the memoirs of Huish, it destroyed "at "one fell swoop" the hopes, the happiness of a nation!"¹⁵³ Princess Dorothea Lieven, the wife of the Russian ambassador, who was a frequent visitor to Claremont, described in a letter that it "is impossible to find in the history of nations or families an event which has evoked such heartfelt mourning ... everyone, from the highest to the lowest, in a state of despair".¹⁵⁴

Moreover, conflicting and often malicious commentaries on the Princess' death began to appear. Jesse Foot, a well-known surgeon, led the medical attack in a letter to the *Sun* newspaper on 13 November calling for a detailed report on the death of Charlotte and her son.¹⁵⁵ Foote claimed "that it will be impossible for the public mind to be put to rest until the truth, the whole truth, and nothing but the truth, be placed before them".¹⁵⁶ Consequently, three weeks later on 1 December, the medical journal, *London Medical*

¹⁵¹ "On the Death of the Princess Charlotte of Wales," *Medical Times and Gazette* 2 (1872): p. 637; Thomas, "The Death of Princess Charlotte of Wales: An Historical Incident in Obstetrical Practice," p. 108; Henry Vincent Corbett, *A Royal Catastrophe: The Death in Childbirth of the Princess Charlotte of Wales* (Worcestershire: E. P. Lowe, 1985), p. 17; Dewhurst, *Royal Confinements: A Gynaecological History of Britain's Royal Family*, pp. 120–25.

¹⁵² *Times*, Tuesday 11 November 1817, p. 2.

¹⁵³ Huish, *Memoirs of Her Late Royal Highness Charlotte Augusta*, p. v.

¹⁵⁴ Princess Dorothea Lieven, *Letters of Dorothea, Princess Lieven, During Her Residence in London, 1812–1834*, ed. Lionel G. Robinson (London, New York: Longmans, Green, 1902), p. 34.

¹⁵⁵ Sir Eardley Holland, "The Princess Charlotte of Wales: A Triple Obstetric Tragedy," *Journal of Obstetrics and Gynaecology of the British Empire* 58 (1951): p. 911.

¹⁵⁶ Jesse Foot, *A Letter on the Necessity of a Public Inquiry into the Cause of the Death of Her Royal Highness the Princess Charlotte and Her Infant, as It Appeared in the Sun Newspaper, Nov 13th, Together with Some Additions* 2nd ed. (London: J. Walker, 1817), p. 6.

Repository, published an “authentic” account of the event. It dismissed the charge of negligence and ignorance against Croft, but concluded nonetheless, he should have sought more assistance.¹⁵⁷

Nevertheless, the grief-stricken public believed that the true cause of death was being hidden from them and mistakes were being hushed up. They wanted more information as well as a public enquiry. Rees Price, a member of the Royal College of Surgeons, published in 1817 a sixty-four page pamphlet titled, *A Critical Inquiry into the Nature and Treatment of the Case of Her Royal Highness the Princess Charlotte of Wales and her Infant Son, with the Probable Causes of their Deaths, and the Subsequent Appearances*. Price stated that there were several reasons for the publication: to establish the best means of treating such labours, to prevent the spread of ineffective practices, to provide the public with the real causes of the “fatal catastrophe”, while also calling for better training for those practicing midwifery.¹⁵⁸ The inquiry’s main criticism was that Croft allowed the labour to go on for so long without using forceps. It also condemned Croft for not calling Sims in to see the Princess or consulting with him. Sims only entered the room when the Princess was dying.¹⁵⁹ The inquiry also raised concerns over Croft’s medical standing, his methods and his inability to deal with the signs of an exhausted Princess, claiming “the necessity of aiding nature in the completion of the labour” is obvious “if the strength begins to flag”.¹⁶⁰

¹⁵⁷ Anthony Todd Thomson, *The Authentic Medical Statement of the Case of H.R.H. The Late Princess Charlotte of Wales; Extracted from the Forty-Eighth Number of the "London Medical Repository"* (London: Longman, Hurst, Rees, Orme, and Brown, 1st December 1817), pp. 17–20.

¹⁵⁸ Rees Price, *A Critical Inquiry into the Nature and Treatment of the Case of Her Royal Highness the Princess Charlotte of Wales and Her Infant Son, with the Probable Causes of Their Deaths, and the Subsequent Appearances* (London: the Author, 1817), pp. viii–ix.

¹⁵⁹ *Ibid.*, pp. 31, 34.

¹⁶⁰ *Ibid.*, p. 55.

With the possibility of saving lives, the inquiry promoted the use of instruments. Likening them to “artificial hands”, it stated that they enabled the man-midwife to assist in lingering labours without any risk to the mother or child while preserving the strength of the mother. Hoping to allay the public and medical community’s fears of instruments, Price argued that by accepting this way of treating labours similar to Charlotte’s, ultimately “the lives of neither mother nor child are risked”.¹⁶¹ Even though it was acknowledged that Croft was following the conservative teaching of the day, he, nonetheless, was criticised for his handling of the Princess’ delivery. Depression set in, and Croft was reported as saying, “this lamentable circumstance weighted heavy upon his mind, and he should never get over it”.¹⁶² On 13 February 1818 he committed suicide.¹⁶³ With these three deaths the Hunter/Denman legacy of non-intervention and mistrust of forceps was challenged.

The paradigm shifts

In the wake of this obstetric catastrophe there was an increase in publications recommending intervention and the use of forceps in some circumstances. One of Denman’s protégés, David Daniel Davis (1777–1841), physician-*accoucheur* to Queen Charlotte’s Lying-in Hospital and the Royal Maternity Charity, published *Elements of Operative Midwifery* in 1825. His writing showed how different his thinking was from Hunter, his mentor Denman and their ilk. Davis wrote explicitly of:

¹⁶¹ Ibid., pp. 57–58.

¹⁶² Thomas Green, *Memoirs of Her Late Royal Highness Charlotte-Augusta of Wales, and of Saxe-Coburg* (London: Caxton Press, 1818), p. 549.

¹⁶³ For the Coroner’s Inquest into Croft’s death see *ibid.*, pp. 547–49. For further discussion on Princess Charlotte’s confinement see, Holland, “The Princess Charlotte of Wales: A Triple Obstetric Tragedy,” pp. 905–19; Franco Crainz, *An Obstetric Tragedy: The Case of Her Royal Highness the Princess Charlotte Augusta* (London: Heinemann Medical, 1977). For an account that defended Sir Richard Croft see, C. R. Croft, *The Hope of the Nation: The Tragedy of Princess Charlotte and Sir Richard Croft* (London: The Croft Trust, 1971).

Hunter's mind to admire, even to devotion, the resources of unassisted nature, and to look with extreme jealousy and distrust upon all interferences of art ... embodies a prodigious influence against the pretensions of operative midwifery in general ... which has continued to operate with more or less activity ever since, and upon the whole, to the extreme prejudice, I might add, to the almost entire suspension of improvement in this department of the art.¹⁶⁴

He regretted that obstetric intervention had been “in a state of the most wretched destitution as to its mechanical resources”.¹⁶⁵ Davis appealed for better training, he advocated better instrumental design and favoured a readiness for intervention in the interests of both mother and infant. Contributing to these recommendations was probably the fact that his first-born son had been badly injured by forceps during his birth.¹⁶⁶ The infant subsequently died from these injuries.¹⁶⁷ Aware of the need for a better forceps design, Davis reduced the compression effect of them making them “less hazardous” to mother and child.¹⁶⁸ His new design improved the prospects of a live birth and confronted the reluctance to use forceps.

The Princess Charlotte catastrophe continued to change attitudes and practices. John Burns (1774–1850), Professor of Surgery at Glasgow University, first published his *Principles of Midwifery* in 1809, the last edition, the tenth, being published in 1843. The ninth edition (1837) revealed that over the years his attitudes changed:

Many eminent men, have placed an undue confidence, in the power of nature, and have been hostile to the use of instruments. For a long time I was influenced, by the high authority and plausible arguments, as well as

¹⁶⁴ David Daniel Davis, *Elements of Operative Midwifery: Comprising a Description of Certain New and Improved Powers for Assisting Difficult and Dangerous Labours* (London: Hurst, Robinson, 1825), pp. 7–8.

¹⁶⁵ *Ibid.*, p. 14.

¹⁶⁶ J. Hall Davis, “Contributions to the Practice of Midwifery,” *Lancet* 1 (1846): p. 580.

¹⁶⁷ Dewhurst, *Royal Confinements*, p. 126.

¹⁶⁸ Davis, “Contributions to the Practice of Midwifery,” p. 579.

bold assertions of these practitioners, but experience had compelled me to adopt the opinion, I am now, with a firm and solid belief of its [forceps] correctness and importance.¹⁶⁹

Openly critical of the Hunter/Denman philosophy, his position at the time of writing was that when the baby's head was low enough "rendering the application of the short forceps practicable, no good can arise from delay".¹⁷⁰ Reflecting back, Herbert Spencer maintained that the "characteristic of British midwifery at this period was conservatism".¹⁷¹

Fifty-five years after Princess Charlotte's death, Playfair summed up the obstetric position on this tragedy, "Surely this lamentable story can only lead to the conclusion that the unhappy and gifted Princess fell a victim to the dread of that bugbear, "meddlesome midwifery," which has so long retarded the progress of obstetrics".¹⁷² The tragedy of Princess Charlotte, along with the aspiration to deliver a live child, had led to a fundamental rethinking of standard practice. Such a "national calamity" therefore, produced a medical reaction and paradigm shift, whereby early intervention and instruments were seen as life saving.

Midwives and their practice

While the majority of births were normal, women relied on the experience of midwives to guide them through their labour. There was, nevertheless, no standard form of education for midwives in Britain. Some received their training under apprenticeships, either informally by working with friends or relatives or formally. For example, in 1743 a

¹⁶⁹ Burns, *The Principles of Midwifery*, (1837), p. 468.

¹⁷⁰ Ibid., p. 470.

¹⁷¹ Spencer, *The History of British Midwifery from 1650 to 1800*, p. 176.

¹⁷² *Medical Times and Gazette* 2 (1872), p. 637.

midwife from Manchester spent eight guineas on tuition fees for her three-year apprenticeship and Elizabeth Nihell travelled to Paris for her apprenticeship at the Hôtel Dieu.¹⁷³ Those with experience could apply for a license issued by the Church of England. In order to be licensed the midwife had to provide a testimonial as to her moral and professional ability, pay a fee and take an oath.¹⁷⁴ As part of the oath they swore to help both rich and poor, report the true parentage of the child, desist from performing abortions or magic rites and not allow any child to be baptised outside the Church of England. Concerned primarily with her moral character, the ecclesiastical license offered no supervision or official test of her skills and licensing was not enforced.¹⁷⁵ Moreover, once the role of the Church started to diminish at the end of the seventeenth century, the value attached to the licensing system declined and, according to Evenden, by 1720 midwifery licensing was almost obsolete.¹⁷⁶ As a rule, the eighteenth-century midwife began her practice armed only with communal knowledge and her own experiences of childbirth.¹⁷⁷ This unregulated state generated enormous variability not only in management but also in the way the woman's body was read.

Moreover, the traditional authority of the midwife was shifting. Medical midwifery informed the medical ideas that prevented midwives from sharing an occupation with men. During the seventeenth century, the process of labour was studied and became part of the

¹⁷³ David Harley, "Provincial Midwives in England: Lancashire and Cheshire, 1660–1760," in *The Art of Midwifery: Early Modern Midwives in Europe*, ed. Hilary Marland (London and New York: Routledge, 1993), p. 28.

¹⁷⁴ Moscucci, *The Science of Woman*, pp. 43–44.

¹⁷⁵ Catherine M. Scholten, "'On the Importance of the Obstetric Art': Changing Customs of Childbirth in America, 1760 to 1825," *William and Mary Quarterly* 34, no. 3 (1977): pp. 429–30; Thomas R. Forbes, "The Regulation of English Midwives in the Eighteenth and Nineteenth Centuries" *Medical History* 15, no. 4 (1971): p. 352; *ibid.*

¹⁷⁶ Evenden, *The Midwives of Seventeenth-Century London*, pp. 174–75.

¹⁷⁷ Scholten, "'On the Importance of the Obstetric Art': Changing Customs of Childbirth in America, 1760 to 1825," p. 430.

new science of anatomy. Knowledge of anatomy was regarded as essential for a good practice. While the better-trained midwives learnt anatomy from books, they were not allowed to attend universities where it was taught. Universities were gendered; they were the domains of men. Access to such study influenced men only to enter midwifery. This gendered education system limited women's access to academic studies.¹⁷⁸ Moreover, working-class girls were often taught only elementary reading, writing and practical skills such as sewing and knitting. Consequently, many had poor literacy skills.¹⁷⁹ So, their work was restricted to such occupations such as domestic servants, seamstresses, laundry workers and midwives.¹⁸⁰ So, educational opportunity impacted upon the livelihood and authority of midwives.

Midwives, nevertheless, believed themselves far more capable of treating women in childbirth than their male counterparts. Midwifery was taught and practiced long before it became the first medical specialty.¹⁸¹ They learnt through practical experience. As a result, they were knowledgeable in the practicalities of midwifery.¹⁸² The midwife's knowledge was in 'touching', meaning examining, so, her hands were her tools and instruments and the source of her expertise. For example, she used her hands to detect true labour, the position of the infant and to aid delivery. Midwives took particular pride in their treatments, especially manual intervention, such as, stretching the cervix in the first stage

¹⁷⁸ Donnison, *Midwives and Medical Men*, p. 23.

¹⁷⁹ June Purvis, "Towards a History of Women's Education in Nineteenth Century Britain: A Sociological Analysis," *Westminster Studies in Education* 4, no. 1 (1981): p. 62.

¹⁸⁰ It is beyond the scope of this thesis to discuss the implications of gendered education for women. For some nineteenth-century thoughts on women's education see, Edward H. Clarke, *Sex in Education: Or, a Fair Chance for Girls* (Boston: J. R. Osgood, 1873). H. Maudsley, "Sex in Mind and Education," *Fortnightly Review* 15 (1874): pp. 466–83; Elizabeth Garrett Anderson, "Sex in Mind and Education: A Reply," *ibid.* 38: 582–94.

¹⁸¹ George Weisz, *Divide and Conquer: A Comparative History of Medical Specialization* (Oxford: Oxford University Press, 2006), p. 176.

¹⁸² Joan Lane, *A Social History of Medicine: Health, Healing and Disease in England, 1750–1950* (London and New York: Routledge, 2001), p. 121.

of labour and pushing on the mother's abdomen in the second stage.¹⁸³ In viewing their procedures as safer, and believing they were more capable than doctors, some midwives spoke out against their male counterparts. The most outspoken was Elizabeth Nihell.

Born in London in 1723, Nihell trained for two years at the Hôtel Dieu in Paris in the late 1740s, a training hospital that catered for about 1300 deliveries a year. By 1754 she had returned to London. She married a surgeon-apothecary, James Nihell. They both practiced in the Haymarket area of London. In 1760, she published a text, *A Treatise on the Art of Midwifery: Setting Forth Various Abuses Therein, Especially as to the Practice of Instruments*.¹⁸⁴ In this, Nihell viciously attacked the medical rationale and practice of prominent men-midwives, principally Smellie. Her attack on male midwives was underpinned by her recognition that midwives' livelihoods were threatened.¹⁸⁵ Aware that essentially, only surgeons could use instruments, she mocked Smellie's pupils, describing them as "broken barbers, tailors, or even pork butchers".¹⁸⁶ She condemned men's large hands, especially Smellie's, as too big to be effective and argued that women's were more discerning and that all that midwives needed to successfully complete a delivery, even complicated ones, was "hands and patience".¹⁸⁷

So, according to Nihell, women, working wholly with their hands, could bring about successful natural births, since they acted slowly but surely, alongside nature itself. In contrast, instruments, or "weapons of death" as she called them, meant greater numbers of

¹⁸³ Moscucci, *The Science of Woman*, p. 45.

¹⁸⁴ Catherine Crawford, "Nihell, Elizabeth," *ODNB*, www.oxforddnb.com/view/article/37812, accessed 2 February 2012; J. H. Aveling, *English Midwives: Their History and Prospects* (London: J. & A. Churchill, 1872), pp. 120–21.

¹⁸⁵ Elizabeth Nihell, *A Treatise on the Art of Midwifery. Setting Forth Various Abuses Therein, Especially as to the Practice with Instruments* (London: A. Morley, 1760), p. v–vii.

¹⁸⁶ *Ibid.*, p. 71.

¹⁸⁷ *Ibid.*, p. 405.

women and children dying and declared that medical intervention caused “a multiplicity of horrors”.¹⁸⁸ To prove her point, she documented horrendous medical outcomes, such as craniotomies on live infants, and used language, such as “murder” and “death” repeatedly, to stir emotions and convince her audience of the dangerous nature of men’s work. Similarly, men-midwives used language labels such as “ignorant” to persuade the public that midwives were untrained and incompetent. It was difficult to establish whether female midwives were less dangerous for women. There was no conclusive evidence from Nihell, that her methods were the best or safest mode of treatment. What was clear though, was her hostility toward medical men. Around 1771, however, sadly, Nihell’s husband left her destitute and, unable to support herself as a midwife – the fear that motivated her publication – she despondently turned to the parish for support. Typical of the plight of many abandoned women, she was sent to St Martin-in-the-Fields workhouse where she died in May 1776 and was buried in a pauper’s grave.¹⁸⁹

Many midwives had the conviction that they could usually deliver successfully through manual manipulation. Consequently, they often developed their own hands-on methods for managing difficult births. Sarah Stone was one such midwife. She initially practiced midwifery as a deputy to her mother in Bridgwater Somerset. Remarkably, as assistant to her mother, she “read Anatomy” and attended autopsies on “several Women”.¹⁹⁰ Soon after her mother’s death, she moved to Taunton around 1703. Here she practiced for more than seventeen years, “a place where there was no Man-Midwife”, and so she handled all

¹⁸⁸ Ibid., p. 388.

¹⁸⁹ Cody, *Birthing the Nation*, p. 186.

¹⁹⁰ Sarah Stone, *A Complete Practice of Midwifery. Consisting of Upwards Forty Cases or Observations in That Valuable Art, Selected from Many Others, in the Course of a Very Extensive Practice* (London: T. Cooper, 1737), p. xv.

type of obstetric work.¹⁹¹ She stated that owing to poor health, she left Taunton for Bristol, although Isobel Grundy has suggested that the move was also about professional ambition. After sixteen years in Bristol she moved to London.¹⁹² It was shortly after this move that she published *A Complete Practice of Midwifery*, in 1737.

The purpose of Stone's text was to instruct midwives in techniques that ensured the safety of labouring women and their infants. She believed instruments were used too often, although she performed four craniotomies to deliver dead infants, one with a penknife. Instead, she developed her own manual technique for when the infant was alive but jammed in the pelvis.¹⁹³ Stone suggests that her method of dilation together with freeing the infant's head facilitated an effective labour and delivery, which was particularly useful in saving difficult situations. For her, her hands were the most effective and safe tools.

Admitting that even some cases were beyond her capabilities, she assured her readers that she has not lost any life from lack of skill or knowledge, and if they followed her methods they could also meet the challenges of midwifery.¹⁹⁴ Often portrayed as ignorant and unskilled by medical practitioners, Stone was concerned that unless midwives improved their education and skills, the public would not initially request a midwife, but instead call a man-midwife, and their practice would be "in great danger of being lost, for want of good Woman-Midwives".¹⁹⁵ Furthermore, she claimed that once the education of midwives was ensured, successful outcomes would follow.

¹⁹¹ Ibid., p. xiii.

¹⁹² Isobel Grundy, "Sarah Stone: Enlightenment Midwife," in *Medicine in the Enlightenment*, ed. Roy Porter (Amsterdam - Atlanta GA: Rodopi, 1995), p. 130.

¹⁹³ Stone, *A Complete Practice of Midwifery*, pp. 9–10.

¹⁹⁴ Ibid., pp. xiv, xv, xix.

¹⁹⁵ Ibid., pp. x–xi.

Fifty-eight years after the publication of Stone's book, a London midwife, Margaret Stephen published her text, *Domestic Midwifery: or, the best means of Preventing Danger in Child-birth considered* (1795). Stephen, who had attended George III's wife, Queen Charlotte, in her confinements, received her training from a practitioner trained by Smellie (probably John Harvie who took over Smellie's teaching), delivered her own lectures, advocated the use of instruments and at the time of publication had practiced for more than thirty years. Stephen lectured on anatomy, malpresentation and the use of forceps and encouraged her students to carry their notebooks with them to deliveries.¹⁹⁶ In her text she detailed her manoeuvre, used when the mother had been labouring for some time and the cervix was slow or un-dilated.¹⁹⁷

Stephen asserted this technique of manual dilation succeeded in these cases, and, like Stone, developed this to aid delivery. Possibly from professional jealousy, Smellie advised caution with this method, as it had the potential to cause lacerations. Instead, he advised stimulating medicines, for example, "amber, castor, myrrh, volatile spirits", as well as bleeding.¹⁹⁸ There was nothing to suggest that Stephen was not careful and, like Smellie, she timed the dilation in step with the mother's contractions to minimise her pain.

Moreover, Stephen dispelled the concerns of those whose hands were "too large to pass", which could cause swelling of the soft tissues. Her solution was to lay the patient horizontally on a bed or sofa "and with three fingers, in form of a triangle", slowly spread

¹⁹⁶ Doreen Evenden, "Stephen, Margaret," *ODNB*, www.oxforddnb.com/view/article/58696, accessed 20 February 2012; Aveling, *English Midwives*, pp. 126–27.

¹⁹⁷ Margaret Stephen, *Domestic Midwife; or, the Best Means of Preventing Danger in Child-Birth, Considered* (London: S. W. Fores, 1795), p. 37.

¹⁹⁸ *Smellie's Treatise on the Theory and Practice of Midwifery*, 1, p. 219.

them in time with the contractions “till it was sufficiently dilated”.¹⁹⁹ She was therefore, willing to adapt her methods to suit the situation, a flexibility that could only be an advantage to the parturient woman. Rather than taking Nihell’s position that large hands meant instruments, Stephen recognised the role of the man-midwife by acknowledging that he too may be confronted with this situation. Both could apply this technique.

Stephen continued the fight against men-midwives, but with less venom than Nihell. She nevertheless, condemned men for maligning midwives, withholding knowledge and overusing forceps. Like many other women, and men, she discredited her counterparts by detailing their failures. For example, she attacked the skill of a practitioner, who thinking that he was pulling two feet, was actually pulling a hand and foot. The consequences were fatal.²⁰⁰ She promoted patience and her hands-on techniques, she acknowledged nonetheless, that “the strength of the patient must determine when the crochet, or the forceps should be applied”. While still maintaining that instruments could cause injury she conceded however, that the forceps were “so well calculated to save the lives of children”.²⁰¹ Thus, forceps were not necessarily Nihell’s instruments of death. This turn around in thinking may have been the result of her witnessing the success of earlier call-outs for the man-midwife, who arrived therefore, before the infant died.

This accommodating relationship between midwives and their male counter-parts was even more evident with the publication in 1797 of *The Pupil of Nature: or Candid Advice to the Fair Sex*, by a London midwife, Martha Mears. Gone are the violent attacks on men and their instruments, instead she praised the “great” men-midwives and encouraged all

¹⁹⁹ Stephen, *Domestic Midwife*, p. 38.

²⁰⁰ Ibid., p. 52.

²⁰¹ Ibid., pp. 41, 68.

midwives to read their texts. While uncertain of which of their qualities she admired the most, “the ardour of their researches, the importance of their discoveries, or the zeal and ability they have displayed in combating prejudice and error”, she, nonetheless, openly admired them and agreed with the “public praise which they have so justly deserved”.²⁰²

The focus of this text was not obstetric knowledge or methods, as she believed others accounted for this “with clearness, precision, and ability”, but rather, a reassurance and guide to midwives and mothers about childbirth.²⁰³ Mears was more of a transcriber, as she copied, sometimes word for word, from the work of others such as Denman declaring, “I have little more to do than to copy some pages”.²⁰⁴ In her writing she often advised women to “follow nature”, thus, further aligning herself with the notions of male midwives such as Denman. She also condemned those practitioners who lacked patience and rushed in with their instruments. She especially abhorred those who through impatience, ignorance or overconfidence, and “murderous precipitancy” led to craniotomy.²⁰⁵ Overall, midwives’ writings focused on a respect for the natural, with limited interference and patience. Theirs were not unlike the findings of medical non-interventionist obstetricians.

The success of midwives

The guideline of “watchful waiting” arose partly in response to the terrible damage witnessed by both women and men from hasty interventions. Some men-midwives, eager to hurry labour, often placed women in danger either from lacerations, haemorrhage or the introduction of puerperal fever through instruments or examinations. The source of danger

²⁰² Martha Mears, *The Pupil of Nature; or Candid Advice to the Fair Sex* (London: Printed for the authoress, 1797), p. 3.

²⁰³ Ibid., p. 128.

²⁰⁴ Ibid., p. 2.

²⁰⁵ Ibid., p. 125.

however, was sometimes the midwife herself. Of the forty-three cases that Stone detailed, she reprimanded seventeen of the attending midwives for causing massive swelling, lacerations, or for just doing nothing.²⁰⁶ She often described these midwives as “ignorant”, a catch-cry that was generally used by men-midwives, as part of their efforts to promote themselves. One of her worst cases involved a tanner’s wife from Curry-Mallet. When Stone arrived, she found the child already delivered, and was appalled at the midwife’s incompetent handling which left the infant with “one Eye out, and the whole Face much injur’d, having no skin left on it, and the upper Lip tore quite hollow from the Jaw-bone”.²⁰⁷ Thus, it appears that there were capable and inept men and women practicing midwifery. It is therefore too simple to merely categorise the comparative competency of men and women into two separate groups.

Stone also provided some social commentary about the women she attended. Most of the difficult labours, she believed, were because many of the women were engaged in arduous occupations as weavers and combers associated with the wool industry in Somerset. This caused “many Wrong Births and Bad Labours ... among the poorer sort of Women”.²⁰⁸ Her patients included six gentlewomen, a weaver, a washerwoman and a schoolmistress, but most were defined by their husband’s occupation. Of the husband’s occupations mentioned there were: seven combers, six farmers, two weavers, two smiths, a shepherd, a butcher, a soap-boiler, a tucker, a serge-maker, a tailor, a tanner, a cobbler, a shoe-maker, an innkeeper and a poor man. Many women were described as low-spirited or despairing and of the fourteen labours that Stone attended because they were going badly; the average length was almost three days and nights. Stone therefore linked their class and poor

²⁰⁶ Stone, *A Complete Practice of Midwifery*, pp. 1–160 comprised forty-three cases only.

²⁰⁷ *Ibid.*, pp. 51–53.

²⁰⁸ *Ibid.*, p. xiii.

circumstances to their difficulties during birth. So, their social context was a defining criterion for adverse labours.

The vast majority of births that Stone attended would have been normal, she nonetheless, attended a number of difficult cases, the details of which she included in her text, under the title “Observations”.²⁰⁹ As a record of her success, Table 1.1 lists the maternal and foetal outcomes from these cases.

Table 1.1. Outcomes from Stone’s “Observations”

Category	Total
Number of women delivered	47
Total number of infants born	50
Women died	4
Infants died (after birth)	10
Infants stillborn	14
Ratio of women dying:living	1:10.7
Ratio of infants dying:living	1:2.6
Ratio of stillborns:living	1:1.9
Total ratio of infants not surviving:living	1:1.1

²⁰⁹ Compiled from, *Ibid.*, pp. 1–160. Four of the 43 observations included more than one case.

These figures were reflective of difficult births, and so they would have had a high risk of mortality attached to them. No doubt, she included these difficult cases in order to show all women, regardless of their abilities, how to deliver their patients successfully.²¹⁰ In these cases Stone appeared as a specialist in difficult labours, frequently bringing the mother back from the brink of death. For around every ten women who survived these births, one died. Of the women who died, one died after a craniotomy, one from a “violent” fever, one from haemorrhage, and the other from smallpox.²¹¹ Yet, for Stone to accumulate experience in such a number of difficult deliveries her caseload must have been large. Women would have trusted her experience and had the confidence that she could bring about a successful outcome. What is perhaps more clearly established was that preserving infant life was not easy. Almost half the babies that Stone delivered died, so that slightly fewer than half the women finished their confinement without a living infant. Stone’s concern, it seemed, was over the mother’s life, but perhaps it was also about what she could actually do to ensure the infant’s survival. Like her male counterparts, her knowledge and skills centred more on the mother, and when a choice had to be made between maternal and foetal life, the outcome favoured the mother. Moreover, in distinguishing herself from other “ignorant” midwives she was aligning herself with the discourse that male practitioners were advancing to augment her own authority.

The more successful midwives prided themselves not just on their techniques but also on maintaining their high standards in conduct and education. Those in London were often particularly well qualified and successful both professionally and socially.²¹² Midwives as authors, were few but would have fitted this profile, Stephen was even competent in

²¹⁰ Ibid., p. xvi.

²¹¹ Ibid., pp. 18–19, 47, 55, 94–96.

²¹² Evenden, *The Midwives of Seventeenth-Century London*, pp. 106–37.

foreign languages.²¹³ Others could not claim these attributes. Stephen, from her experience, recommended midwives not to take, or give, any alcoholic drinks, even if, as she did, they needed to stay with a woman throughout the night “to prevent her taking any strong drink, by the persuasion of the few ignorant women”.²¹⁴ Advising midwives on their conduct, Stephen warned against vulgar or obscene language, humour, laughter and talking too loudly, but encouraged kindness, sympathy, courteous behaviour, modesty and decency.²¹⁵ The conduct and general education of many, it seems, was a problem.

Regardless of the endorsement for midwifery education by Stone and Stephen, many midwives would have had little education, and no real opportunity to learn the profession. Moreover, a lack of education encouraged the midwife to put her trust in superstition.²¹⁶ In some of Stone’s cases the midwife did nothing because she “waited for Pains” or felt that “God’s time was not come” or in the situation of a second twin believed that “when the other apple was ripe, it would also fall”.²¹⁷ A more specific superstition directly related a long and bad labour to the fact that “the Child had long hair”.²¹⁸ Even though a number of midwives had high standards, were well trained and successful, the skills and standards of numerous others were questionable. Hence, a lack of learning and understanding on the part of many midwives meant that not all midwives were caring or safe.

²¹³ Evenden, “Stephen, Margaret,” *ODNB*.

²¹⁴ Stephen, *Domestic Midwife*, p. 55.

²¹⁵ *Ibid.*, pp. 106–07.

²¹⁶ Grundy, “Sarah Stone: Enlightenment Midwife,” p. 135.

²¹⁷ Stone, *A Complete Practice of Midwifery*, pp. 27, 45, 66.

²¹⁸ *Ibid.*, p. 46.

Labour positions

Increasingly as men-midwives encroached on midwives' authority, birth was constructed as a practice to be managed rather than a natural event. Indicative of the waning authority of the midwife was the issue of the best birthing position. Traditionally, women chose the birth position: standing, squatting, sitting, or on all fours. Stephen advised midwives not to "confine the patient to any particular posture, until the time comes in which she must be assisted; she may sit, lie, or walk".²¹⁹ Jacques Gélis, in his study of childbirth in early modern Europe, found that the non-recumbent position chosen by women allowed freedom of movement of the body, which enhanced the body's effectiveness in delivering the infant.²²⁰ Variations existed in posture with regions adopting their own distinct positions. Kneeling was common in the Midlands, standing in Somerset and in Manchester the mother frequently sat on another woman's lap.²²¹ These regional positions suggested that different midwives managed births differently but their authority often guided women's choices.

Irrespective of this and even though more and more practitioners were called to normal deliveries, men continued, nevertheless, to participate in difficult and abnormal births. At the same time, midwifery publications discussing difficult births rose. Behind these publications was the concept of childbirth as a science. As a result, men-midwives increasingly interpreted birth as a medical problem; this ultimately changed birthing practices, including birth positions.²²² As men-midwives viewed childbirth as

²¹⁹ Stephen, *Domestic Midwife*, p. 35.

²²⁰ Jacques Gélis, *History of Childbirth: Fertility, Pregnancy and Birth in Early Modern Europe* (Cambridge: Polity Press, 1991), p. 121.

²²¹ Wilson, *The Making of Man-Midwifery*, p. 36.

²²² Amanda Carson Banks, *Birth Chairs, Midwives, and Medicine* (Jackson: University Press of Mississippi, 1999), pp. 20–27, 39–40.

unpredictable, on entering the lying-in room, they frequently put the woman on her left side, the position for difficult births. They claimed it allowed women to conserve their strength for the pain of labour. Dublin man-midwife and second Master of the Rotunda Hospital, Fielding Ould (1710–1789), acknowledged various positions. For him though, the side was “certainly the most advantagious [*sic*] Posture for natural Labours”, as the coccyx did not impede the birth canal and infant, the woman was not worried by any midwifery discussions, and she was less likely to become cold.²²³ Exactly how the woman was less likely to feel the cold by this position, he does not explain. Likewise, Smellie declared that the left lateral position, what he called the London method, “is very convenient in natural and easy labours”.²²⁴ Men-midwives therefore, implemented this position for their ease of operation and they claimed it aided the comfort of the woman.

Even though some practitioners believed there were benefits in an upright position during labour, lying down became universally accepted, especially among upper and middle-class women. By the turn of the century, this labour position was reinforced by several factors. Among these was the growing number of lying-in hospitals and the subsequent increase in the number of practitioners who managed deliveries in a hospital environment.

The hospital setting imposed a pathological view on all childbirths, even if they were normal.²²⁵ This doctor-led approach contributed to the care of the labouring woman, as if she were ill. In addition, the prevailing Georgian and Victorian gendered notion of a woman as physically weak played a part in reinforcing the “sick” role on the parturient

²²³ Fielding Ould, *A Treatise of Midwifry in Three Parts* (Dublin: Oli. Nelson and Charles Connor, 1742), p. 33.

²²⁴ *Smellie's Treatise on the Theory and Practice of Midwifery*, 1, p. 200.

²²⁵ Versluysen, “Midwives, Medical Men, and ‘Poor Women Labouring with Child’: Lying-in Hospitals in Eighteenth-Century London,” p. 32.

woman.²²⁶ Alongside this, men-midwives were becoming increasingly popular, and so this obstetric viewpoint was becoming more widespread. Besides, medical practitioners considered kneeling on all fours indecent, regardless of how beneficial the pose could be. Consequently, men-midwives automatically instructed women to lie down on the bed, whether seeing them in hospital or in their homes.²²⁷

Feminist scholar, Jo Murphy-Lawless, doubted whether the left lateral position made birth any safer. She argued that adopting this position meant an increase in the use of technology, such as forceps, and it put women in danger.²²⁸ Recent clinical studies have claimed there are several advantages for the upright position: gravity-assisted birth; lessening the risk of compressing main blood vessels and thus, maintaining a good blood supply to the infant; more efficient contractions; improved alignment of the foetus through the pelvis; and larger pelvic diameters in squatting and kneeling positions. These have led to the view that recumbent positions effectively made childbirth more difficult.²²⁹ It seemed that in certain circumstances, such as the posterior facing infant, kneeling was beneficial. Yet, the use of the recumbent position did not necessarily mean that birth was fraught with difficulties. However, it was evidence that the role of women as midwives was changing; they were losing their authority. Equally, as midwives lost control over such issues as birthing positions, they began to lose one of their most highly valued occupations.

²²⁶ Banks, *Birth Chairs, Midwives, and Medicine*, p. 49. A number of other works have examined the ways that the construction of gender and have reinforced medical ideology. See, for example, Ehrenreich and English, *Complaints and Disorders*; Ann Douglas Wood, "'The Fashionable Diseases': Women's Complaints and Their Treatment in Nineteenth-Century America," *Journal of Interdisciplinary History* 4, no. 1 (1973): pp. 25–52; Jordanova, *Sexual Visions*; Mary Poovey, *Uneven Developments: The Ideological Work of Gender in Mid-Victorian England* (Cambridge: Cambridge University Press, 1990); Morantz-Sanchez, *Conduct Unbecoming a Woman*; Cody, *Birthing the Nation*.

²²⁷ Janesh K. Gupta and Cheryl Nikodem, "Maternal Posture in Labour," *European Journal of Obstetrics and Gynecology and Reproductive Biology* 92, no. 2 (2000): p. 274; Murphy-Lawless, *Reading Birth and Death*, p. 37.

²²⁸ Murphy-Lawless, *Reading Birth and Death*, p. 37.

²²⁹ Gupta and Nikodem, "Maternal Posture in Labour," p. 274; Tew, *Safer Childbirth*, pp. 142–43.

Such development in labour positions emphasised that the maternal body needed some kind of management, and this management essentially was by men.

Working together

While many midwives deplored the enthusiasm that some men displayed for intervention, they nonetheless, recognized the ability of others in non-emergency situations. Stephen recommended that if there were some risk to the child, the midwife should ask if the friends wanted a midwife or medical practitioner to perform the delivery. Or, if the labour proved that it might be difficult, “never object to the friends sending for a doctor”.²³⁰ Similarly, Stone acknowledged that not all practitioners were poor technicians in manipulation, some, she thought, were sensible and careful.²³¹

By the same token, not every practitioner opposed midwives’ techniques. For example, John Maubray, a London lecturer in midwifery, maintained in his 1724 text *The Female Physician* that a midwife’s practical training armed her with useful skills and not “all the THEORY, that the most ingenious MAN can make himself Master of”.²³² Stone was highly regarded, as Dr John Allen, from Bridgwater, said that she exercised her art “*with great Applause and Success*”.²³³ One physician thanked Stone for successfully delivering a retained placenta by pressing on the woman’s abdomen.²³⁴ Another physician asked for Stone’s advice in the case of postpartum pain and urine retention and furthermore, he left

²³⁰ Stephen, *Domestic Midwife*, pp. 42, 47.

²³¹ Stone, *A Complete Practice of Midwifery*, p. 25.

²³² John Maubray, *The Female Physician, Containing All the Diseases Incident to That Sex, in Virgins, Wives, and Widows Together with Their Causes and Symptoms, Their Degree and Danger, and Respective Methods of Prevention and Cure: To Which Is Added, the Whole Art of New Improv'd Midwifery* (London: James Holland, 1724), pp. 176–77. Original capital letters.

²³³ Stone, *A Complete Practice of Midwifery*, pp. xxiii. Original italics.

²³⁴ *Ibid.*, pp. 15–16.

the treatment for Stone to implement.²³⁵ Even Smellie, the focus of Nihell's anger, recognised the capabilities of certain midwives, as he "sent for Mrs. *Maddocks*, a midwife, whom" he stated "I kept on purpose to attend my patients in lingering cases".²³⁶ He trusted her to manage the labour and also to recognise any complications that might arise.

This co-dependence was not new. In the event of an obstructed birth, the midwife was compelled to call a surgeon. Prior to this, sometimes a second or third midwife was sent for resulting in long delays before the call was made.²³⁷ When the call had come late, the child more often than not was dead by the time the surgeon arrived and so the only option of delivery was by craniotomy. A problem arose, however, if the child were alive; whether to wait till the child died or to proceed. In these cases and especially when the mother's life was in danger, a decision was generally made collectively between all the persons concerned. This "last resort" situation reinforced the dominance of craniotomy.²³⁸ Nonetheless, neither parties saw a deficiency in the other's skills, but rather an acceptance of their respective roles.

In the Appendix of David Spence's text, *A System of Midwifery, Theoretical and Practical*, Spence (1747–1786), a physician-man-midwife from Edinburgh, detailed fifty-one of his cases. The wide range of cases included: abortion, haemorrhage, obstructed labour, preternatural presentations, convulsions, prolapsed cord and one case in which the husband, "mad or drunk", brandished a weapon, whereupon Spence left the midwife in

²³⁵ Ibid., pp. 134–36.

²³⁶ William Smellie, *A Collection of Preternatural Cases and Observations in Midwifery*, a new ed., 3 vols., vol. 3 (London: W. Strahan, T. Cadell, and G. Nicol, W. Fox and S. Hayes, 1779), p. 131. Original italics.

²³⁷ Wilson, "Participant or Patient? Seventeenth Century Childbirth from the Mother's Point of View," p. 137.

²³⁸ Wilson, *The Making of Man-Midwifery*, pp. 50–51; Evenden, *The Midwives of Seventeenth-Century London*, p. 77.

charge, only to return the next day but, too late to save the infant. Upon arrival, Spence often checked with the midwife for her appraisal of the situation, evidently confident in her judgment. Spence mentioned in one case, in which the infant's arm presented and the membranes had already ruptured, that the midwife had given him "a very just state of the case".²³⁹ He needed her to account the detail. In another case of sudden haemorrhage, he paid tribute to the midwife's skill and attention, by crediting her assistance in saving the life of the mother.²⁴⁰ While practices varied, it was apparent that there was mutual respect between some midwives and practitioners, which allowed for an acceptance and recognition of their successes and roles.

Conclusion

Historians have often depicted the views of male and female midwives towards childbirth as divided. On one side, men-midwives treated pregnancy as a problem and therefore tended to intervene quickly in the labour. Midwives, on the other side, followed the non-interventional path, as they accepted birth as a natural event and rarely applied instruments. It is obvious however, from reading the midwifery texts from the eighteenth and nineteenth centuries that the situation was more complex than this.

Yet, analysing these texts is problematic. The few midwives who wrote texts were likely to endorse their own techniques and successes, while simultaneously complaining about medical practices, thus, they were inevitably biased towards midwives. The same can be said of men-midwives, whose denigration of midwives enabled them to establish their authority. Clearly, professional interests underpinned opinions regarding male and female

²³⁹ David Spence, *A System of Midwifery, Theoretical and Practical. Illustrated with Copper Plates* (Edinburgh: William Creech, 1784), pp. 465–66.

²⁴⁰ *Ibid.*, p. 477.

practices of midwifery and medical writing. So, assessing and drawing conclusions about the competence and skills of both parties are difficult. Regardless, it may be assumed that both were committed to improving standards and knowledge while focusing on safety.

While midwives and men-midwives could be scathing of each other, the quality of the relationship varied enormously. Despite anxieties, some medical men and midwives recognised the other's particular roles, skills and practices. In addition, both midwives and practitioners did save lives, but many also dealt with failures and death. The decision to intervene often involved dire cases with desperate and risky procedures. While their methods varied, it seems that the concerns of practicing women and men, in these desperate situations, centred on the best outcome for the woman and her child. This was critical for craniotomy cases, for it was clear to many on both sides that they needed to work together, as they both played a vital role in saving the mother's life.

Chapter 2

Osborn's Paradigm:

William Osborn, Medical Education and Knowledge

More than fourteen hundred of the present practitioners of Midwifery in this kingdom have done me the honour of attending my lectures, I trust, (considering the effect the teacher's opinion will probably have on the scholar) that it will appear to my readers to be of some consequence even to the public, that the doctrine which is to influence the conduct, if not actually to direct the practice, of so many professional men, on an important and interesting subject, should at least be irrefragably [*sic*] established.²⁴¹

On 17 September 1802, the *Morning Post and Gazetteer* carried a notice by the eminent man-midwife and lecturer, William Osborn advertising his final autumn midwifery course. With his name in bold and large type, the notice announced that the lectures would “in future be given only at Dr. CLARKE’S House in New Burlington-Street, Piccadilly”.²⁴² This brought an end to a career than spanned some thirty years. Even though his qualifications were medical, Osborn’s teaching ability and his private midwifery school were highly regarded within the medical community and its educational system.

This chapter will demonstrate that while Osborn was responsible for teaching his students the knowledge and skills needed to deal with all midwifery situations, he also transmitted his ideas, attitudes, values and beliefs, especially in regard to craniotomy. Osborn’s position was important to the history of craniotomy, as it explicitly brought out some of the

²⁴¹ Osborn, *Essays on the Practice of Midwifery*, pp. ix–x.

²⁴² *Morning Post and Gazetteer*, 17 September 1802.

problems, difficulties and controversies of the procedure, as well as placing it firmly within the standard practice of midwifery.

During the eighteenth century, medical education changed. This change was not rapid or universal, but developed alongside medical practice, a practice in which the need for skill, knowledge and judgment was understood as more and more imperative. With the rise of the middle-class the call for competent medical practitioners was more in demand.²⁴³ Consequently, along with the traditional educational avenues, apprenticeship for the majority of students or university education for a few, private medical teaching began to flourish.²⁴⁴

Previous scholarship on medical education has often concentrated on private anatomy schools, especially William Hunter's Great Windmill Street School.²⁴⁵ Recent work has focused on the economic situation of the practitioner and considered private lecturing as a way to supplement the practitioner's income.²⁴⁶ Susan Lawrence in her study of private lecturing has argued that business savvy practitioners, often in partnerships, competed successfully in the teaching market.²⁴⁷ On the other hand, Lisa Rosner has detailed the experiences of Edinburgh University students, with a view to understand the relationship

²⁴³ Lane, *A Social History of Medicine*, p. 11.

²⁴⁴ The value of the apprenticeship system in terms of time spent and clinical training received was debated during the first half of the nineteenth century. The outcome was that the Medical Act of 1858 abolished apprenticeship. See, Loudon, *Medical Care and the General Practitioner 1750–1850*, pp. 176–80.

²⁴⁵ See Zachary Cope, "The Private Medical Schools of London (1746–1914)," in *The Evolution of Medical Education in Britain*, ed. F. N. L. Poynter (London: Pitman Medical, 1966), pp. 89–109; George C. Peachey, *A Memoir of William and John Hunter* (Plymouth: William Brendon and Son, 1924); Ernest Finch, "The Influence of the Hunters on Medical Education," *Annals of the Royal College of Surgeons of England* 20, no. 4 (1957): pp. 205–48; Roy Porter, "William Hunter: A Surgeon and a Gentleman," in *William Hunter and the Eighteenth Century Medical World*, ed. William F. Bynum and Roy Porter (Cambridge: Cambridge University Press, 1985), pp. 7–34.

²⁴⁶ Loudon, *Medical Care and the General Practitioner 1750–1850*; Anne Digby, *Making a Medical Living: Doctors and Patients in the English Market for Medicine, 1720–1911* (Cambridge: Cambridge University Press, 1994).

²⁴⁷ Susan C. Lawrence, "Entrepreneurs and Private Enterprise: The Development of Medical Lecturing in London, 1775–1820," *Bulletin of the History of Medicine* 62 (1988): pp. 171–92.

between the wide range of courses that the students attended and the competitive edge that these courses gave them in establishing their practices.²⁴⁸ In the main though, current research has not explored the particulars of what was taught or the outcome or responses to that teaching.

The crucial position that Osborn occupied, as a teacher and communicator, will be seen in the context of medical education. This chapter will outline the rise of private medical education. Important individuals in the growth of private medical education in London were William Smellie and William Hunter. With the development and growth in private teaching, Osborn was able to respond to the demand and establish his own midwifery school in 1770. This chapter will demonstrate that Osborn through his school and his subsequent publications played an important role in relation to disseminating his practices and views on craniotomy including a case involving a twenty-seven year old woman, Elizabeth Sherwood. From Sherwood's case Osborn developed his paradigm on craniotomy. While many in the medical community accepted it, others became embroiled in a heated quarrel over its merits.

The need for medical education

Throughout the eighteenth century, three distinct groups dominated the practice of medicine: physicians, surgeons and apothecaries. At the top of the medical hierarchy were the university-educated physicians who were privileged with the title "Doctor".²⁴⁹ Their practice was *physic*, the treatment of those diseases and problems that affected the internal organs and, as such, they advised patients and recommended remedies. Surgeons, on the

²⁴⁸ Lisa Rosner, *Medical Education in the Age of Improvement: Edinburgh Students and Apprentices 1760–1826* (Edinburgh: Edinburgh University Press, 1991).

²⁴⁹ Lane, *A Social History of Medicine*, p. 12.

other hand, attended to problems relating to eyes, teeth, bones, skin and genitalia and so carried out manual tasks including dressing wounds, setting fractures, reducing dislocations, extracting teeth, amputating limbs, lancing boils and difficult deliveries. They trained under a traditional apprenticeship system. Also apprenticed, and at the base of the hierarchy, were the apothecaries. They prepared herbs, drugs, made up pills and powders.²⁵⁰

Despite these three distinct fields, many men practiced a combination of them. In P.J. and R.V. Wallis's *Eighteenth Century Medics*, compiled from subscription lists, licence entries and apprenticeship records, the description "surgeon-apothecary" frequently identified the practitioner.²⁵¹ More specifically, in 1783 Samuel Foart Simmons published his *Medical Register*, in which he listed the qualified practitioners of Britain under their particular specialty. Of the 3000 provincial practitioners listed, surgeon-apothecaries comprised the largest percentage of the total, 82.3%, and engaged in single-handed practice in cities, market towns, larger villages and industrial towns. Physicians made up the next largest group, 11.4% of the total. Those who practiced solely as apothecaries or surgeons, formed small groups: 3.3% and 2.8% respectively. Only two practitioners were described as men-midwives, while two physicians were listed as physician-*accoucheurs*.²⁵² Lane suggested the reason for these low national numbers was that practitioners did not see themselves

²⁵⁰ Ibid.; M. Jeanne Peterson, *The Medical Profession in Mid-Victorian London* (Berkeley: University of California Press, 1978), pp. 6–10.

²⁵¹ P.J. and R.V. Wallis, *Eighteenth Century Medics: (Subscriptions, Licences, Apprenticeship)*, 2nd and enlarged ed. (Newcastle Upon Tyne: The Vade-Mecum Press, 1988).

²⁵² Joan Lane, "The Medical Practitioners of Provincial England in 1783," *Medical History* 28, no. 4 (1984): pp. 353–56. I have noticed that these numbers add up to 99.8%. Even allowing for the two men-midwives, this does not explain the 0.2% discrepancy.

exclusively as men-midwives, but rather, as surgeon-apothecaries who sometimes practiced midwifery on the side.²⁵³

It was well accepted that in desperate cases of obstructed labour the only recourse was to call a surgeon. To call a surgeon was a last resort, as the mother was usually close to death, and his job was usually confined to extracting the dead child by performing a craniotomy.²⁵⁴ Consequently, difficult births were seen as part of the surgeon's role, while normal midwifery cases were often left to the midwife. This may also explain the low number of men-midwives in Simmons's register.

In the provinces, as midwifery increasingly became part of the routine of medical practice, a three-titled description became increasingly common. No doubt, in trying to attract prospective paying patients, the practitioner wanted to highlight the extent of his abilities and the range of his skills. For example, in advertising his Lincolnshire medical practice for sale, Matthew Flinders (1750–1802) described himself as a “surgeon, apothecary and man-midwife”.²⁵⁵ So, combining medical specialties or moving from one specialty to another was relatively easy.

Even in London, where specialism was more pronounced, the distinctions, nonetheless, overlapped. John Mason Good, a member of the General Pharmaceutic Association, Fellow of the Medical Society of London and member of the Corporation of Surgeons,

²⁵³ Ibid., pp. 356.

²⁵⁴ Wilson, "Participant or Patient? Seventeenth Century Childbirth from the Mother's Point of View," p. 137.

²⁵⁵ Martyn Beardsley and Nicholas Bennett (eds.), *'Grateful to Providence': The Diary and Accounts of Matthew Flinders Surgeon, Apothecary and Man-Midwife 1775–1802*, vol. 1: 1775–1784 (Lincoln Record Society: Boydell Press, 2007), p. 9. The son of the author of this diary was Matthew Flinders who circumnavigated and charted the Australian coast in 1802.

commented in his account of the history of the apothecary, published in 1795 that from as early as the fourteenth century:

pharmaceutists were probably the surgeons; who, in that case, combined the same branches of the profession, and engaged in the same two-fold occupation which is, at this moment, common in every city and town in the country, and not uncommon in LONDON itself.²⁵⁶

Evidently, the surgeons and apothecaries, who treated most of the population, increasingly blurred the traditional medical boundaries.

During this time however, neither of the corporations: the Royal College of Physicians, the Company of Surgeons, which became the Royal College in 1800, nor the Society of Apothecaries, prescribed for their candidates a systematic or compulsory course or required them to attend medical lectures. All that the Royal College of Physicians demanded of their licentiate was a MD, and an oral test while those sitting for the more prestigious fellowship exam needed a MD from Oxford or Cambridge.²⁵⁷ The other two corporations only required apprenticeship and an oral test. In fact, until 1815, this was not even needed to practice in provincial England or Wales.²⁵⁸ But, with the overlap in practice, it became apparent that the surgeon needed to be knowledgeable in prescribing medications and the physician needed to be familiar with anatomy.²⁵⁹ The community, as well, was demanding a better-trained practitioner. Consequently, teaching methods of the

²⁵⁶ John Mason Good, *The History of Medicine, So Far as It Relates to the Profession of the Apothecary, from the Earliest Accounts to the Present Period* (London: C. Dilly and T. Evatt, 1795), p. 96. Original capital letters.

²⁵⁷ The hierarchical positions of the College were: licentiate, candidate, elect and fellow. See Loudon, *Medical Care and the General Practitioner 1750–1850*, p. 19, fn 21.

²⁵⁸ Lawrence, "Entrepreneurs and Private Enterprise: The Development of Medical Lecturing in London, 1775–1820," p. 173. For an overview of the requirements of the three London corporations see Bernice Hamilton, "The Medical Profession in the Eighteenth Century," *Economic History Review* 4, no. 2 (1951): pp. 141–69.

²⁵⁹ Digby, *Making a Medical Living*, p. 30.

corporations were increasingly regarded as mediocre or inadequate. Moreover, practitioners wanted an education that gave them an edge in a competitive market.²⁶⁰ Medical teaching therefore, needed a revised system to cater to the demands of the medical community.

The medical apprentice

Much of the teaching in the eighteenth century was through the apprenticeship system. Typically, an apprenticeship lasted for seven years. Apprentices were taught and instructed in their master's methods and secrets, and generally, were given board in the master's house and obeyed his rules.²⁶¹ They took over much of the day-to-day tasks such as sweeping floors, cleaning bandages and making up bills. Further into their training, they could act as assistants, especially useful for surgeons, as operations often required two men. The first jobs that John Green Crosse (1790–1850) carried out as an apprentice to the surgeon Thomas Bayly of Stowmarket in Suffolk between 1806 and 1811, was to label, dust and arrange bottles, roll pills, box-up leeches, clean and tidy the surgery, as well as keeping the books. He very quickly progressed to performing small operations; his first in 1806 was extracting a tooth.²⁶²

²⁶⁰ Susan C. Lawrence, "Educating the Senses: Students, Teachers and Medical Rhetoric in Eighteenth-Century London," in *Medicine and the Five Senses*, ed. W. F. Bynum and Roy Porter (Cambridge: Cambridge University Press, 1993), p. 157.

²⁶¹ Kenneth C. Calman, *Medical Education: Past, Present and Future: Handing on Learning* (Edinburgh: Churchill Livingstone, 2007), p. 143; Lane, *A Social History of Medicine*, p. 12. For a comprehensive discussion about the apprentice in eighteenth century England see, Joan Lane, "The Role of Apprenticeship in Eighteenth-Century Medical Education in England," in *William Hunter and the Eighteenth-Century Medical World*, ed. W. F. Bynum and Roy Porter (Cambridge: Cambridge University Press, 1985), pp. 57–103.

²⁶² V. Mary Crosse, *A Surgeon in the Early Nineteenth Century: The Life and Times of John Green Crosse M.D., F.R.C.S., F.R.S. 1790–1850* (Edinburgh and London: E. & S. Livingstone, 1968), pp. 14–15.

Apprentices relied enormously on their masters for their training and accompanying a master on his rounds was vital. Variety and access to many cases was essential to the overall success of their education. During his five-year apprenticeship, Crosse noted the diversity of cases he saw with Bayly, these included: fractures, dislocations, gunshot wounds, burns, tape worms, difficult births, congenital malformations, convulsions, gout, infectious diseases, hernias, enlarged spleen, lithotomy for the removal of kidney stones, and amputations. Moreover, Crosse commented that he considered himself fortunate because, as the only apprentice, he was privileged to help with all the procedures, a duty normally given to the senior apprentice.²⁶³

Matthew Flinders' apprenticeship to an apothecary, Richard Grindall, in London, on the other hand, left him unprepared for certain situations in his market-town practice of Donington in Lincolnshire. On March 1775, he attended a difficult delivery, in which he was "obliged" to use forceps that resulted in "several slippings", indicating a deficiency in his education during his apprenticeship.²⁶⁴ In April 1775, he had another forceps case, which he managed after "3 or 4 trials".²⁶⁵ By November 1775, with his fourth recorded forceps case, he congratulated himself that he managed the forceps "exceedingly well".²⁶⁶ While Flinders, as an apprentice, gained an understanding of certain medical cases, others skills were clearly omitted. Therefore, the master's discretion, expectations and practice determined the time allocated and the type of instruction, which in turn affected the knowledge base and capabilities of his pupils.

²⁶³ Ibid., p. 16.

²⁶⁴ Beardsley and Bennett (eds.), *'Grateful to Providence'*, p. 26.

²⁶⁵ Ibid., p. 9.

²⁶⁶ Ibid., p. 11.

To supplement their apprenticeship, some students headed for London's leading hospitals. Those who could afford it, paid to accompany a leading consultant on his rounds, while other less well-off students "walked the wards" as observers.²⁶⁷ But, the hospitals did not provide teaching. It was up to the staff to decide how much teaching they would provide. Without any pre-set hospital tuition, private individuals developed their own various programmes.²⁶⁸ This private system could potentially broaden the apprentice's apparent limited opportunities.

Private lecturing in the first half of the eighteenth century

Scotland was the centre of medical education in eighteenth-century Britain. Practitioners educated at Scottish universities were offered a wide range of medical subjects. J. Johnson's *A Guide for Gentlemen Studying Medicine at the University of Edinburgh*, listed the subjects for study: anatomy, botany, chemistry, theory of medicine, *materia medica*, midwifery and the practice of medicine. "Besides these, a course of lectures is given on the cases of patients in the Royal Infirmary".²⁶⁹ Scottish universities, unlike their English counterparts, were cheap and receptive to a wide range of students.²⁷⁰ Students at Edinburgh paid only a small fee although they paid additional fees directly to the professors for medical lectures, three guineas for each course. Upon payment they receive a ticket, without this they were not allowed to enter the lecture hall.²⁷¹ Hence, Scotland,

²⁶⁷ Lane, *A Social History of Medicine*, p. 19.

²⁶⁸ Charles Newman, *The Evolution of Medical Education in the Nineteenth Century* (London: Oxford University Press, 1957), pp. 33–35.

²⁶⁹ J. Johnson, *A Guide for Gentlemen Studying Medicine at the University of Edinburgh* (Edinburgh: Bell and Bradfute, 1792), p. 5.

²⁷⁰ Dorothy and Roy Porter, *Patient's Progress: Doctors and Doctoring in Eighteenth-Century England* (Cambridge: Polity Press, 1989), p. 21.

²⁷¹ Rosner, *Medical Education in the Age of Improvement*, pp. 45, 47.

and in particular Edinburgh, became synonymous with well-educated and qualified practitioners.

Scotland, however, was renowned for the poor remuneration that medical practitioners received. Consequently, during the first half of the eighteenth century, increasing numbers of practitioners who had graduated in Scotland moved to England in order to find suitable employment, while others travelled abroad or joined the armed forces.²⁷² The Royal College of Physicians recognised a Scottish degree, however, to be a licentiate of the College, the graduate had to pass the Royal College's exams. While the Royal College did not exclude Scottish graduates, it did not acknowledge their qualifications.²⁷³ Undaunted by this rule, many Scots settled and practiced successfully.

Amongst the Scottish graduates who relocated to England was William Smellie (1697–1763). Smellie had studied medicine at Glasgow University and in 1720 started a practice, which included midwifery, in his hometown, Lanark. He travelled to London in 1738, but found the learning environment disappointing, so moved to Paris.²⁷⁴ There he studied under Grégoire for a year. He was introduced to Grégoire's teaching device: a basket-weave mannequin, covered in nude-coloured silk that featured a real pelvis taken from a skeleton. Using a dead foetus, Grégoire showed various presentations and manipulations to manage birth. Armed with new French teaching methods, Smellie returned to London, where he began his practice and advertised his first midwifery course in 1742.²⁷⁵

²⁷² Loudon, *Medical Care and the General Practitioner 1750–1850*, pp. 112–13.

²⁷³ Lester S. King, *The Medical World of the Eighteenth Century* (Chicago: University of Chicago Press, 1958), p. 235.

²⁷⁴ Graham, *Eternal Eve*, pp. 270–72.

²⁷⁵ Tina Cassidy, *Birth: The Surprising History of How We Are Born* (New York: Grove Press, 2006), p. 133.

Paris at this time was considered an advisable location for a thorough training in surgery and midwifery. Unlike London, it offered free hospital attendance and an abundant supply of cadavers for dissection.²⁷⁶ Prior to Britain passing the Anatomy Act in 1832, which permitted the use of unclaimed bodies from workhouses and hospitals for dissection, those criminals hanged at Tyburn were the only bodies allowed for anatomical dissection.²⁷⁷ Adding to the difficulties facing trainees in London was the fact that when the Company of Barber-Surgeons split in 1745, the resulting Company of Surgeons was left without any anatomy theatres to perform dissections. As a result, anatomy teaching in London was seriously curtailed.²⁷⁸

While the study and teaching of anatomy in England languished, in Paris, those who practiced dissection studied and taught anatomy. The lecture-demonstrations of these teachers became a source of knowledge about the human body.²⁷⁹ Furthermore, with the French government turning a blind eye to the procurement of bodies, each student attending private lectures was offered a corpse on which to practice dissection and surgical methods and, for the first time, they could see for themselves the relationships between organs, tissues and bones.²⁸⁰ This new direction in anatomy had implications for midwifery. It led to a greater understanding of the process of labour and thus,

²⁷⁶ Toby Gelfand, "'Invite the Philosopher, as Well as the Charitable': Hospital Teaching as Private Enterprise in Hunterian London," in *William Hunter and the Eighteenth Century Medical World*, ed. W. F. Bynum and Roy Porter (Cambridge: Cambridge University Press, 1985), p. 137.

²⁷⁷ Penelope J. Corfield, *Power and the Professions in Britain 1700–1850* (London and New York: Routledge, 1995), p. 153.

²⁷⁸ Gelfand, "'Invite the Philosopher, as Well as the Charitable': Hospital Teaching as Private Enterprise in Hunterian London," p. 143; Wendy Moore, *The Knife Man: Blood, Body Snatching, and the Birth of Modern Surgery* (New York: Broadway Books, 2005), p. 26.

²⁷⁹ Toby Gelfand, "The 'Paris Manner' of Dissection: Student Anatomical Dissection in Early Eighteenth-Century Paris," *Bulletin of the History of Medicine* 46, no. 2 (1972): pp. 118–21; Calman, *Medical Education: Past, Present and Future*, pp. 134–35.

²⁸⁰ Gelfand, "The 'Paris Manner' of Dissection: Student Anatomical Dissection in Early Eighteenth-Century Paris," pp. 122–30. Gelfand argued that it was the private courses that provided each student with a cadaver, as they were less strictly regulated and inspected than public courses or hospitals.

developments in operative obstetrics.²⁸¹ These innovative directions in anatomy, surgery and midwifery were published, translated into English and read by British surgeons in greater numbers than the English texts.²⁸² In all, these factors, along with the ever-increasing view of the importance of clinical experience, drew Smellie and his contemporaries across the Channel to Paris.

Prior to Smellie's course, private midwifery lectures in Britain were few and far between. John Maubray (1700–1732), a physician and prominent London man-midwife, started the first private course in practical midwifery in his house in New Bond Street in 1724. Maubray announced that:

the whole *Course* may consist of about *Twenty Lectures*; and that *two Courses* may be sufficient to qualify any studious, and diligent hopeful Man; especially, if he be already instructed, and grounded, in the Anatomical Part. Hence we may conclude, that in, or about, Four or Five Months time, our *Sedulous Pupil* may accomplish, and perfect himself in this our *Noble Art of Midwifery*.²⁸³

Maubray emphasised practical teaching methods and his students saw pregnant women upon whom they could apply their skills and knowledge. According to George C. Peachey, there were only three other midwifery courses advertised prior to Smellie's. These were: Edmund Chapman's in 1736, Richard Manningham's in 1739 and James Parson's in 1741.²⁸⁴ Chapman's course only lasted two years, Manningham seemed more busy writing and publishing his *Compendium Artis Obstetricariae* than lecturing and Parson's course

²⁸¹ Jean Donnison, *Midwives and Medical Men*, p. 23.

²⁸² Gelfand, "'Invite the Philosopher, as Well as the Charitable': Hospital Teaching as Private Enterprise in Hunterian London," pp. 137–38.

²⁸³ John Maubray, *Midwifery Brought to Perfection, By Manual Operation; Illustrated in a Lecture* (London: James Holland, 1737), pp. 25–26. Original italics.

²⁸⁴ Peachey, *A Memoir of William and John Hunter*, p. 46.

was one of many that he delivered on science, antiquarianism and natural history.²⁸⁵ The problem was that male midwifery was still an emerging field at this time, men-midwives were neither highly regarded nor in huge demand. Moreover, few were capable of teaching the discipline.

From the start, Smellie copied Grégoire's mechanical woman, becoming his set piece of obstetric education. Students were taught the structure of the pelvis, techniques for delivering the foetus, management of childbearing women and natural and complex deliveries "perform'd on different Machines made in Imitation of real Women and Children".²⁸⁶ Handles operated levers in the abdominal cavity that simulated the action of labour. Smellie operated the handles, while a student-volunteer practiced the delivery of the infant doll.²⁸⁷ Once practiced and competent on the mannequin, the student could attend and even assist in the deliveries of poor women in their own homes.²⁸⁸ Smellie's mannequin gave the student hours of hands-on practice and experience, before venturing out to practice midwifery by himself.

Smellie's classes became more and more popular. The number of lectures per course increased from twelve to eighteen, with an extra charge for "The Experience of being present at a real Labour".²⁸⁹ In addition, he increased his fee considerably in the first few years. Initially, he charged five shillings but, by the time he published his book, in 1742,

²⁸⁵ Philip Rhodes, "Chapman, Edmund," *ODNB*, www.oxforddnb.com/view/article/5115, accessed 2 November 2011; Giles Hudson, "Parsons, James," *ibid.*, online ed. May 2010, www.oxforddnb.com/view/article/21461, accessed 2 November 2011; Spencer, *The History of British Midwifery from 1650 to 1800*, pp. 16–18.

²⁸⁶ William Smellie, *A Course of Lectures Upon Midwifery, Wherein the Theory and Practice of That Art Are Explain'd in the Clearest Manner* (London:1742), Title page.

²⁸⁷ Bonnie Blackwell, "'Tristram Shandy' and the Theater of the Mechanical Mother," *ELH* 68, no. 1 (Spring, 2001): pp. 91–92.

²⁸⁸ Cassidy, *Birth: The Surprising History of How We Are Born*, p. 133; Graham, *Eternal Eve*, p. 272.

²⁸⁹ Smellie, *A Course of Lectures Upon Midwifery*, Introductory page.

detailing his course of lectures, his conditions were listed as: two to three guineas for one course, five guineas for two courses and attending four labours on women in their homes, and fifteen guineas to attend “all the Courses and Labours” for one year, or twenty guineas for two years.²⁹⁰ Clearly, his lectures were in demand, and hence, for many students, they must have filled a gap in their education.

In 1740 Smellie received a letter of introduction from a fellow Scot, William Hunter (1718–1783). Intending to enter the Church, Hunter studied at Glasgow University, but, after five years, realised that the Church was not for him. In 1736, William Cullen (1710–1790), a surgeon and man-midwife from Hamilton in Lanarkshire, offered him an apprenticeship with a view of taking over his business. Subsequently, Cullen became Professor of Medicine at Glasgow University in 1751 and in 1755 he filled the chairs of chemistry, *materia medica* and *physic* at Edinburgh University.²⁹¹ On Cullen’s advice, Hunter left for Edinburgh to study medicine in 1739. A year later, Cullen organised for Hunter to go to London as an assistant to his friend, Smellie. Hunter lived with Smellie for the first year, at which point James Douglas, a fellow compatriot and surgeon-anatomist, offered him a job assisting him with anatomy dissections and tutoring his son. So, Hunter joined Douglas and his family who then arranged for Hunter to attend St George’s Hospital as a surgical pupil. In 1743 he travelled to Paris and attended the highly regarded anatomy classes of Antoine Ferrein. From his experience in London and Paris, Hunter was

²⁹⁰ Ibid.

²⁹¹ Charles Singer and E. Ashworth Underwood, *A Short History of Medicine*, 2nd ed. (Oxford: Clarendon Press, 1962), p. 151.

convinced that the medical teaching on offer in London was inadequate as a preparation for medicine.²⁹²

With the Company of Surgeons in disarray and unable to organise lectures, Hunter seized the opportunity to start his own course in a rented Covent Garden apartment. Hunter advertised his first course in the *London Evening Post* on September 1746, with the enticement of “Gentlemen may have an Opportunity of learning the Art of Dissecting during the whole Winter Season in the same Manner as at Paris”.²⁹³ Differentiating from other teachers, what Hunter offered was a hands-on approach to dissection, where each student was guaranteed a cadaver of his own, or as he described it, the “Paris manner”.²⁹⁴ His teaching and methods proved popular and after ten years of lecturing his student numbers had risen from twenty to about one hundred.²⁹⁵ To cater for the increase in numbers and courses, including midwifery, Hunter commissioned a house in Great Windmill Street with custom-made rooms for lecturing and dissecting. He started lecturing there in 1767 and took up residence in 1768.²⁹⁶ The Great Windmill Street School, as it was known, finally closed in 1831.²⁹⁷ From the increase in numbers and longevity of the school, it was clear that Hunter not only offered a more knowledgeable and comprehensive

²⁹² George R. Mather, *Two Great Scotsmen: The Brothers William and John Hunter* (Glasgow: James Maclehose and Sons, 1893), pp. 24–25; C. Helen Brock, “The Happiness of Riches,” in *William Hunter and the Eighteenth-Century Medical World*, ed. W.F. Bynum and Roy Porter (Cambridge: Cambridge University Press, 1985), pp. 35–38; Calman, *Medical Education: Past, Present and Future*, pp. 155–56.

²⁹³ Quoted in Mather, *Two Great Scotsmen*, p. 33.

²⁹⁴ For a more detailed discussion on the “Paris Manner” see Gelfand, “The “Paris Manner” of Dissection: Student Anatomical Dissection in Early Eighteenth-Century Paris,” pp. 99–130.

²⁹⁵ Graham, *Eternal Eve*, p. 309. John, William’s youngest brother, helped out in the anatomy school from 1748 to 1760, at which point he signed up as a surgeon in the army. John went on to become a renowned anatomist and surgeon in his own right.

²⁹⁶ Mather, *Two Great Scotsmen*, p. 66; Peachey, *A Memoir of William and John Hunter*, pp. 111–12. Matthew Baillie, who had attended Princess Charlotte, was William Hunter’s nephew and assisted him at the Great Windmill Street School, and upon Hunter’s death succeeded him as lecturer there.

²⁹⁷ For a history of The Great Windmill Street School from its inception till its closure in 1831 see, Cope, “The Private Medical Schools of London (1746–1914),” pp. 90–93.

itinerary than any other contemporary school in London, but also that there was a growing demand for this type of education.

Both Smellie and Hunter achieved enormous eminence as lecturers and obstetricians. Their educational experience in Scotland and Paris certainly widened their outlook and they saw possibilities and opportunities for their own career-paths in what they had learnt there. Both returned from Paris with methods they used in London and they effectively assimilated the French experience into the British medical landscape. Their schools offered “expert” teachers and their lectures outshone their rivals as, they offered the latest advances in obstetrics and anatomy and they initiated direct student participation. Ultimately, it was largely through the efforts of Smellie and Hunter and the educational tradition they brought from Edinburgh, Glasgow and, in particular Paris, that private lecturing in London found its place and prospered.

The lure of private teaching

Private courses were not a prerequisite for an aspiring practitioner. None of the corporations required or even encouraged London course work as a requirement for licensing. However, private courses did attract students. As Susan Lawrence, in her study of medical lecturing in London, has shown there was an increase in the number of notices advertising private medical courses between 1780 and 1820, from sixteen to fifty-three respectively. The audience, she suggested, came from the hospital “ward walkers” whose numbers were also increasing in that period, and who wanted such courses to supplement their study. The correlation between student numbers and course numbers indicated that many students sought a full education that would help them in their practice and were

willing to pay for it.²⁹⁸ Moreover, the student could tailor-make his programme to fit his needs. For example, Richard Kay (1716–1751), after his apprenticeship to his father and on his father's recommendation, left Baldingstone in Lancashire for London, where he spent a year at Guy's Hospital. Two years prior to this, Kay complained that a knowledge of anatomy would have been "profitable and highly useful" in dealing with a young man with a dislocated hip.²⁹⁹ While in London, he attended lectures on anatomy, surgery and two of Smellie's midwifery courses. Students, nonetheless, would not have paid for irrelevant courses, or second-rate or incompetent lectures therefore, such courses would not have lasted very long.³⁰⁰ Only the best survived and flourished.

The attraction of private courses was that they provided the students with access to materials and knowledge often not available as apprentices, such as: dissections, new equipment, women in all types of labour, operations and hospital patients with a variety of conditions. Lecturers also found lecturing advantageous, as the courses often enhanced their professional and financial standing.³⁰¹ Responding to market demands, entrepreneurial lecturers published notices advertising their courses. Between 1770 and 1810, at the height of private lecturing, lists of courses appeared in numerous newspapers, that offered lectures in: anatomy, surgery, *physic*, *materia medica*, chemistry, physiology and midwifery often including the diseases of women and children.³⁰² The variety of

²⁹⁸ Lawrence, "Entrepreneurs and Private Enterprise: The Development of Medical Lecturing in London, 1775–1820," pp. 176–79.

²⁹⁹ William Brockbank and Marjory Lilian Kay, "Extracts from the Diary of Richard Kay of Baldingstone, Bury, Surgeon (1737–50)," *Medical History* 3, no. 1 (1959): p. 59.

³⁰⁰ Gelfand, "'Invite the Philosopher, as Well as the Charitable': Hospital Teaching as Private Enterprise in Hunterian London," p. 131.

³⁰¹ *Ibid.*, p. 130.

³⁰² Advertisements for courses appeared in the following newspapers between 1770 and 1810: *English Chronicle*, *London Chronicle*, *London Evening Post*, *Morning Chronicle*, *Morning Herald and Daily Advertiser*, *Morning Post and Gazetteer*, *Public Advertiser*, *Star*, *St James's Chronicle*, *Times*, *True Briton*, *Whitehall Evening Post* and *World and Fashionable Advertiser*.

subjects offered confirmed that by 1770 London was a thriving centre for private medical instruction. The midwifery courses probably attracted many students to London, as they also had the opportunity to attend a range of labours in the wards. Information to attract these students began to be included in the newspaper notices. Drawing attention to his midwifery lectures, Dr Bland announced:

his Practical Lectures on Midwifery, and on the diseases incident to Women and Children. The pupils will have the advantage of a very extensive practice, and that each of them may be present at as great a variety of Labours as possible, not more than four will be taken at one time.³⁰³

In the *St James's Chronicle* in 1786, Dr Leake advertised his course of lectures on midwifery to be held at his home and also at Westminster Lying-in hospital, "in which six thousand Patients have been delivered, and where Pupils will be allowed to attend".³⁰⁴ Due to the increasing demand for men-midwives to attend labours, both normal and abnormal labours and from the number of courses on offer, it is clear that midwifery was a fundamental and essential subject.

With the medical corporations' limited interest in education, the disorganized and random structure of education, the possibility of practicing without formal licenses, and the professional advantages supposed to be gained from hospital and course work, it is no wonder that private courses blossomed in London.

³⁰³ *Morning Herald and Daily Advertiser*, 11 April 1782.

³⁰⁴ *St James's Chronicle*, 12-14 September 1786.

William Osborn and the world of lecturing

In 1770, two enterprising London men-midwives, William Osborn (1736–1808) and Thomas Denman (1733–1815), placed an advertisement in the *Public Advertiser* announcing the beginning of their “Course of Lectures on the Theory and Practice of MIDWIFERY”.³⁰⁵ As a testament to the quality of the teaching, they included their respective areas of medical and surgical expertise and hospital affiliations, but more importantly, they accredited themselves as men-midwives. This marked the beginning of Osborn’s lecturing career.

Osborn, born in London, began his medical studies in the market town of Uppingham in the East Midlands of England, as an apprentice to the local surgeon-apothecary, John Fordyce. Like many other young men, he travelled to London for further medical training. As well as “walking the wards” of St George’s Hospital, he studied under Hunter before leaving for Paris to study as a pupil of André Levret. Following this, he joined the army, serving as a surgeon in the Guards in Germany. This was a common method of gaining experience especially in surgery, since Britain was at war for much of the eighteenth century. On leaving the military, Osborn returned to London and pursued his medical studies of midwifery and practiced for some years as a surgeon-man-midwife.³⁰⁶

Denman’s initial career followed a similar course. The son of an apothecary, he was born in Bakewell in Derbyshire and came to London in 1754 where he also attended St George’s Hospital. His funds however, quickly ran out and by early 1755 his money was gone. In search of paid work, he applied to the Navy Board for the post of surgeon’s mate.

³⁰⁵ *Public Advertiser*, 16 May 1770.

³⁰⁶ Spencer, *The History of British Midwifery from 1650 to 1800*, pp. 117–18.

After nine years of service, seeing action off the west Coast of Africa and the West Indies, and very nearly being killed at the siege of Belleisle by a cannon shot, Denman left the navy. Following a brief period back in Bakewell, he decided to move to London and resume his studies.³⁰⁷

By the time both men returned to London, midwifery was transforming. Male practitioners were becoming increasingly involved in the management of childbirth. The man-midwife was increasingly called to normal births and some of these practitioners were beginning to distinguish themselves in this field.³⁰⁸ Osborn and Denman were both attracted to midwifery, both had attended private lectures and both could see the lucrative nature of lecturing.

Meanwhile, Osborn was elected as surgeon-man-midwife to the New General Lying-in Hospital in Store Street. In a collection of research notes conducted in the 1960s by C.B. Oldman on the history of three public buildings in Store Street, including the hospital, it stated that the hospital's first entry was in St Giles Ratebooks for 1767 under the address of Tottenham Court Road. By 1773 it was listed under Store Street. From 1780 till the last record of it in 1797 Osborn appears to have had a continual association with the hospital.³⁰⁹ In August 1769, Denman was elected to the position of physician-*accoucheur*

³⁰⁷ Ibid., p. 130.

³⁰⁸ David Hamilton and Richard Manningham were the first male midwives to be knighted in 1708 and 1721 respectively. Fielding Ould in 1760, Charles Mansfield Clarke in 1831, Charles Locock in 1857 and James Simpson in 1866 were also honoured. See Lewis, *In the Family Way*, pp. 87–88.

³⁰⁹ C. B. Oldman Collection vol. III (ff. 107), MS56574, British Library. The collection included references to St Giles ratebooks but not the rate books themselves. The exact date of Osborn's appointment was not made clear in this collection. However, as the New General Lying-in Hospital was founded in 1767 and as stated in his advertisement in 1770, he was a surgeon man-midwife to the New General Lying-in Hospital, his appointment must have been in the three-year period between 1767 and 1770.

to Middlesex Hospital, upon the death of Thomas Cooper.³¹⁰ In light of the opening left by Cooper, Denman contacted his fellow St George student, Osborn, about taking over Cooper's lectures. Osborn agreed, and together they purchased Cooper's apparatus for £120 and advertised their first autumn course. In 1770, Osborn, together with Denman, began their midwifery lectures.³¹¹

Osborn and Denman held their courses in Denman's house at Queen Street, Golden Square and sought to capitalise on their expertise by selling it to their students. Like Smellie, they used a mannequin to "explain the difficulties arising from any disproportion between the cavity of the mother's pelvis, and the volume of the child's head".³¹² With their connections to the New General Lying-in and Middlesex hospitals, Osborn and Denman also invited their students to hospital cases where they gave their opinions regarding the relevant treatment. They presented an educational program that continued for sixteen years. The winter course of 1786 however, was the last in which Osborn and Denman lectured together.³¹³ Possibly the partnership had reached its natural conclusion with Denman wanting to concentrate on his own practice.

After the split, Denman, in 1788, voiced an opinion shared by others that the vectis, a single-bladed instrument that assisted in the delivery of the infant, was safer, in many

³¹⁰ There was some controversy surrounding Denman's appointment. For a full account of the controversy see, William James Erasmus Wilson, *The History of the Middlesex Hospital During the First Century of Its Existence* (London: John Churchill, 1845), pp. 209–12.

³¹¹ Spencer, *The History of British Midwifery from 1650 to 1800*, p. 132.

³¹² Osborn, *Essays on the Practice of Midwifery*, p. 371.

³¹³ Hilary Marland, "Osborn, William," *ODNB*, www.oxforddnb.com/view/article/20886, accessed 6 November 2011, stated that the partnership ended after twelve years, that is in 1782. However, an advertisement placed in the *Morning Post* on Friday, January 20, 1786 clearly stated that Dr. Osborn and Dr. Denman would begin a course of lectures on midwifery on January 23 at 9 Queen Street, Golden Square. Perhaps Denman was no longer a principal lecturer, but the partnership, nonetheless, was still together in 1786. The following year, in 1787, in the *World and Fashionable Advertiser*, for Saturday March 17, it was only Osborn who announced his midwifery course of lectures. Therefore, sometime between the two advertised courses the partnership officially dissolved.

cases, than forceps.³¹⁴ However, with the publication of Osborn's text *Essays in the Practice of Midwifery* in 1795 Osborn made clear his opposition to Denman's opinion of the vectis. Critical of him, Osborn was "astonished and mortified" to read of Denman's "mischievous use of that instrument".³¹⁵ Reflecting his forthright character, Osborn was outspoken against Denman whose view he attacked as it opposed "the great and fundamental principles of practice".³¹⁶ Denman does not seem to have taken it personally as the 1807 edition of his text described Osborn as a "very sensible and judicial writer".³¹⁷ Osborn's criticism, nevertheless, highlighted an outspoken and resolute man, who held very strong opinions regarding certain procedures and was not afraid to challenge others with differing views.

After the partnership ended, Osborn continued lecturing with a former pupil, John Clarke (1760–1815). Clarke regarded both his lecturers very highly, as he dedicated his first publication, *An Essay on the Epidemic Disease of Lying-in Women of the Years 1787 and 1788*, to them, with "gratitude and respect". In the preface, Clarke congratulated Osborn on his explanation of parturition, positioning Osborn as a skilled and knowledgeable expert in midwifery.³¹⁸ Clarke seemed indebted to Osborn for passing on his skills and concepts, and evidently admired Osborn's teaching ability. By the time Clarke took over from Denman as Osborn's fellow lecturer, the school was flourishing. It offered courses in spring, summer, autumn and winter, with an extra course in the evening, "For the convenience of gentlemen who live near the City, or whose other studies prevent them from attending in

³¹⁴ Thomas Denman, *An Introduction to the Practice of Midwifery*, 2 vols., vol. 2 (London: J. Johnson, 1788), pp. 159–60.

³¹⁵ Osborn, *Essays on the Practice of Midwifery, in Natural and Difficult Labours*, pp. vii–viii.

³¹⁶ *Ibid.*, p. vi.

³¹⁷ Denman, *An Introduction to the Practice of Midwifery* (1807), p. 272.

³¹⁸ John Clarke, *An Essay on the Epidemic Disease of Lying-in Women of the Years 1787 and 1788* (London: J. Johnson, 1788), p. ii.

the morning”.³¹⁹ It seemed that flexibility and convenience was the key to attracting students and maintaining a prosperous school. Moreover, Osborn must have offered interesting lectures and demonstrations, as his lecturing career spanned approximately thirty years and he claimed to have taught over 1,400 students.³²⁰

Meanwhile, in 1783 the Royal College of Physicians resolved that it would grant licenses to practitioners in midwifery. For a fee of £20, it granted licenses in *ars obstetrica* only. This therefore, offered a distinction to the man-midwife and Osborn, like many of his colleagues, was always mindful of his professional status. Osborn applied straight away and in December 1783, was admitted a licentiate in midwifery of the Royal College of Physicians. The two other successful candidates were Denman and Michael Underwood who had brought Princess Charlotte into the world. Subsequently seven others, including Clarke in 1787, were admitted, before the College disbanded it in 1800.³²¹ This, along with a MD that he had gained from St Andrews University in 1777, positioned Osborn as a man of outstanding knowledge and high character, in other words it acknowledged him as one of the leaders in obstetrics. Thus, his views and opinions regarding midwifery would have been sought after, well respected and influential.

The case of Elizabeth Sherwood and Osborn’s paradigm

Osborn’s case involving the obstructed labour of Elizabeth Sherwood was probably discussed more than any other of his contributions to obstetrics. Osborn worked as a man-

³¹⁹ *Morning Chronicle*, 30 September 1788.

³²⁰ Osborn, *Essays on the Practice of Midwifery, in Natural and Difficult Labours*, p. ix.

³²¹ Sir George Clarke, *A History of the Royal College of Physicians of London*, vol. 2 (Oxford: Clarendon Press, 1966), pp. 588-89. The other successful applicants were: Charles Combe admitted in 1784, Thomas Savage, John Cooper, John Squire admitted in 1786, Louis Poignard admitted in 1788 and Robert Batty admitted in 1800.

midwife to the New General Lying-in Hospital in Store Street, being recognised in 1783 as a physician-man-midwife there and by 1787, as a Perpetual Governor.³²² And it was to this hospital that Sherwood was admitted. The New General Lying-in Hospital, also known as Store Street Lying-in Hospital, was one of three hospitals that expressly catered for unmarried women in London. These women generally obtained an order of admission a month before their due date, and arrived at the hospital in labour, often in a poor, desperate and friendless state.³²³ The purpose of the Store Street Lying-in Hospital was to help unmarried women, who had been “seduced from the Paths of Virtue” and “overwhelmed with Shame and Remorse” who would otherwise “sink under their complicated Misfortunes”.³²⁴ It was acutely aware of their distressed circumstances. While working there, Osborn began to canvas the interesting cases and his management of them as teaching case-studies for his students. One such case involved the twenty-seven year old, Sherwood.³²⁵

On Sunday evening 19 November 1776, the matron of Store Street Hospital called Osborn to examine Sherwood. He noted her shocking deformity and exhausted state, after “having

³²² *A Short Account of the Institution, Plan, and Present State of the New General Lying-in Hospital, in Store Street, Tottenham Court Road*, (London: J. Dixwell, 1787), pp. 8, 9, 13, 15. Any person subscribing twenty guineas or more was appointed a Perpetual Governor, or Governor for Life. Other Perpetual Governors included Osborn’s wife Charlotte and his two daughters, as well as Denman, his wife, his daughter and his son, Thomas.

³²³ Tanya Evans, *‘Unfortunate Objects’: Lone Mothers in Eighteenth-Century London* (Houndmills, Hampshire: Palgrave Macmillan, 2005), pp. 154–55. The New General Lying-in Hospital at Store Street was distinct from the General Lying-in Hospital, on the corner of Quebec Street and Oxford Road, which was founded in 1752 and changed its name in 1809 to Queen Charlotte’s Lying-in Hospital, to honour Queen Charlotte. These hospitals, along with Westminster Lying-in hospital, were the three hospitals that explicitly admitted unmarried women.

³²⁴ *A Short Account of the Institution, Plan, and Present State of the New General Lying-in Hospital, in Store Street, Tottenham Court Road*, p. 4.

³²⁵ Osborn published his case concerning Elizabeth Sherwood in *An Essay on Laborious Parturition: in which the Division of the Symphysis Pubis is Particularly Considered and Essays on the Practice of Midwifery, in Natural and Difficult Labours*. I have chosen to reference Elizabeth Sherwood’s case from Osborn’s second text *Essays on the Practice of Midwifery, in Natural and Difficult Labours* as this text contains a more detailed discussion regarding Osborn’s practice and thoughts on the subject of craniotomy.

been in pain the two preceding days and nights”.³²⁶ Her mother informed Osborn that from infancy she had been weak and infirm, so much so that she grew only three feet six inches tall. She was “so exceedingly deformed, both in her spine and lower extremities, as never to be able to stand erect for one minute, without the assistance of a crutch under each arm”.³²⁷ On admission, Sherwood was distressed and in poor health and, no doubt, her choice of hospital was indicative of her unmarried status.

Upon examination, Osborn declared, “her pelvis was singularly distorted, and the capacity very much contracted”.³²⁸ He was astonished at the severity of her pelvic contraction; clearly this was no ordinary case. Once assessed, a decision needed to be made about how to best manage Sherwood, whether she should be subjected to craniotomy or Caesarean section. Osborn invited four well known *accoucheurs*: Bromfield, Walker and Walton, as well as fellow lecturer, Denman, to examine and discuss the case. In agreement with Osborn’s observations regarding the degree of pelvic contraction, the unproductive nature of the labour and the viability of the infant, they agreed that the best course of action was craniotomy.

Accordingly, Osborn commenced the craniotomy on Sherwood at eleven o’clock in the evening. She had, by this time, already endured three days of gruelling labour. He:

placed her in the usual manner, close to the edge of the bed, on her left side, as the situation most commodious both for the patient and myself. Even the

³²⁶ Osborn, *Essays on the Practice of Midwifery*, pp. 189–90.

³²⁷ *Ibid.*, p. 189.

³²⁸ *Ibid.*, p. 190.

first part of the operation, which in general is sufficiently easy, was attended with considerable difficulty, and some danger.³²⁹

Once Osborn had reduced the foetal head, he left her undelivered, in the hope that the pressure from her labour pains would further reduce the foetal head and so it could be delivered by the action of the uterus. However, when Osborn examined her the next day, the foetal head had not progressed at all. It was quite usual for private lecturers, such as Osborn, who held posts at major hospitals to bring along their students to the wards. It was therefore, not remarkable, for Osborn to ask Sherwood, if his students could examine her. To Osborn's delight, she agreed, as he wanted to use her as "a representation of the singularity of her case, and the utility which might result from its being more generally known".³³⁰ During the course of the day, Bromfield, Denman and Hunter examined her, as well as *thirty* midwifery students.³³¹ Again, Osborn decided to leave her in labour throughout that night and saw her the following morning, by which time "her strength was greatly reduced".³³²

Finally, after the infant had been left undelivered in the uterus for thirty-six hours, Osborn began Sherwood's delivery. This thirty-six hour time period he stated, had significant advantages as, not only did it give the foetal head a chance to move through the pelvis, but also allowed for a great "degree of putrefaction as possible in the child's body, by which means it would become soft and compressible, and afford the least possible resistance in its extraction".³³³ Nonetheless, he advised against further delay, as there was the risk of

³²⁹ Ibid., p. 193.

³³⁰ Ibid., p. 195.

³³¹ Ibid. My emphasis.

³³² Ibid.

³³³ Ibid., p. 196.

infection or “putrid fever”.³³⁴ Following a long and complicated embryotomy, the piecemeal destruction of the foetus, and after more than four days in labour, Sherwood was finally delivered. Although absolutely exhausted from the labour and the procedure, she survived. Osborn dismissed the “violence of the operation” as inevitable, but even he seemed somewhat astonished that she survived, as he concluded triumphantly, that Sherwood acknowledged “with great gratitude, that she was then as well, in all respects, as in any former period of her life”.³³⁵

Osborn published two texts, *An Essay on Laborious Parturition in which the Division of the Symphysis Pubis is Considered*, in 1783 and an expansion of this book titled *Essays on the Practice of Midwifery, in Natural and Difficult Labours* in 1792, a second edition published in 1795. In both he gave his opinion on symphysiotomy (the surgical division of the symphysis pubis, the front midline of the pelvis) and Caesarean section.³³⁶ Osborn thought symphysiotomy dangerous and which “*no circumstance whatsoever, real or imaginary, can ever render a warrantable operation*”.³³⁷ He expressed his opinion “in strong language” on Caesarean section to which he was equally opposed.³³⁸ In Osborn’s view, this operation condemned the mother “to *inevitable destruction*” while symphysiotomy subjected her “to the *pain and danger of the division of the symphysis pubis*”.³³⁹ On the other hand, he believed craniotomy was ‘infinitely preferable’ as the mother was not exposed to serious danger or death.³⁴⁰ With such views about the dangers

³³⁴ Ibid., p. 197.

³³⁵ Ibid., pp. 202–03.

³³⁶ Discussions of these procedures appear in Chapter 7, pp. 278–79, and Chapter 8.

³³⁷ Osborn, *Essays on the Practice of Midwifery*, p. 256.

³³⁸ Ibid., p. 342.

³³⁹ Ibid., p. xi.

³⁴⁰ Ibid., p. xiii.

of symphysiotomy and Caesarean section Osborn strongly advocated craniotomy as the means of dealing with pelvic contraction.

For Osborn, the relative benefits of craniotomy compared to other modes of delivery, especially Caesarean section, were assessed in relation to the woman's life expectancy. Making a judgement on life, he argued that when presented with the "unhappy dilemma, where the two lives are absolutely incompatible; where one being must be sacrificed to the preservation of the other; where either the mother or the child must be destroyed, or both together be exposed to extreme danger", all his efforts must be directed "to the safety of the mother, as the first object".³⁴¹ Furthermore, he was quite explicit on the point of time-delay, recommending not to "extract the child, till the head has been opened at least thirty hours: a period of time sufficient to complete the putrefaction of the child's body, and yet not sufficient to produce any danger to the mother".³⁴² Positioning himself as the expert, and backed by his experience in such deliveries, he assured his audience that his method outweighed any dangers to the mother that comes with immediate extraction. Despite the "painfulness" of this decision, craniotomy was a "necessary call of duty".³⁴³ Holding such views, the balance was clearly tipped in favour of a craniotomy for Sherwood.

On a sad post-script to Sherwood's life, William Dewees, a renowned nineteenth-century American professor of midwifery, in his discussion over Osborn's claim to be able to deliver a child through almost any pelvic contraction, thus negating the need for Caesarean section, raised Sherwood's fate. Subsequent to her craniotomy, she once more became pregnant, and had a very similar labour as he stated, "she was reserved for another trial of a

³⁴¹ Ibid., p. 155.

³⁴² Ibid., p. 183.

³⁴³ Ibid., p. 155.

similar kind, and not being under the care of Dr. O. she died”.³⁴⁴ John Burns, Professor of Surgery at the University of Glasgow, in a similar discussion to Dewees’ noted that following her recovery, Sherwood moved to the country where she subsequently died in childbirth. Burns stated that no pelvic measurements were taken.³⁴⁵

Sherwood became a teaching case study. With Osborn’s reputation as an excellent lecturer it formed part of many students’ education. Francis Kingston enrolled in two of Denman and Osborn’s lecture courses. He took his first course in 1777 and Osborn used Sherwood’s case in his teaching as Kingston’s notebook described: her condition, the examination and his decision to operate, and the two-stage procedure. He wrote in “very difficult Cases after the Head is opened leave it to Putrefy, & it will come away very easily”.³⁴⁶ The following year Kingston re-enrolled in Osborn’s lectures and again Sherwood’s case was detailed. Pelvic measurements were discussed and the fact that “she recovered” indicated, as Osborn told his students, that “Caesarean section is never necessary” as craniotomy could deal with even the tiniest of pelvises.³⁴⁷ This recognised system of education went beyond mere facts; it imparted Osborn’s attitudes and viewpoints to his students.

The scope of Osborn’s teaching, nevertheless, reached further than his 1,400 midwifery students. In 1783 Osborn published *An Essay on Laborious Parturition: In Which the Division of the Symphysis Pubis Is Particularly Considered*, in which he detailed

³⁴⁴ William Dewees, *A Compendious System of Midwifery: Chiefly Designed to Facilitate the Inquiries of Those Who May Be Pursuing This Branch of Study* (Philadelphia: Carey and Lea, 1832), p. 560. Thomas Denman mentioned in his 1807 text that Sherwood could not be traced; Denman, *An Introduction to the Practice of Midwifery*, (1807), p. 272.

³⁴⁵ Burns, *The Principles of Midwifery*, (1837), p. 510.

³⁴⁶ Kingston, “Notes Abstracted from Several Courses of Lectures on Midwifery,” MS2099, Wellcome Library.

³⁴⁷ Ibid.

Sherwood's case. In 1792 he published an expansion of this book, *Essays on the Practice of Midwifery, in Natural and Difficult Labours*, reprinted in 1795, which contained the exact word-for-word account without any variation from his 1783 text concerning Sherwood. These texts outlined his reasoning and therefore, disseminated and promoted his ideas to a wider medical audience.

His reason for publishing clinical cases such as Sherwood's was to "prove that it is possible to deliver a child, when the head is lessened, through almost any pelvis, however small its dimensions may be".³⁴⁸ From this Osborn established his paradigm on craniotomy. He laid down rules for this paradigm: craniotomy is the only method to deal with pelvic contraction, if the pelvis measures less than three inches perform it early in labour, in extreme cases where the pelvis is less than two inches perform it in two stages so the foetus will putrefy and thus, is more easily delivered; it is safe for the mother, and furthermore the foetus does not suffer as it does not have any feeling of sensation.³⁴⁹ For Osborn, there were no exceptions to his rules. Osborn acknowledged that his "doctrine" would affect his students, his readers and even the public, as it would "influence the conduct, if not actually to direct the practice, of so many professional men".³⁵⁰ He was evidently very certain of his paradigm.

Osborn devoted much of his texts to advocating craniotomy and his model. By citing Sherwood's case and his management of it as the best practice in cases of extreme pelvic distortion, Osborn's ideas were confirmed through actual cases. He therefore, provided not just a theoretical approach, but also a practical way and, according to Osborn, a tested paradigm for

³⁴⁸ Osborn, *Essays on the Practice of Midwifery*, p. 212.

³⁴⁹ *Ibid.*, .

³⁵⁰ *Ibid.*, p. x.

the man-midwife or practitioner to adopt, which dealt successfully with very difficult situations.

A debate erupted

Medical midwifery was on the rise as Osborn laid down his paradigm. Osborn widely influenced the British discussion concerning craniotomy. Significantly, his ideas about the indications, contra-indications, method and obstetric outcome of craniotomy confirmed the dilemma for many practitioners about the procedure. However, with a new confidence in their role in childbirth, it was therefore, not surprising that some of Osborn's contemporaries voiced their opinions to his particular teachings and tensions ran high.

One of the first reactions to the initial publication of Osborn's method was from his co-lecturer Denman. In his *An Essay on Difficult Labours. Part Third, and Last, on Puerperal Convulsions, and on the Descent of the Funis*, published in 1791, Denman appears to have accepted his standing in the decision to perform a craniotomy on Sherwood, as he "was a witness". On the other hand, he questioned the two-part procedure and the time delay involved:

In some cases, from the precarious state of the mother, there will exist a necessity of extracting the head as speedily as we can with safety; yet the general principle to be established is, that the longer we do wait the more easily will the head be extracted. But the patient is to be carefully watched that we do not wait too long, lest unfavourable symptoms should come on, and the end for which the operation was performed be defeated.³⁵¹

Even though Denman supported the necessity of the procedure, he nevertheless, found it problematical to employ one rule for all circumstances. He had trouble with Osborn's rules

³⁵¹ Thomas Denman, *An Essay on Difficult Labours. Part Third, and Last, on Puerperal Convulsions, and on the Descent of the Funis* (London: J. Johnson, 1791), pp. 10–11.

regarding early operation, the size of the pelvis and foetal head, concluding that, “our conduct is not to be governed wholly by them [rules]; but by the reflections of common sense working in a reasonable mind”.³⁵²

Osborn incensed, retaliated and set about composing a twenty-page rebuttal, which appeared as a “Postscript” to the second edition of his *Essays on the Practice of Midwifery, in Natural and Difficult Labours* (1795). In this, Osborn quickly dismissed Denman’s remarks concerning “common sense”. He made the point that most practitioners, especially the young ones, wanted clear-cut rules as they needed guidance in situation where they had “no experience, and of course no practical knowledge”.³⁵³ Denman further incensed Osborn by questioning the accuracy of his pelvic and foetal head measurements.

In addition, Osborn had published his procedure as “new”. However, Denman and his colleagues had neglected to inform him that Christopher Kelly had performed a similar operation in 1758.³⁵⁴ Even though he rationalised this “new” claim in his rebuttal he, nonetheless, blamed his contemporaries for this oversight and his professional humiliation. Understandably, Osborn was concerned over his professional standing, but his derision for his colleagues placed him at the heart of the discussion over craniotomy. Still, there were others also willing, and resolutely wanting, to voice their opinion.

The colleague in midwifery who argued most forcefully against Osborn was Alexander Hamilton (bap.1739–1802). Hamilton was the fourth Professor of Midwifery in Edinburgh, a post he held from 1780 until 1800. He began his medical career as an apprentice to John

³⁵² Ibid., p. 38.

³⁵³ Osborn, *Essays on the Practice of Midwifery*, pp. 362–263.

³⁵⁴ Ibid., pp. 357–58.

Straiton, an Edinburgh surgeon. After Straiton's death, Hamilton became a member of the Edinburgh College of Surgeons in 1762. Subsequently, he gained a MD, became a licentiate and then a Fellow of the Royal College of Physicians of Edinburgh. In 1772 he was selected as physician to the Edinburgh Royal Infirmary. He lectured on midwifery for some years, before being appointed joint Professor of Midwifery at the University of Edinburgh with Thomas Young in 1780. He became sole professor, on Young's death in 1783. It was through his efforts that the Edinburgh Lying-in Hospital was established in 1793. Hamilton's son, James, succeeded him as Professor of Midwifery 1800.³⁵⁵

For Hamilton, the teachings and views of Osborn ran counter to his and he therefore, decided to publish a series of controversial letters clearly aimed at Osborn.³⁵⁶ His *Letters to Dr William Osborn, Teacher and Practitioner of Midwifery in London, on Certain Doctrines Contained in his Essays on the Practice of Midwifery*, published in 1792 consisted of seven letters. Most dealt with Caesarean section (which Osborn strongly opposed), the last seventeen-page letter however, took up the issue of craniotomy. Initially, Hamilton praised Osborn as a "great character both as a Teacher and Practitioner" and a person of "professional eminence".³⁵⁷ But really, he was questioning Osborn's expertise and principles, as further on he commented that certain practices may put society at risk

³⁵⁵ G. T. Bettany, "Hamilton, Alexander," rev. Ornella Moscucci, *ODNB*, online ed. Sept 2012, www.oxforddnb.com/view/article/12043, accessed 15 November 2011; Spencer, *The History of British Midwifery from 1650 to 1800*, pp. 93–99.

³⁵⁶ This was, however, not the first time that Hamilton had been involved in controversy. In 1792 he was accused of writing a pamphlet, *A Guide for Gentlemen Studying Medicine at the University of Edinburgh*, which described the contents of each course, in which Hamilton's course on midwifery was praised and highly recommended to every medical student. As a result of the obvious biases and concerns, Hamilton was accused of writing the guide. Hamilton refuted this accusation, and was finally cleared by the university senate. For a fuller account see, Johnson, *A Guide for Gentlemen Studying Medicine at the University of Edinburgh*; Rosner, *Medical Education in the Age of Improvement*, pp. 47–57; Spencer, *The History of British Midwifery from 1650 to 1800*, p. 99.

³⁵⁷ Alexander Hamilton, *Letters to Dr William Osborn, Teacher and Practitioner of Midwifery in London, on Certain Doctrines Contained in His Essays on the Practice of Midwifery* (Edinburgh: Peter Hill and J. Murray, 1792), p. 2.

and that “the danger increases in proportion to the reputation which those who propagate them hold”.³⁵⁸ At the same time, Hamilton linked the subject of his letters to the “interests of humanity” and being of “greatest importance in the practice of Midwifery”.³⁵⁹ Using the emotive language of “danger”, “humanity” and “greatest importance”, Hamilton set out to discredit Osborn’s authority and morals. This immediately set up the premise that Osborn’s authority could not be used as the basis for accepting his argument. Once Hamilton had taken this stance, he began his argument.

In many ways, Hamilton voiced the same concerns as Denman, with one exception: Hamilton considered the foetus. In the course of rejecting Osborn’s position, Hamilton introduced the argument that:

it is universally acknowledged that children *in utero* possess life, and the power of voluntary motion, and that it is generally, and has been for more than two thousand years, believed by physiologists and naturalists, that everything endowed with life, and the power of voluntary motion, must necessarily have *sensation*.³⁶⁰

According to Hamilton, there was never any doubt that the foetus felt sensation. All along, Osborn had justified craniotomy on a living child because he believed that the child *in utero* felt no sensation and thus, no pain during the procedure. Osborn was not suggesting that he was indifferent to craniotomy on a living infant; in fact, he thought it was a “dreadful necessity”.³⁶¹ Rather, when the necessity arose, he believed that the child did not feel sensation and hence, did not suffer during the procedure. Supporting this, he claimed that during craniotomy the foetus does not struggle. Moreover, the mother, who, when

³⁵⁸ Ibid., pp. 141–42.

³⁵⁹ Ibid., pp. 2,5.

³⁶⁰ Ibid., p. 144. Original italics.

³⁶¹ Osborn, *An Essay on Laborious Parturition*, p. 41.

questioned, was never aware of any violent movements of the infant during the procedure.³⁶² He, nonetheless, seemed worried about the infant, but satisfied himself that “no cruelty, or barbarity, can be said to be committed upon a being absolutely without feeling”.³⁶³

Hamilton dismissed Osborn’s claim regarding the undetected struggles of the infant, as unrealistic. The mother, claimed Hamilton, cannot differentiate between the different types of foetal movements, let alone its death struggles.³⁶⁴ Hamilton clearly found Osborn’s view that the foetus has no sensation *in utero* problematic. He argued that as the infant has life and movement *in utero*, why not sensation. In his final paragraph, Hamilton summed up his feelings towards Osborn and hoped to persuade Osborn “to correct, if not altogether retract those erroneous and, as I think, dangerous, opinions, which you maintain in opposition to these doctrines”.³⁶⁵

Others entered the debate

Not all medical practitioners shared Denman and Hamilton’s concerns. Published craniotomy cases periodically referenced Osborn and his method, a method that some practitioners employed. For example, Clarke attended Mrs West, aged thirty-two and suffering from rickets on 5 November 1785, three days after her labour commenced. Deciding to perform Osborn’s two-part craniotomy, Clarke called in Osborn to assess her pelvic size, but during this procedure Osborn accidentally ruptured the membranes.³⁶⁶ Despite Osborn’s belief that craniotomy was possible with a pelvis that measured only one and a

³⁶² Ibid., pp. 41–42.

³⁶³ Ibid., p. 42.

³⁶⁴ Hamilton, *Letters to Dr William Osborn*, p. 146.

³⁶⁵ Ibid., pp. 154–57.

³⁶⁶ Osborn, *Essays on the Practice of Midwifery*, pp. 206–08.

half inches, it was clearly very difficult and potentially dangerous not only to measure the size of the pelvis, but also to introduce the instruments with such a distortion. But, neither Clarke nor Osborn seemed concerned with, or even aware of this problem, a problem that seemed obvious to the likes of Denman and Hamilton. Mrs West survived with apparently “no complaints”.³⁶⁷ Furthermore, William Lowder, a London man-midwife, who ran a private midwifery school with John Houghton at St Saviour’s Churchyard, Southwark, at the same time as Osborn’s school, mentioned a similar case in his lecture notes. While Lowder accepted the two-part craniotomy, in his opinion, he thought problems arose if the practitioner waited too long before performing the second part.³⁶⁸

Then again, contemporaries, such as John Hull (1764–1843), asked more questions in their accounts of Osborn’s practice. Hull was born in Poulton, Lancashire and graduated as a MD at Leiden in May 1792. Afterwards, he settled in Manchester where he practiced midwifery and was appointed physician to the Manchester and Salford Lying-in Hospital. Hull became a licentiate of the Royal College of Physicians in 1819, and in 1834 a founding member of the Manchester Medical Society and its first president. Apart from medicine, he studied botany and published *British Flora* in 1799 and *Elements of Botany* in 1800.³⁶⁹

Hull was at pains to point out the error of Osborn’s model. To a man for whom the Caesarean section was a possible option, Hull regarded Osborn’s view that craniotomy could be performed through a pelvis which measured as little as one and a half inches as “neither easy to the operator, nor perfectly safe to the mother”, in fact, if practitioners

³⁶⁷ Ibid., p. 212.

³⁶⁸ Spencer, *The History of British Midwifery from 1650 to 1800*, p. 127.

³⁶⁹ G. S. Boulger, “Hull, John,” rev. Michael Bevan, *ODNB*, www.oxforddnb.com/view/article/14108, accessed 25 November 2011.

followed this rule it was “calculated to do great mischief”.³⁷⁰ In reviewing Sherwood’s case, Hull even questioned the accuracy of Osborn’s measurements.³⁷¹ Even if Hull’s stance on Caesarean section coloured his hostility towards Osborn, he cast doubt on the reliability of the Sherwood case and hence, on Osborn’s policies on craniotomy in general. Above all, Hull and the views of his contemporaries depended on their ideas about craniotomy and the seriousness with which they debated their position reflected their concern about the topic.

These arguments however, cannot be characterised simply as quarrels between individual men-midwives. All of them tried to set their colleagues straight about each other’s claims, especially about Osborn’s headstrong enthusiasm for his paradigm. While they were divided in their views about the most appropriate method of dealing with a set of circumstances akin to Sherwood’s, they were also responding to the relatively new medical discipline of midwifery. Concerned about their reputation, status and the acceptability of their procedures, they responded by stressing the problems and dangers of childbirth, thus medicalised the process.³⁷² For Osborn and his colleagues, nothing could be more problematic and dangerous as an obstructed labour, so nothing could be more respected and admired than discussing these hopeless cases. They therefore, set themselves up as authorities, with powers of negotiation for even the most difficult cases.

Furthermore, Osborn combined instruction with science. He detailed the procedure, pelvic measurements and the clinical signs of labour and foetal viability, to show how to assess the problems. Osborn insisted that strenuous labours could be controlled by a set of rules.

³⁷⁰ John Hull, *A Defence of the Caesarean Operation, with Observations on Embryulcia, and a Section on the Symphysis Pubis* (Manchester: R. and W. Dean, 1798), pp. 165, 204.

³⁷¹ *Ibid.*, p. 110.

³⁷² Donnison, *Midwives and Medical Men*, pp. 40, 53; Arney, *Power and the Profession of Obstetrics*, p. 34.

Throughout Osborn's teachings, he had searched for simplicity by identifying the problem and thus, the solution. The others, with their various opinions, were also noting pelves, deformities and delivery techniques. Such an intensive interchange, pointed towards the establishment of a "new" science. Hence, what they were really trying to achieve was an improvement in technique and outcomes in childbirth and, at the same time, indicate to the rest of the community that midwifery was a respectable science.

Responses to Osborn's method continued into the nineteenth century. Despite opinions in favour of this method, some obstetricians such as David Davis and John Burns were sceptical and unconvinced of the propriety of performing Osborn's method. It was not the operation of craniotomy that was their main point of difference but the interval between performing the craniotomy and delivering the mother. They both considered the mother's safety and believed that Osborn's proposed time delay exposed the mother to danger. Burns wrote in the 1809 edition of his *The Principles of Midwifery* that delaying delivery of the infant for over thirty hours would exhaust the mother. It was therefore safer to deliver the infant without delay.³⁷³ Twenty-eight years later in the 1837 edition of his text Burns reiterated this same concern.³⁷⁴ Davis wrote in 1836 that no advantage was achieved by prolonging the labour. He stated that delaying labour sometimes resulted in "the most dangerous symptoms and incidents" for the mother.³⁷⁵

³⁷³ Burns, *The Principles of Midwifery; Including the Diseases of Women and Children* (London: Longman, Hurst, Rees, and Orme, 1809), p. 263.

³⁷⁴ Burns, *The Principles of Midwifery*, (1837), p. 501.

³⁷⁵ David D. Davis, *The Principles and Practice of Obstetric Medicine, in a Series of Systematic Dissertations on Midwifery, and on the Diseases of Women and Children*, 2 vols., vol. 2 (London: Taylor and Walton, 1836), p. 1154. This theme of the obstetricians' responses to Osborn's method in the nineteenth century is taken up again in Chapter 4, pp. 186–89.

Conclusion

By the late eighteenth century London had become a major centre for medical education. In response to a growing demand for educated practitioners, private courses flourished. Osborn was one of the most successful private lecturers. His lectures and subsequent texts on midwifery, illustrated what he called “principle and practice”, as well as his “explicit and decided opinion”.³⁷⁶ Osborn taught about and then published the horrific account of Elizabeth Sherwood as a way to contribute to medical knowledge on craniotomy. From this, Osborn formulated his practice and procedures, and put into place his paradigm. While Osborn passed on knowledge and skills as a means of dealing with distorted pelves, they were encased in his individual attitudes and beliefs around craniotomy.

Osborn admitted that he would “continue to teach the same doctrine, and recommend the same practice, so long as our school remains”.³⁷⁷ Such resolute determination was evident in his promotion, perhaps even obsession with the value of craniotomy. This paved the way for fiery medical debates over Osborn’s policies and beliefs. So, rather than uniting the new field of midwifery, these publicised debates divided the medical community. Importantly though, it stimulated doctors to think critically beyond a set regime. Nevertheless, with no agreeable system of birth management, ideas and attitudes were easily transmitted as knowledge. Moreover, the longevity of Osborn’s teaching and his paradigm was unmistakable as similar discussions continued well into the mid nineteenth

³⁷⁶ Osborn, *Essays on the Practice of Midwifery*, pp. x, v.

³⁷⁷ *Ibid.*, p. 373.

century with the *Lancet* reporting one such dialogue in 1860, eighty-four years after Osborn operated on Sherwood.³⁷⁸

All of this however, did not simply fill the minds of men-midwives and practitioners with facts, or even change their thinking, but rather, it placed the issue of craniotomy at the forefront of midwifery at the dawn of the nineteenth century.

³⁷⁸ Henry Ashton, "A Case of Caesarean Operation," *Lancet* 1 (1860): p. 442.

Chapter 3

Reading her Body:

Negotiating the Criteria for Craniotomy

To deliver a system of rules, precisely applicable to every case, is quite impossible, for much must be left to the judgment of the practitioner, who is to be guided by general principles.³⁷⁹

Mrs D had suffered all her life. As a child she had crawled on “her hands and knees, she had her right arm bent near the wrist” and had not walked until she was eight years old.³⁸⁰ For most of her life she had suffered from the bone disease rickets and its associated deformities. On 12 May 1881, after six gruelling hours spent in labour, this small, slender, pigeon-chested twenty-three year old, hobbled up the steps of the maternity hospital in Glasgow. Once admitted, the doctor on duty lost no time in examining her. Consistent with rickets, he found her pelvis flat and deformed. “From the serious nature of her general symptoms, the patient being in great suffering” five members of the hospital staff were immediately called.³⁸¹ Placing her under chloroform, each internally examined her. They all agreed that turning the child offered the best chance of saving the infant. All went well, until the head became wedged in the pelvis. Eight minutes of forceful pulling on the child’s body and vigorous pushing on the mother’s abdominal wall produced no effect. At long last, after applying a pendulum motion to the infant’s body, suddenly the infant was

³⁷⁹ Burns, *The Principles of Midwifery*, (1837), p. 472.

³⁸⁰ William Turner, “Case Illustrating the Importance of Accurate Pelvimetry, with Description of a New Method,” *Transactions of the Edinburgh Obstetrical Society*, 7 (1882): p. 71.

³⁸¹ *Ibid.*, p. 72.

born. The obstetricians struggled to revive the child, but the outcome was inevitable and “respiration was never fully established”.³⁸²

By the following day Mrs D was “crying out from severe abdominal pain”. Fearing peritonitis, the doctors commenced treatment and by the seventh day she appeared to be improving. However, that evening she suffered severe vomiting along with delirium and intense pain, and in spite of attempts to “rally her”, she died the next day.³⁸³ The post-mortem revealed not only extensive abdominal infection, but also a pelvis smaller than the obstetricians had predicted. Had they known this, “any idea of attempting to save the child’s life would have been abandoned as useless”, and instead “the operation of craniotomy would have been the one chosen”.³⁸⁴

Cases such as this presented a dilemma for the doctors; what was the best means to determine if, when and why to perform craniotomy. In determining the criteria for craniotomy, this chapter will initially detail how craniotomy was performed. It will then outline how obstetric science classified the parturient woman, focusing on the woman’s pelvis, its size being the key issue, and the most common cause of pelvic distortion: rickets. Finally, this chapter will examine the medical and social condition of rickets in the context of industrialised nineteenth-century Glasgow. Glasgow, being very crowded and poor, had a large number of working-class women with rickets and consequently the Glasgow Maternity Hospital records will provide an excellent case study. Factors that influenced craniotomy will be assessed in relation to the women admitted to Glasgow Maternity Hospital and how this location was crucial in formulating the criteria for

³⁸² Ibid., p. 72.

³⁸³ Ibid., p. 73.

³⁸⁴ Ibid., p. 74.

craniotomy. This chapter will also show the ways in which the female body was read in light of these criteria.

Performing craniotomy

According to the London obstetrician and medical author William Tyler Smith, craniotomy was “considered necessary in certain cases of deformed pelvis, obstruction from tumors ... arm presentations, hydrocephalus, convulsions, haemorrhage, exhaustion” and when the mother’s life was in danger and forceps and turning the infant had failed.³⁸⁵ “It is of the greatest importance, with reference to the most common condition of instrumental labour—namely, slight or excessive deformity of the pelvis, that” Tyler Smith declared “the limits should be decided, as far as possible, within which ... craniotomy should be, performed”.³⁸⁶ Descriptions and methods used in cases of contracted pelvises through which the infant was unable to pass and became wedged in the mother’s pelvis occupied a significant portion of British obstetric texts. One of the aims of these texts was to teach and inform. There were instructions not only on how to manage this complication but also on how to perform procedures such as craniotomy. David Daniel Davis, obstetric-physician to the North London Hospital and Professor of Midwifery at the University of London from 1827-1842, explained that the craniotomy instrument was guided by the left hand to the foetal head and by rotating it:

A sufficient opening being made in the head, a part of the brain may be expected to be forced through it, by the bearing down action of the uterus; and that action continuing vigorous, the child’s head will undergo a gradual

³⁸⁵ William Tyler Smith, *A Manual of Obstetrics: Theoretical and Practical* (London: John Churchill, 1858), p. 590. Hydrocephalus is an enlargement of the head due to an increase in fluid of the brain.

³⁸⁶ Ibid.

increasing diminution of its bulk; and eventually the whole of the foetal subject will very probably be expelled.³⁸⁷

However, if that was not enough it was followed by an embryotomy in which the baby was removed piece by piece. Some texts even included illustrations on the procedure. Tyler Smith included two illustrations, one on how to perforate the head (Figure 3.1) and another on how to use craniotomy forceps.



Figure 3.1. Perforation of the Head

A detailed description on the procedure of craniotomy accompanied this illustration³⁸⁸

³⁸⁷ Davis, *The Principles and Practice of Obstetric Medicine*, vol. 2, p. 1154. David Daniel Davis had a son John Hall Davis, also an obstetrician. To avoid confusion the father will be referred to as David Davis and his son as John Hall Davis.

³⁸⁸ Source: Tyler Smith, *A Manual of Obstetrics*, p. 598.

This procedural description and illustration tightened the association between birth and the assumed problems of delivery. Conceptualising childbirth as a problem reinforced the notion that childbirth required medical treatment by medical experts.³⁸⁹ Even so, texts by well-known obstetricians such as Tyler Smith and Davis became the standard works of reference. Tyler Smith's text became one of the most popular obstetric texts in the nineteenth century.³⁹⁰

Medical classifications of the birthing body

During the eighteenth century the notion of classification came to dominate science. Carl Linnaeus, a Swedish biologist and doctor, developed a system of naming, ranking and classifying plants. Medicine subsequently followed this path with diseases differentiated by causes and/or signs and symptoms.³⁹¹

In line with medical science's predisposition for classification, early knowledge about labour was organised into two groups: natural and its converse, preternatural. Smellie, however, extended these categories, according to presentation and effectiveness of labour, to: normal, laborious and preternatural. He defined laborious labour as tedious and lingering requiring medical intervention, forceps or craniotomy while preternatural were those deliveries where the head was not delivered first.³⁹² John Burns (1774–1850), lecturer in surgery and midwifery and appointed Professor of Surgery at Glasgow University in 1815, in his 1837 edition of *The Principles of Midwifery* classified labour

³⁸⁹ Banks, *Birth Chairs, Midwives, and Medicine*, p. 27; Martin, *The Woman in the Body*, pp. 54–57.

³⁹⁰ A. J. Youngson, *The Scientific Revolution in Victorian Medicine* (Canberra: Australian National University Press, 1979), p. 78.

³⁹¹ Roy Porter, *Doctor of Society: Thomas Beddoes and the Sick Trade in Late-Enlightenment England* (London and New York: Routledge, 1992), p. 28; King, *The Medical World of the Eighteenth Century*, pp. 198–99.

³⁹² *Smellie's Treatise on the Theory and Practice of Midwifery*, 1, p. 196.

into seven classes: natural, premature, preternatural, tedious, laborious or instrumental, impractical and complicated. These groups, according to Burns, were only important so that rules relevant to the different labours could be taught and then applied to the different cases.³⁹³

These divisions, however, went well beyond mere instruction. They were underscored by a rational scientific approach to childbirth. Birth had been the domain of a midwife, it was she who decided when the labour was abnormal and thus when to call the surgeon.³⁹⁴ But, with the rise of the new science of obstetrics, the conceptual basis for determining the type of labour changed. Obstetricians came to view childbirth as an imperfect process that required intervention, unlike the midwife's view of childbirth as essentially a natural event.³⁹⁵ Accordingly, all labours, based on complexity, were placed in objective and quantifiable categories.³⁹⁶ Hence, medical authorities were setting obstetrics on a more scientific footing. This was important as obstetricians were beginning to feel confident in arguing their case of scientific authority about the woman's body, her labour and her ability to give birth.

Territories of the science of obstetrics

In the early eighteenth century, the doctor simply listened to the patient's account of his or her symptoms. By the beginning of the nineteenth century, however, doctors were

³⁹³ Burns, *The Principles of Midwifery*, (1837), pp. 372–373.

³⁹⁴ Evenden, *The Midwives of Seventeenth-Century London*, p. 77.

³⁹⁵ Martin, *The Woman in the Body*, p. 54.

³⁹⁶ Various authorities such as Smellie, Bland and Merriman from Britain and Nägele from Heidelberg calculated the frequency of the various classifications of labour. See for example, Burns, *The Principles of Midwifery*, (1837), p. 374.

examining the patient for any signs of illness.³⁹⁷ Prompted by the move from bedside medicine to hospital medicine, David Armstrong argued that this new medical gaze blurred the distinction between normal and illness.³⁹⁸ This fundamental reconfiguration in medicine was especially true for obstetrics and its management of childbirth. Even before the hospital became the popular site for confinement in the twentieth century, childbirth was increasingly viewed as abnormal and pathological.

Moreover, with the rise of the “new science” of anatomy and physiology by the eighteenth-century, anatomists were no longer accepting of the out-dated theory of humors. The old Galenic model, by which men and women were viewed as sexually similar, although the female was hierarchically inferior to the male, gave way to a model of sexual difference based on biology.³⁹⁹ Thomas Laqueur described this as the “two-sex” model. Female reproductive organs were no longer viewed as the inverse of the male but rather as perfect for their intended job of reproduction.⁴⁰⁰

However, in the nineteenth century it was considered that the normal state for middle-class women was one of illness. Their illness appeared to confirm that their reproductive organs drove their wellbeing. With these ideas accepted it was easy to say that childbirth was a pathological event that needed expert medical care. Doctors not only stressed the pathological nature of childbirth but also believed that reproduction was fraught with danger. Tyler Smith, for example, explained that parturition stood “at the boundary

³⁹⁷ David Armstrong, “The Rise of Surveillance Medicine,” *Sociology of Health and Illness* 17, no. 3 (1995): p. 394.

³⁹⁸ *Ibid.*, pp. 394–95.

³⁹⁹ Schiebinger, *The Mind Has No Sex?*, p. 189.

⁴⁰⁰ Thomas Laqueur, *Making Sex: Body and Gender from the Greeks to Freud* (Cambridge, Mass.: Harvard University Press, 1990), p. 152.

between physiology and pathology”.⁴⁰¹ Therefore, great care of the parturient woman, preferably under medical supervision, had to be taken.

By the nineteenth century many doctors were taught obstetrics through formal education. Medical education provided these men with an understanding of the science of the female anatomy and parturition. Drs Lowder and Haighton delivered a set of lectures at the turn of the century that covered: pelvic anatomy, the gravid uterus, normal and abnormal labours, use of instruments, abnormal foetal presentations and the physiological indications for obstetric procedures.⁴⁰² Obstetrics was now considered and taught as a science. Leavitt has demonstrated that men trained in the science of obstetrics not only often inspired confidence in birthing women but also generally performed more interventions. Furthermore, successful forceps deliveries and the use of opium or laudanum and later chloroform, convinced a woman that the doctor’s presence in the birthing room was essential to the success of the birthing process.⁴⁰³ These doctors managed the birth even to the point of making the room comfortable for the woman. For example, Murdoch Cameron, Professor of Midwifery in Glasgow, advised his students to make sure that the birthing room was sunny and had a fireplace, also to inspect the washbasin and pull the bed out from the wall. The nurse was to prepare the bed, spread out the waterproof sheet, organise and remove dirty linen.⁴⁰⁴ Moreover, most doctors prepared for some form of intervention. Among the essential items that the Professor of Midwifery at Edinburgh University, Sir James Simpson, recommended to take to the delivery were chloroform,

⁴⁰¹ William Tyler Smith, “Lectures on Parturition and the Principles and Practice of Obstetricy,” *Lancet* 2 (1848): p. 119.

⁴⁰² MS notes, in *A Syllabus of Lectures on Midwifery Delivered at Guy’s Hospital and at Dr. Lowder’s and Dr. Haighton’s Theatre in St Saviour’s Church-Yard, Southwark* (London: T. Bensley, 1799), GRC 1175.k.45, British Library.

⁴⁰³ Leavitt, *Brought to Bed*, pp. 39–44.

⁴⁰⁴ Alexander Wilson, “Midwifery Lectures: Professor Murdoch Cameron,” vol. 2, (18 November 1897), MS0060/2, RCS, Lecture XXIII.

laudanum, ligature cords, hypodermic syringe, ether, catheter, forceps, suturing thread, needles and a nailbrush.⁴⁰⁵

So, by the nineteenth century the context in which medical practitioners and midwives practiced during the eighteenth century had essentially changed. Medical knowledge, invested with scientific authority, attained pre-eminence.

The pelvis takes centre stage

By the end of the eighteenth century obstetricians were more and more being called for non-emergency births.⁴⁰⁶ Accordingly, obstetricians believed they could become skilled in normal and abnormal births, which would allow them to make well-informed decisions based on knowledge.⁴⁰⁷ This knowledge was linked to predicting birthing outcomes and part of this prediction was identifying the size of the woman's pelvis.

From the eighteenth century onwards concerns over the female pelvis and the birth process were evident. More often than not the first chapter of obstetric texts were about the shape and structure of the pelvis. On the first page of *The Principles of Midwifery*, Glaswegian surgeon and Professor of Midwifery, Burns stated that:

One of the first, and not the least important, of those parts concerned in parturition, is the pelvis, which must be examined, not only on account of its connection with the uterus and vagina, but also on account of its own

⁴⁰⁵ Thomas Corgill Nesham, "Notes of Lectures Given by Sir James Simpson," 1860–1861, MS0165/2/1, RCS.

⁴⁰⁶ Wilson, *The Making of Man-Midwifery*, pp. 164–65.

⁴⁰⁷ Leavitt, *Brought to Bed*, p. 43.

immediate relation to the delivery of the child, and the obstacles which, in many instances, it opposes to its passage.⁴⁰⁸

Understanding the female pelvis added to the obstetrician's claim of determining which births would be difficult and dangerous. Knowing the size of the pelvis and thus the birth canal impacted upon the management and treatment, from natural to craniotomy births. In line with the prevalence of scientific classification, female pelvises were classified according to their size. For example, Alexander Hamilton, Professor of Midwifery at Edinburgh University, distinguished two types of pelvises: standard and narrow.⁴⁰⁹ The London obstetrician and lecturer Francis Ramsbotham (1801–1868) further graded the pelvis into four relative sizes. The first size could successfully deliver a live child, the second smaller than standard could also deliver a live child; the third too small for a live birth, craniotomy being the option; and the fourth too small for craniotomy.⁴¹⁰ Through classification, obstetrics sought to establish a rational and coherent means of determining intervention. In other words, science privileged the voice of the doctors as those best able to understand the female body.

Pelvic size was crucial in deciding whether or not to perform a craniotomy. While frequent indications for craniotomy were: the child dead and tedious labour; forceps had failed; mother was exhausted; the child's head was large or even the infant itself; and abnormal presentation, the most common, nonetheless, was distortion of the pelvis.⁴¹¹ With the size of the pelvis being the most applicable in deciding on craniotomy, many nineteenth-

⁴⁰⁸ Burns, *The Principles of Midwifery*, (1809), p. 1.

⁴⁰⁹ Alexander Hamilton, *Outlines of the Theory and Practice of Midwifery*, 4th ed. (London: T. Kay, 1796), p. 30.

⁴¹⁰ Ramsbotham, *The Principles and Practice of Obstetric Medicine and Surgery*, (1847), pp. 44–45.

⁴¹¹ Churchill, *On the Theory and Practice of Midwifery*, pp. 301–03.

century obstetric texts published diagrams with standard pelvic diameters (Figure 3.2) with measurements taken from the brim.

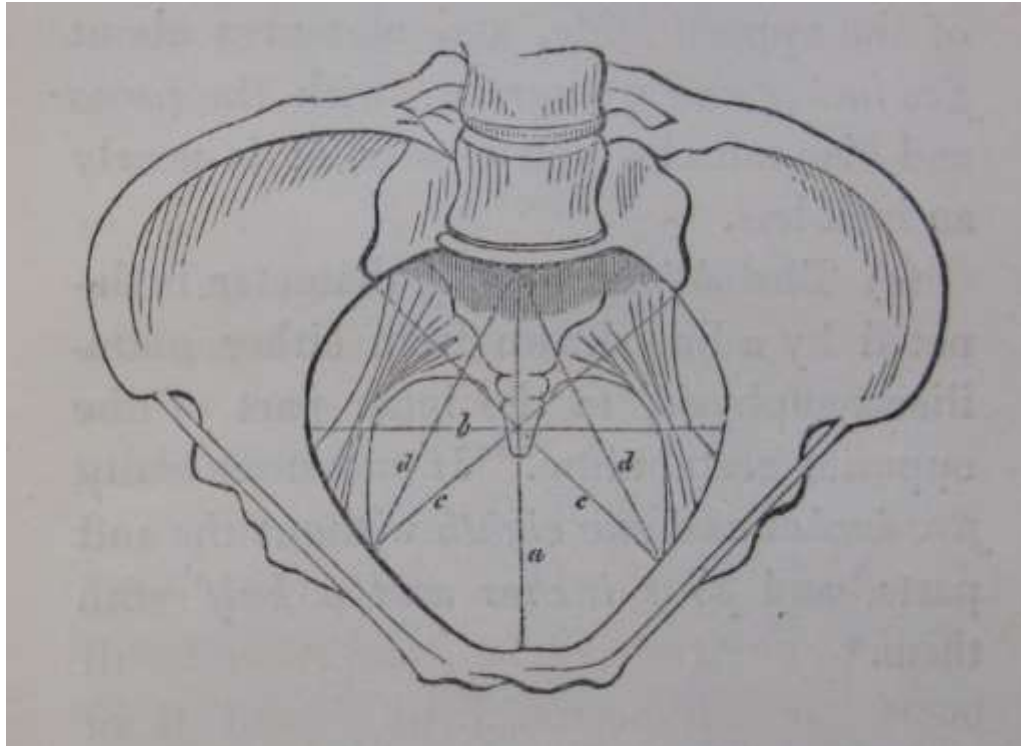


Figure 3.2. Brim of Pelvis Showing Diameters of the Adult Female Pelvis
 (a) anterior posterior or conjugate diameter; (b) transverse or lateral diameter; (c) oblique or long diameter; (d) - sacro-cotyloid diameter⁴¹²

As the diameters were a universally recognised standard, William Playfair stressed the importance of memorising them.⁴¹³ Along with the diameters, actual measurements of the “standard” pelvis were given. They provided a seemingly objective means to denote the difference between normal and abnormal. This then became the benchmark not only for medical intervention but also for instrumental delivery.

⁴¹² Source: James Reid, *Manual of Practical Midwifery: Containing a Description of Natural and Difficult Labours, with Their Management* (London: John Churchill, 1836), p. 3.

⁴¹³ W. S. Playfair, *A Treatise on the Science and Practice of Midwifery*, 7th ed., 2 vols., vol. 1 (London: Smith Elder, 1889), p. 12.

Specimens of the female pelvis were handed around at meetings and the size and shape commented on. To determine if the pelvis was large enough to accommodate the infant, British obstetricians considered an anterior-posterior measurement of about three inches the minimum for a natural or forceps birth, below which it was necessary to deliver by craniotomy.⁴¹⁴ But numerous measurements were published reflecting differing thoughts on the degree of pelvic contraction. So, the rule of guidance for delivering by craniotomy varied as seen in Table 3.1.⁴¹⁵ Yet, the distorted pelvis became the acknowledged qualifier for craniotomy.

Table 3.1. Smallest Diameters for Extraction by Craniotomy

Obstetrician	Diameters (in inches)
	transverse X anterior posterior
Campbell	3 X 2
Dewees, Bedford	3½ X 2
Burns	3 X 1¾
Barlow, Hamilton, Churchill, Ramsbotham, Playfair	3 X 1½
Osborn	3 X 1½
Barnes	3 X 1¾ to 1

Clearly, opinions differed on the qualifying degree of contraction. Playfair conditionally agreed with “various authorities” that it was possible to deliver through a conjugate

⁴¹⁴ Churchill, *On the Theory and Practice of Midwifery*, p. 302.

⁴¹⁵ Source: “Proceedings of the Dublin Obstetrical Society. Forty-Second Annual Session,” *Dublin Journal of Medical Science* 69, no. 5 (1880): p. 448.

(anterior-posterior) diameter of 1½ inch.⁴¹⁶ Fleetwood Churchill concluded that when the anterior-posterior diameter was 1½ inch “there is no possibility of delivery ‘per vias naturales’” leaving only the last recourse, the generally fatal Caesarean section.⁴¹⁷ Robert Barnes was “confident” that he could perform a craniotomy when the conjugate diameter was less than 1¼ inch and suggested that anyone who rejected this simply lacked the necessary expertise.⁴¹⁸ By espousing such a confidence, Barnes promoted and enhanced the status around the practice of obstetrics, and those who practiced it and their knowledge of women’s bodies.

Descriptions of contracted pelves and methods employed for this difficulty occupied a significant portion of British obstetric texts. Burns first published *The Principles of Midwifery* in 1809. His text ran into ten editions, was widely read through Europe and translated into several languages.⁴¹⁹ All editions included a chapter on “Diminished Capacity and Deformity of the Pelvis”. On top of that, by the ninth edition he focused fifty-two pages of the later chapters on operations for slightly to greatly deformed pelves.⁴²⁰ This suggested that knowledge of the contracted pelvis was essential in order to determine when and how to treat this classifiable and recognisable problem.

To revisit for a moment the case of Elizabeth Sherwood, discussed in the previous chapter, it was Osborn who in delivering Sherwood first fixed the conjugate measurement of 1½ inch. The increase in obstetric publications helped to disseminate his criterion and kept it

⁴¹⁶ W. S. Playfair, *A Treatise on the Science and Practice of Midwifery*, 7th ed., 2 vols., vol. 2 (London: Smith Elder, 1889), p. 214.

⁴¹⁷ Churchill, *On the Theory and Practice of Midwifery*, p. 314. The Caesarean section is discussed in detail in chapter eight of this thesis.

⁴¹⁸ Robert Barnes, *Lectures on Obstetric Operations Excluding the Treatment of Haemorrhage and Forming a Guide to the Management of Difficult Labour* (London: J. & A. Churchill, 1886), p. 348.

⁴¹⁹ Campbell F. Lloyd, “Burns, John” *ODNB*, <http://www.oxforddnb.com/view/article/4092>, accessed 1 November 2013.

⁴²⁰ Burns, *The Principles of Midwifery*, (1837), pp. 463–515.

in circulation. Thus, many doctors referred to and followed his guideline. Many years later John Braxton Hicks, obstetric-physician at Guy's Hospital and lecturer in midwifery, suggested that Osborn's claim that any child could be delivered through almost any pelvic dimension was "too hasty". Braxton Hicks claimed that Osborn "might not have been accurately correct [*sic*]" in Sherwood's pelvic measurements.⁴²¹ In making this comment, Braxton Hicks indicated that for him there was a dilemma over determining the measurements for craniotomy. However, by the mid nineteenth century, each practitioner had negotiated his own limiting degree of contraction based on his confidence and skill. So, he was more interested in establishing how to measure the exact degree of contraction to which he would apply his guiding criteria to his decision on delivering the child by craniotomy.

By this time science had come to represent the pelvis as having female or male characteristics. As Ramsbotham observed "the pelvis of the female is altogether larger and more delicately shaped than that of the male ... the bones of the male skeleton are firmer and heavier than there are in the female".⁴²² The "delicate" pelvis was meant to signify her reproductive potential. Londa Schiebinger convincingly argued that this pelvic difference duplicated contemporary ideas about femininity and masculinity, as woman's smaller bones, designed for less work, were equated with weakness.⁴²³ The pelvis seemed to provide a natural explanation for gender differences.⁴²⁴ By holding up the female pelvis as

⁴²¹ J. Braxton Hicks, "An Inquiry into the Best Mode of Delivering the Foetal Head After Perforation," *Transactions of the Obstetrical Society of London* 6 (1865): p. 264.

⁴²² Francis H. Ramsbotham, *The Principles and Practice of Obstetric Medicine and Surgery, in Reference to the Process of Parturition*, 5th revised ed. (London: John Churchill, 1867), pp. 28–29.

⁴²³ Schiebinger, *The Mind Has No Sex?*, pp. 206–11.

⁴²⁴ The uterus, ovaries and breasts were also linked to a woman's gendered role. See, Moscucci, *The Science of Woman* pp. 34–35; Ludmilla Jordanova, "Natural Facts: A Historical Perspective on Science and Sexuality," in *Nature, Culture and Gender*, ed. Carol P. MacCormack and Marilyn Strathern (Cambridge: Cambridge University Press, 1985), pp. 49–50.

the ideal of femininity, medical science implied there was a direct relationship between a woman's biology and her social role. In addition, it suggested that women's frames were built for motherhood.

Measuring the pelvis

Disproportion between the foetal head size and the maternal pelvis (cephalo-pelvic disproportion) was one of the main causes of problems in nineteenth-century childbirth. It was also the main reason for craniotomy. Thus, it was crucial to know the size of the pelvis.⁴²⁵ Furthermore, with the steady improvement in forceps delivery, which lessened birthing traumas and mortality, measurements were becoming very significant. Measuring the proportions indicated the need for medical involvement in the birthing process as well as warning the obstetrician of potential difficulties. Knowing the conjugate diameter was recognised as the best indicator of a narrow pelvis.⁴²⁶ During the eighteenth century practitioners measured the width of the pelvis by digital examination. In determining Sherwood's pelvic diameters, for example, Osborn concluded at the widest it was "three fingers (lying over each other)" which "might at the utmost be about one inch and three quarters".⁴²⁷ Obviously, as the size of fingers varied this was not very accurate. Smellie recognised the problem and was the first to give absolute pelvic measurements.⁴²⁸ One of the outcomes of the more scientific approach was the development of an objective, rather than subjective, method of measuring the pelvis.

⁴²⁵ Hiddinga and Blume, "Technology, Science, and Obstetric Practice: The Origins and Transformation of Cephalopelvimetry," p. 159.

⁴²⁶ Ibid., p. 162.

⁴²⁷ Osborn, *Essays on the Practice of Midwifery*, pp. 190–91.

⁴²⁸ *Smellie's Treatise on the Theory and Practice of Midwifery*, 1, pp. 83–85.

The French obstetrician and Professor of Obstetrics at the Paris faculty of medicine, Jean Louis Baudelocque advanced Smellie's methodology and designed one of the first purpose built callipers, which measured the external pelvic diameters. These replaced a number of internal compasses that were not only painful for the woman but also were unthinkable if relatives wanted to "assess" a girl before marriage.⁴²⁹ External pelvimetry (measuring pelvic diameters) was more popular as it was straightforward, convenient and more agreeable to the woman than internal manual estimation.⁴³⁰

In spite of calling for precise measurements, British obstetricians did not take to these instruments. From his experience as a physician at Glasgow University Lying-in Hospital William Leishman objected to these instruments because they were difficult to apply, were not always accurate, and "not altogether safe".⁴³¹ Under anaesthesia, he recommended putting the whole hand inside the pelvis, although he acknowledged that this was not always easy. Relying on the traditional method, he maintained that the finger was best and would give "an accurate knowledge of the great dimensions of the pelvic brim".⁴³² It was only with twentieth-century radiology that accurate non-invasive pelvic evaluations were possible.⁴³³

In searching for precision and standardisation, pelvimetry brought with it the claim that obstetrics was built on science and it positioned obstetricians as being immersed in scientific knowledge. In doing this, it established a legitimate criterion for craniotomy.

⁴²⁹ Graham, *Eternal Eve*, pp. 367–68.

⁴³⁰ Hibbard, *The Obstetrician's Armamentarium*, p. 265.

⁴³¹ William Leishman, *A System of Midwifery, Including the Diseases of Pregnancy and the Puerperal State*, 2nd American ed. (Philadelphia: Henry C. Lea, 1875), p. 454.

⁴³² *Ibid.*, p. 456.

⁴³³ Hiddinga and Blume, "Technology, Science, and Obstetric Practice: The Origins and Transformation of Cephalopelvimetry," p. 166.

Consequently, by endeavouring for a more accurate assessment women were seen as qualifying for craniotomy. However, it did more than that. It marked and classified those women whose labour would be troublesome.

Ultimately, the developing assessment requirements to meet the criteria for craniotomy, which focused on the pelvis, became integral to the doctors' confidence and authority over the choices to be made. Setting the parameters was important because it presented the female body as highly readable, open to discussion and interpretation in ways that suggested a matter of verification on the part of the doctor. This readability then assisted the doctor in choosing craniotomy.

Rickets: a distressing condition

Cephalo-pelvic disproportion was recognised as by far the most common indicator for craniotomy. While tumours, displaced fractures and large infants could cause this disproportion; rickets was identified as the primary cause.⁴³⁴ Rickets is a childhood bone disease caused by lack of vitamin D. Soranus of Ephesus described rickets as early as the second century AD. The English physician Francis Glisson first published a detailed account of rickets in his *Tractatus de Rachitide* in 1650 (the English edition was published in 1651).⁴³⁵ It was not until the early twentieth century, however, that the link between sunshine and rickets was firmly established. Without sunlight the body does not produce vitamin D, which is essential for healthy bones.⁴³⁶ Even though nowadays it is understood

⁴³⁴ Alexander Wilson, "Midwifery Lectures by Murdoch Cameron," Vol. 3, (5 January 1898), MS0060/3, RCS, Lecture XLIII; Churchill, *On the Theory and Practice of Midwifery*, p. 302.

⁴³⁵ G. Hume Weatherhead, *A Treatise on Rickets: With a New Theory of Ossification, and a Plate and Description of an Improved Reclining Couch for the Distorted*, 2nd ed. (London: S. Highley, 1835), p. 17.

⁴³⁶ Bharathi Pai and Nick Shaw, "Understanding Rickets," *Journal of Paediatrics and Child Health* 27, no. 7 (2011): p. 315.

that 20% of vitamin D comes from diet, mainly oily fish and eggs, the main source (80%), nonetheless, comes from sunlight.⁴³⁷

While the connection between sunlight and rickets was not fully understood in the nineteenth century, its effects of stunted children and deformed adults were clearly visible.⁴³⁸ Burns recognised that rickets characteristically involved the growing bones. Manifesting itself in soft bones, it distorted the pelvis and reduced its capacity, thus constricting the size of the pelvic canal through which the infant was born.⁴³⁹ It also resulted in bowlegs and pigeon-chests.⁴⁴⁰

The eminent London obstetrician, Robert Barnes, explained that the childhood disease of rickets distorted all the bones but:

In the pelvis the bones are nearly $\frac{1}{4}$ under their natural size. Hence when the pelvis is deformed by rickets, it is not only those diameters which are contracted inwards by the thrusting inwards of the bones that are smaller than usual, but all the diameters are less than natural.⁴⁴¹

The signs of rickets were well understood. John Haighton taught his students "if you see a woman who throw [*sic*] herself first on one side and then on the other to get forward or

⁴³⁷ Ibid., p. 318; Denis Gibbs, "Rickets and the Crippled Child: An Historical Perspective," *Journal of the Royal Society of Medicine* 87 (December 1994): p. 730. Moreover, vitamin D deficiency has re-emerged as a significant public health problem in developed countries in recent years, including Australia. See, for example, Caryl A. Nowson and Claire Margetson, "Vitamin D Intake and Vitamin D Status of Australians," *Medical Journal of Australia* 177 (2002): pp. 149–52; Terrence H. Diamond et al., "Vitamin D and Adult Bone Health in Australia and New Zealand: A Position Statement," *ibid.* 182, no. 6 (2005): pp. 281–85; Craig Munns et al., "Prevention and Treatment of Infant and Childhood Vitamin D Deficiency in Australia and New Zealand: A Consensus Statement," *ibid.* 185, no. 5 (2006): pp. 268–72.

⁴³⁸ Anthony S. Wohl, *Endangered Lives: Public Health in Victorian Britain* (London: J. M. Dent, 1983), p. 56.

⁴³⁹ Burns, *The Principles of Midwifery*, (1837), p. 30.

⁴⁴⁰ Hardy, "Rickets and the Rest: Child-Care, Diet and the Infectious Children's Diseases, 1850–1914," p. 397–98.

⁴⁴¹ Robert Barnes, Notebook: Rickets. Osteomalacia, c.1850s–1870s, S61/A/23, RCOG.

waddles along you may be assured she has a Deformed pelvis from Rickets”.⁴⁴² Rickets was a distressing disease. The twisted frames of those suffering from rickets often singled them out as victims of “unfeeling ridicule”.⁴⁴³ For girls, the consequences of pelvic deformities were much more significant than for boys because of the impact on their reproductive capacity.

This distressing disease was not the only condition that women faced; some fought another serious and painful disease, osteomalacia. This is the adult counterpart of rickets and is also caused by a vitamin D deficiency. It has a more insidious course than rickets.⁴⁴⁴ Also termed *mollities ossium* in the nineteenth century, it was not common but most frequently affected women. Its symptoms were distinct from rickets, in that it was an extremely painful debilitating disease often resulting in fractured bones.⁴⁴⁵ According to Barnes the bones become soft and “extremely pliable”, “the legs bow out” and “the pelvis collapses ... The brim, cavity and outlet are all more or less altered”.⁴⁴⁶ Barnes wrote of the extreme pain, sometimes “dull, deep, burning” sometimes “stretching, dragging, tearing, or piercing, boring, or with a feeling of breaking, or as if someone were twisting the bones, or filing them”.⁴⁴⁷

Illustrative of the intense pain was one horrific case involving a young woman who in her mid twenties began to stoop and shortly afterwards was unable to walk. She was admitted to several hospitals and after some time her friends were concerned that “she was going out of her mind”. The pains were so severe that she was “occasionally delirious” and “attempted to

⁴⁴² Giles Roberts, “Lectures on Midwifery Delivered by John Haighton, London,” 1795, RP 5735/1, British Library, pp. 4–5.

⁴⁴³ Weatherhead, *A Treatise on Rickets*, p. 37.

⁴⁴⁴ Louis Solomon, “Metabolic and Endocrine Disorders,” in *Apley's System of Orthopaedics and Fractures*, ed. Louis Solomon, David Warwick, and Selvadurai Nayagam (London: Hodder Arnold, 2010), pp. 135–36.

⁴⁴⁵ “Remarkable Case of Mollities Ossium in a Woman Aged Forty, the Mother of Ten Children; Fatal Result; The State of the Bones After Death,” *Lancet* 2 (1861): p. 330.

⁴⁴⁶ Barnes, Rickets. Osteomalacia, S61/A/23, RCOG.

⁴⁴⁷ Ibid.

commit suicide”.⁴⁴⁸ By this stage her hips and shoulders were very deformed. She was eventually admitted to the “Lunatic Asylum at Hoxton for six weeks” by which time she was “much emaciated and enfeebled ... and suffered excruciating pain”. She was given massive doses of morphine for pain relief but died on 28 October 1842, aged twenty-nine.⁴⁴⁹ In another revealing case, Catherine Howard was bedridden from *mollities ossium*. Unable to turn herself in bed, a workhouse nurse helped her whereupon she exclaimed “Oh My thigh!” The bone broke instantly. Two weeks later and, once more being moved in bed, she fractured her right arm. She died soon after.⁴⁵⁰ Ultimately, both diseases, but much more commonly rickets, remained the chief predisposing reason why obstetricians resorted to craniotomy. Thus, craniotomy was something that could be assessed through the doctor’s sensitivity to the clinical signs before him. Qualifying for craniotomy, nonetheless, was complex and nowhere was this more apparent than in Glasgow.

Glasgow and rickets

There is a vast amount of literature written by economic, political and social historians on the Industrial Revolution and its impact on health. In terms of medical history, there are three major areas of study. Firstly, detailed case studies of specific widespread diseases, in particular cholera, have considered the origins and consequences of particular epidemics.⁴⁵¹ Secondly, the role and development of public health have been studied in

⁴⁴⁸ Joseph Jones, *Mollities Ossium* (Philadelphia: Collins, 1869), p. 30.

⁴⁴⁹ *Ibid.*, pp. 30–31.

⁴⁵⁰ Thomas Blizard Curling, “Particulars of a Case of Mollities Ossium,” 8 October 1834, MS0391, RCS.

⁴⁵¹ For cholera see, for example, William Luckin, “The Final Catastrophe: Cholera in London 1866,” *Journal of Medical History* 21 (1977): pp. 32–42; Michael Durey, *The Return of the Plague: British Society and the Cholera 1831–2* (Dublin: Gill and Macmillan, 1979); Richard J. Evans, *Death in Hamburg: Society and Politics in the Cholera Years, 1830–1910* (Oxford: Clarendon Press, 1987); Peter Baldwin, *Contagion and the State in Europe, 1830–1930* (Cambridge: Cambridge University Press, 1999). For typhus see, for example, William Luckin, “Typhus and Typhoid in London, 1851–1900,” in *Urban Disease and Mortality in Nineteenth-Century England*, ed. Robert Woods and John Woods (London: Batsford, 1984), pp. 79–101;

response to health problems caused by urban growth.⁴⁵² Finally, using improvements in living standards, medical authors, especially sanitation scholars, have sought to account for the decline in mortality in the later part of the nineteenth century.⁴⁵³

But this section will follow a path less well trodden. It will use the city of Glasgow as an illustrative case study. Glasgow is important as it had a large medical community and also because of its rapid economic and social changes during the nineteenth century. Thus, it was reflective of medical and social ideas, beliefs and attitudes and the ensuing discussion in formulating the criteria for craniotomy and, hence, contextualising the problems associated with industrialisation and this procedure.

As a result of industrialisation, the nineteenth century saw Glasgow's textile and shipbuilding industries expand.⁴⁵⁴ Highland clearances, and the Irish potato famine made the factories of Glasgow an attractive destination for workers while simultaneously providing cheap, unskilled and semi-skilled labour to sustain Glasgow's industries.⁴⁵⁵ With

Anne Hardy, "Urban Famine or Urban Crisis? Typhus in the Victorian City," *Journal of Medical History* 32 (1988): pp. 401–25.

⁴⁵² See, for instance, Simon Szreter, "The GRO and the Public Health Movement in Britain, 1837–1914," *Social History of Medicine* 4, no. 3 (1991): pp. 435–63; Wohl, *Endangered Lives*; Francis Barrymore Smith, *The People's Health, 1830–1910* (London: Croom Helm, 1979); Anne Hardy, *Health and Medicine in Britain since 1860* (Basingstoke: Palgrave Macmillan, 2001).

⁴⁵³ Thomas McKeown, argued that the reason for the decline in mortality in the nineteenth century was due, in the main, to the improved state of nutrition associated with the improved standards of living resulting from industrialisation, see Thomas McKeown, *The Modern Rise of Population* (London: Edward Arnold, 1976). McKeown's conclusion has produced, however, much debate and Simon Szreter has argued that the standard of living for many did not improve and the public health movement and medicine played more of a role than McKeown argued. See, Simon Szreter, "The Importance of Social Intervention in Britain's Mortality Decline c. 1850–1914: A Re-Interpretation of the Role of Public Health," *Social History of Medicine* 1, no. 1 (1988): pp. 1–37; Simon Szreter and Graham Mooney, "Urbanisation, Mortality, and the Standard of Living Debate: New Estimates of the Expectation of Life at Birth in Nineteenth-Century British Cities," *Economic History Review* 51, no. 1 (1998): pp. 84–112.

⁴⁵⁴ Andrew Gibb, *Glasgow: The Making of a City* (London: Croom Helm, 1983), p. 82.

⁴⁵⁵ Marguerite W. Dupree, "Family Care and Hospital Care: The 'Sick Poor' in Nineteenth-Century Glasgow," *Social History of Medicine* 6, no. 2 (1993): p. 197.

the growth in industry and urbanisation, by 1821 Glasgow had the largest population in Scotland with 147,043 inhabitants.⁴⁵⁶

While living standards varied considerably, those who had benefited from Glasgow's industrial economy, moved away from the city centre into the outlying suburbs. Many others, however, struggled and faced substandard living conditions, with some inner city areas becoming the site of extreme destitution.⁴⁵⁷ The sanitary reformer, Edwin Chadwick, after his visit in 1842 noted, "the condition of the population in Glasgow was the worst of any we had seen in any part of Great Britain".⁴⁵⁸ Others also pointed out the terrible social conditions of Glasgow. In outlining the difficulties of keeping fever at bay in the poorest parts of Glasgow, a local doctor, David Smith, condemned many of the houses as "more fit for pig-styes than dwellings for human beings" and the entrance "not infrequently some inches deep with water, or mud, of the fluid part of every kind of filth, carelessly thrown down from unwillingness to go with it to the common receptacle".⁴⁵⁹ The squalid conditions provided for doctors like Smith a constant stream of patients.

Industrialisation and urbanisation created conditions in Glasgow that were a threat to the general health of the population. Diseases such as cholera, typhus, measles, scarlet fever and diphtheria were endemic while other health problems such as malnutrition and rickets were widespread.⁴⁶⁰ Industry and overcrowding resulted in overbuilding. This meant that the

⁴⁵⁶ Irene Maver, *Glasgow* (Edinburgh: Edinburgh University Press, 2000), p. 83.

⁴⁵⁷ *Ibid.*, p. 87.

⁴⁵⁸ Edwin Chadwick and M. W. Flinn. *Report on the Sanitary Condition of the Labouring Population of Gt. Britain: By Edwin Chadwick. 1842*, ed. with an introd. by M.W. Flinn. (Edinburgh: Edinburgh University Press, 1965), p. 99.

⁴⁵⁹ David Smith, "Some Account of the Epidemic Fever Prevailing in Glasgow," *Edinburgh Medical and Surgical Journal* 61 (1844): p. 67.

⁴⁶⁰ David Hamilton, *The Healers: A History of Medicine in Scotland* (Edinburgh: Canongate, 1981), pp. 181–82; Gibb, *Glasgow: The Making of a City*, p. 136. For a detailed discussion on sanitation, housing and

confined space between the tenement buildings limited the amount of sunlight, and thus vitamin D. Sometimes the space was so narrow that sunlight did not even reach the street. Even though in 1866 the City Improvement Trust passed legislation to clear the most congested areas, it was not until after the First World War that any real progress was made.⁴⁶¹

Industrial growth resulted, amongst other things, in air pollution. Pervasive smells, gases and smoke emitted by factories and workshops hung over industrial cities.⁴⁶² In Glasgow, the smoke from private dwellings exacerbated this.⁴⁶³ As well as causing lung disease, eye irritations, nausea, digestion problems and sleeplessness, the constant air pollution reduced the amount of sunlight. In addition, children were often kept indoors which directly contributed to the incidence of rickets in children.⁴⁶⁴

As a former Medical Officer of Health in Scotland, A. K. Chalmers reported that it was well known that rickets was associated with industrial cities, and that:

Children reared in some parts of the city like Glasgow, confined to close houses, or compelled to play in crowded streets ... shut out from the light partly by the height of the houses, and partly from the fact that even the sun's rays which do manage to struggle through the canopy of smoke ... are so diluted that they have comparatively little value.⁴⁶⁵

disease in Glasgow and the government's policies to control these problems see, A. K. Chalmers, *The Health of Glasgow 1818–1925: An Outline* (Glasgow: Bell & Bain, 1930).

⁴⁶¹ Thomas Scott Wilson, "The National Health Service 1948–1980," in *Health Care as Social History*, ed. Olive Checkland and Margaret Lamb (Aberdeen: Aberdeen University Press, 1982), p. 150.

⁴⁶² Wohl, *Endangered Lives*, pp. 208–09.

⁴⁶³ Chalmers, *The Health of Glasgow 1818–1925*, pp. 448–49.

⁴⁶⁴ Wohl, *Endangered Lives*, p. 208; Hardy, "Rickets and the Rest: Child-Care, Diet and the Infectious Children's Diseases, 1850–1914," p. 398.

⁴⁶⁵ A. K. Chalmers, "Rickets: Osteotomy and Caesarean Section in Glasgow, 1877–1930," *Glasgow Medical Journal* 116, no. 5 (1931): pp. 259–60.

Because rickets is caused by lack of sunlight often found in overcrowded urban slums, rickets, whilst not restricted to the poor was, however, more prevalent amongst the urban poor.⁴⁶⁶

Poverty went hand in hand with Glasgow's main employer of women, the cotton industry. Competitive prices kept the work demanding, on-going and poorly paid.⁴⁶⁷ Moreover, whole families worked long hours in the textile industry and consequently spent their time indoors.⁴⁶⁸ Hence, sunshine was significantly limited. Certainly, most women did not die from these social conditions, but significantly they created a weak and unhealthy population. A survey of Glaswegian children at the beginning of the twentieth century showed that they were below the national average in terms of height, weight and nutrition.⁴⁶⁹ These oppressive living and working conditions created an environment in which rickets became widespread. And it was rickets that played a vital role in determining craniotomy and birthing outcomes.

Historians such as Loudon, George Rosen and Anthony Wohl claimed that rickets was rife, even to the point of being an epidemic in Glasgow.⁴⁷⁰ Contemporary accounts indicated it was widespread and on the increase. G. Hume Weatherhead, physician and lecturer in *materia medica* and therapeutics at the Westminster School of Medicine, reported that cases of rickets were evident in "the streets of every large town".⁴⁷¹ James Thomson, a

⁴⁶⁶ Loudon, *Death in Childbirth*, p. 135.

⁴⁶⁷ Sydney and Olive Checkland, *Industry and Ethos: Scotland 1832–1914* (London: Edward Arnold, 1984), pp. 91–92, 94–95.

⁴⁶⁸ Gibbs, "Rickets and the Crippled Child: An Historical Perspective," p. 730.

⁴⁶⁹ W. Hamish Fraser and Irene Maver, "The Social Problems of the City," in *Glasgow Volume II: 1830 to 1912*, ed. W. Hamish Fraser and Irene Maver (Manchester: Manchester University Press, 1996), p. 361.

⁴⁷⁰ Loudon, *Death in Childbirth*, p. 136; George Rosen, "Disease, Debility, and Death," in *The Victorian City: Images and Realities*, ed. H. J. Dyos and M. Wolff (London: Routledge & Kegan Paul, 1973), p. 655; Wohl, *Endangered Lives*, p. 56.

⁴⁷¹ Weatherhead, *A Treatise on Rickets*, p. 16.

geologist, who conducted a survey on the children of Glasgow, was horrified at the “prevalence & alarming increase of late years in the physical deformities in the limbs of children in & around Glasgow”.⁴⁷² Moreover, he noted that it affected “so many of the children of the poorer portion of the community”.⁴⁷³ While these findings were possibly part of an inquiry into public health issues, they nonetheless, highlighted the prevalence of rickets and, therefore, contracted pelves.

Glasgow Maternity Hospital: the site of intervention

With the rapidly expanding city, Glasgow needed a second lying-in hospital.⁴⁷⁴ The Glasgow Lying-in Hospital and Dispensary was founded in 1834. It was ready for patients on the 10 December 1834. The first patient was admitted on the 15 December, and the first delivery took place on the 15 January”.⁴⁷⁵ As bed space became an issue it moved several times to larger premises. Its final move was to the corner of Rottenrow and Portland streets in 1860.⁴⁷⁶

Annual reports were used to justify and promote the hospital and consequently various aspects of the hospital’s work were periodically published. From the annual reports and patient registers, the Glasgow Maternity Hospital offered an indoor service wherein

⁴⁷² James Thomson, *Address on the Prevalence of Rickets in the City of Glasgow and West Scotland, and the Relation of Rickets to Food and Water Used* (Glasgow: Robert Anderson, 1884), p. 5.

⁴⁷³ *Ibid.*, p. 45.

⁴⁷⁴ James Towers opened the first lying-in hospital in Glasgow in 1792, but after his son’s death, John, in 1833 it moved next to Glasgow University and the university then undertook its administration in 1834 and was re-named the Glasgow University Lying-in Hospital. Another lying-in hospital, the General Lying-in Hospital was opened in 1844 but closed in 1855. For a history of Glasgow’s lying-in hospitals see Derek A. Dow, *The Rottenrow: The History of the Glasgow Royal Maternity Hospital 1834–1984* (Carnforth, Lancs.: Parthenon Press, 1984), pp. 13–33, 39–41.

⁴⁷⁵ “Glasgow Lying-in Hospital Minute Book: Directors Meeting,” 1834–1856, HB45/1/1, NHSGGCA, p. 37. The Glasgow Maternity Hospital was originally named the Glasgow Lying-in Hospital and Dispensary, in 1866 it was renamed the Glasgow Maternity or Lying-in Hospital and Dispensary. By 1880s it was known as the Glasgow Maternity Hospital. In 1914 it became the Glasgow Royal Maternity and Women’s Hospital. Dow, *The Rottenrow*, pp. 50, 61, 83.

⁴⁷⁶ Dow, *The Rottenrow*, p. 46.

women were delivered in hospital and a domiciliary or outdoor service in which women were delivered in their homes. While the matron or medical students attended normal deliveries, doctors were called to the more difficult cases.⁴⁷⁷

For thirty years between 1869 and 1898 inclusive Robert Jardine, Professor of Midwifery at St Mungo's College University of Glasgow, examiner in midwifery and obstetric-physician to the hospital, compiled lists of figures from the hospital's records including the numbers of indoor and outdoor patients. Using his figures, Figure 3.3 shows the proportion of numbers of the women that used the hospital's services.⁴⁷⁸

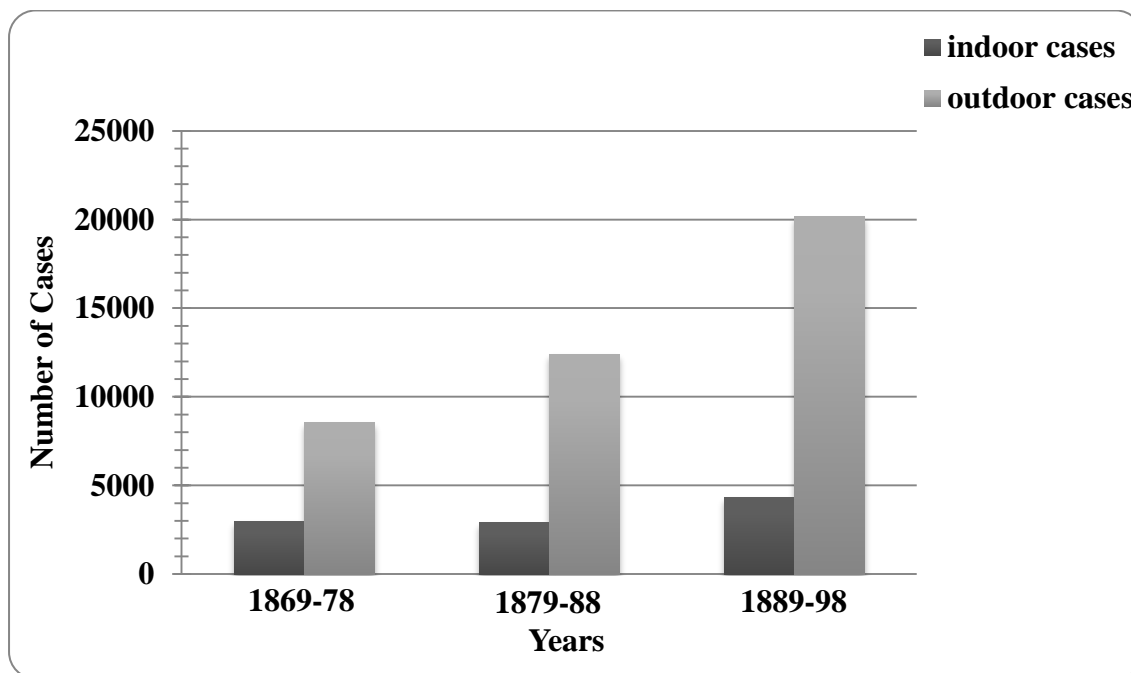


Figure 3.3. Number of Indoor and Outdoor Deliveries at Glasgow Maternity Hospital, 1869–1898

⁴⁷⁷ Patient registers from 1834–1898 are indexed under Indoor or Outdoor and the “Annual Reports: Administrative” table both Indoor and Outdoor cases.

⁴⁷⁸ Source: Robert Jardine, “Statistics of Thirty Years’ Work (1869 to 1898 Inclusive) in the Outdoor and Indoor Departments of the Glasgow Maternity Hospital,” in *Glasgow Hospital Reports*, ed. George S. Middleton, Henry Rutherford, and Walter K. Hunter, vol. 3 (Glasgow: James Maclehose, 1901): pp. 29–56.

Overall, the number of patients delivered both in hospital and at home rose during the recorded period. This may be a reflection of the increasing acceptance of the doctor in the birthing room. In addition, the increasing population and the resulting increase in the number of births may explain the growing numbers. As well, more hospital patients could be accommodated by the extra bed space gained with each move the hospital made.

The most noticeable aspect of the figures from Figure 3.3 was the considerable growth in the number of deliveries attended by the outdoor domiciliary staff in the thirty-year period from 1869 to 1898. Nonetheless, the figures also showed that while home births were more common hospital admissions did rise during this period. Even though the figures indicated an increase in hospital confinements, they provided no reasons as to why. One explanation for this could be that women backed by the hospital increasingly believed that birth could be a problem. Samuel Sloan and William Reid, the hospital's obstetric-physicians, believed there was "an increased readiness on the part of the women to enter the hospital when increased care and more than the usual skill are required".⁴⁷⁹ Another explanation could be that the hospital encouraged women to be admitted. The Fifty-ninth Annual Report of the Glasgow Maternity Hospital, for example, clearly stated not to delay in sending cases to hospital "because, when this is not attended to, the chances of satisfactory recovery in difficult cases is very seriously diminished".⁴⁸⁰

However, there were fears over hospitalisation. One reason was the high risk of contracting puerperal fever. During the eighteenth and early nineteenth centuries, it was undecided whether puerperal fever, also known as childbed fever, was an inflammation or infection,

⁴⁷⁹ "The Fifty-first Annual Report of the Glasgow Maternity Hospital and Dispensary," 1884–1885, HB45/3/3, NHSGGCA, p. 10.

⁴⁸⁰ "The Fifty-ninth Annual Report of the Glasgow Maternity Hospital and Dispensary," 1892–1893, HB45/3/3, NHSGGCA, p. 6.

whether it was localised or not.⁴⁸¹ This shocking fever, now recognised as a result of infection of the uterus, sometimes appeared before delivery from premature rupture of the membranes and/or death of the foetus, but for the most part occurred during or after delivery. In the most serious cases, death was from septicaemia or peritonitis or both.⁴⁸² (Peritonitis is an inflammation of the peritoneum, a membranous coat that lines the abdominal cavity and covers the viscera). This was a highly contagious disease and death from it was quick and painful. The patient's suffering from this devastating infection moved Nathaniel Hulme (1732–1807), physician to the City of London Lying-in Hospital, to write "I almost shudder, with horror, when I consider the excruciating torments that must rack the distressed patient, under these dreadful circumstances!"⁴⁸³

Unbeknownst to them, it was mainly the doctors who created the deadly cycle of infection. Without understanding how bacteria spread, they never washed their hands between operations. Continually going from an infected woman or post-mortem to deliveries where the practitioner internally examined the woman, and/or used instruments, he perpetuated the cycle.⁴⁸⁴ Any woman was susceptible to fever, but it was more likely to strike those in hospitals attended by doctors due to frequent examinations, contaminated instruments,

⁴⁸¹ Christine Hallett, "The Attempt to Understand Puerperal Fever in the Eighteenth and Early Nineteenth Centuries: The Influence of the Inflammation Theory," *Medical History* 49, no. 1 (2005): pp. 1–28; Murphy-Lawless, *Reading Birth and Death*, p. 120. It is acknowledged nowadays that the most likely cause of puerperal fever was the bacterial organism *Beta haemolytic streptococcus*, Group A.

⁴⁸² Loudon, *Death in Childbirth*, pp. 53–56. There are many historical accounts of puerperal fever including: Annette Rubinstein, "Subtle Poison: The Puerperal Fever Controversy in Victorian Britain," *Historical Studies* 20, no. 80 (1983): pp. 420–38; Margaret Delacy, "Puerperal Fever in Eighteenth-Century Britain," *Bulletin of the History of Medicine* 63, no. 4 (1989): pp. 521–56; Stanley A. Seligman, "The Lesser Pestilence: Non-Epidemic Puerperal Fever," *Medical History* 35, no. 1 (1991): pp. 89–102; Irvine Loudon, *The Tragedy of Childbed Fever* (Oxford: Oxford University Press, 2000); Caroline M. de Costa, "'The Contagiousness of Childbed Fever': A Short History of Puerperal Sepsis and Its Treatment," *Medical Journal of Australia* 177, no. 11 (2002): pp. 668–71.

⁴⁸³ Nathaniel Hulme, *A Treatise on the Puerperal Fever: Wherein the Nature and Cause of That Disease, So Fatal to Lying-in Women, Are Represented in a New Point of View Illustrated by Dissections; and a Rational Method of Cure Proposed, Confirmed by Experience* (London: T. Cadell, G. Robinson and J. Almon, 1772), p. 7. Original exclamation mark.

⁴⁸⁴ Cassidy, *Birth: The Surprising History of How We Are Born*, p. 57.

dressings and bed linen.⁴⁸⁵ This was particularly relevant when craniotomy was performed, as it always involved internal examinations, instruments and the foetus was often dead prior to the procedure. So, the risk of this deadly infection was ever-present. John Mackintosh, physician to the Edinburgh Infirmary during the 1820s, summed up the devastating effect of the condition, “there is not a corner in Britain where this formidable disease had not made many mourners”.⁴⁸⁶

During 1856 puerperal fever reached a crisis and Glasgow Maternity Hospital closed twice during the year, further epidemics erupted in 1860 and 1879 and the hospital closed again for three weeks in 1863 for cleaning.⁴⁸⁷ Doctors called to outdoor patients often worked in “hovels of the most abject description” which went some way to explain the recurring bouts of puerperal fever in the hospital.⁴⁸⁸ Of the deaths listed in Jardine’s report, septicaemia topped the list.⁴⁸⁹ So while the outcomes presented by the annual reports were positive ones, there was a balance between the dangers of exposure to puerperal fever and childbirth that required hospital admission and possible craniotomy.

Difficult births in the Glasgow Maternity Hospital

Most births took place at home. However, as we have seen the number of women admitted to Glasgow Maternity Hospital grew. A proportion of them were suffering from rickets and its related condition, a contracted pelvis. Loudon argued that as much nineteenth-century

⁴⁸⁵ de Costa, “The Contagiousness of Childbed Fever”: A Short History of Puerperal Sepsis and Its Treatment,” p. 668.

⁴⁸⁶ John Mackintosh, *A Treatise on the Disease Termed Puerperal Fever: Illustrated by Numerous Cases and Dissections* (Edinburgh: W. Blackwood, 1822), p. 5.

⁴⁸⁷ Dow, *The Rottenrow*, pp. 46, 49–51, 57.

⁴⁸⁸ “Glasgow Lying-in Hospital Minute Book,” HB45/1/1, NHSGGCA, p. 41.

⁴⁸⁹ Jardine, “Statistics of Thirty Years’ Work (1869 to 1898 Inclusive) in the Outdoor and Indoor Departments of the Glasgow Maternity Hospital,” p 51.

obstetric literature focused on the contracted pelvis and the related complications, it seemed that the condition was reasonably common. From his research he deduced that although rickets and the resulting contracted pelvis occurred, it was not particularly common, less than 0.5% of deliveries involved “grossly” contracted pelves.⁴⁹⁰ His focus, nonetheless, was on the link between “grossly” contracted pelves and maternal mortality. Mark Skippen in his study on the prevalence of disproportion in Glasgow concluded that without adequate statistics it is difficult to establish the prevalence of these cases in obstetrics. He stated that while the majority of deliveries were normal, distorted pelves were encountered, although probably only involving a small percentage of total cases.⁴⁹¹

Jardine, reported that of the 703 cases admitted to the hospital in 1903, 98 involved contracted pelves, about one in seven. The incidence may have actually been higher as he stated that he only included those particularly difficult deliveries. Not surprisingly, with the high incidence of rickets in Glasgow, all, bar one of these, were due to rickets.⁴⁹² Seemingly, obstetricians did encounter quite a few cases where the child was in danger of becoming wedged in the maternal pelvis due to its abnormal shape. There were a number of procedures to deal with a range of contracted pelves: forceps, craniotomy, version (turning the infant) and induction of premature labour. Caesarean section was not popular until the end of the century due to its horrendous maternal mortality rate.⁴⁹³ Between 1869

⁴⁹⁰ Loudon, *Death in Childbirth*, pp. 130–43.

⁴⁹¹ Mark Skippen, “Obstetric Practice and Cephalopelvic Disproportion in Glasgow between 1840 and 1900” (Ph.D., Thesis, University of Glasgow, 2009), pp. 94–102.

⁴⁹² Robert Jardine, *Clinical Notes of a Series of Twenty-Two Cases of Obstructed Labours, Including Eight Cases of Induction of Labour, Four Cases of Symphysiotomy, and Ten Cases of Caesarean Section* (London: Sherratt & Hughes, 1904), p. 1.

⁴⁹³ Version, induction of premature labour and Caesarean section are discussed in Chapter 7, pp. 270–84, and Chapter 8.

and 1898 Jardine reported on the number of these operative procedures performed by the hospital. Table 3.2 was compiled from Jardine's original hospital figures.⁴⁹⁴

Table 3.2. Number of Operative Procedures at Glasgow Maternity Hospital, 1869–1898

Procedure	1869–1878		1879–1888		1889–1898	
	Indoor/Outdoor		Indoor/Outdoor		Indoor/Outdoor	
Forceps	68	188	307	518	650	759
Craniotomy	2	4	38	20	112	16
Version	21	64	39	116	154	129
Induction	2	0	10	0	90	3
Total deliveries	2960	8553	2897	12402	4322	20156
Procedures combined: % of total	3.1%	3.0%	13.6%	5.3%	23.3%	4.5%

One clear trend from Table 3.2 was, as the century progressed, all procedures were performed more frequently. This general increase seemed to indicate a willingness to act earlier rather than prolonging labour. The procedures performed indoor, that is at the hospital, rose significantly in each ten-year period. Moreover, those performed indoor increased proportionally more than procedures performed by the outdoor domiciliary service. The rise in hospital procedures could be a result of the belief of both indoor and outdoor doctors that the hospital was the best place for medical intervention. Jardine wrote that although the experienced practitioner dealt with difficult cases at home, the “exceptionally difficult cases are transferred to the hospital” and this resulted in an

⁴⁹⁴ Compiled from, Jardine, “Statistics of Thirty Years’ Work (1869 to 1898 Inclusive) in the Outdoor and Indoor Departments of the Glasgow Maternity Hospital,” pp. 29–56.

enormous increase in “operative work”.⁴⁹⁵ Jardine particularly commented on the large increase in craniotomies because:

Deformities of the pelvis from rickets is so very common at the present day that we are practically never without one or two cases in the hospital, and have sometimes had as many as eight. Within the last two or three years fully 10 per cent. of the cases have had contracted pelves, and by that I mean with a true conjugate of from 3¾ inches downwards. We have had many others with very slight contractions.⁴⁹⁶

The prevalence of rickets and its resulting contracted pelves significantly affected the incidence of craniotomies and the necessity of its performance.

This increase in craniotomies also raised the issue of professional competence. Part of the hospital’s objective was providing medical students with a course “in practical midwifery” which meant attending deliveries.⁴⁹⁷ This was a progressive approach as it was not until 1884 that training in midwifery became a requirement for medical registration in Britain and in 1886 the Medical Amendment Act made midwifery a mandatory part of the medical curriculum.⁴⁹⁸ In attending and instructing on difficult births, many doctors felt they had the expertise to identify those in need of operative intervention. They could then use their knowledge to demonstrate and communicate this with each other and the students. This educational objective boosted the claims of doctors as experts. Furthermore, it was highly likely that doctors also used instructional sessions to defend their decisions and actions and, hence, justify their authority in the birthing room. Apart from this, with the number of craniotomy cases and in passing on clinical instruction, these obstetricians were

⁴⁹⁵ Ibid., pp. 30, 52.

⁴⁹⁶ Ibid., p. 53.

⁴⁹⁷ “The Thirty-fourth Annual Report,” HB45/3/1, NHSGGCA, p. 1.

⁴⁹⁸ Moscucci, *The Science of Woman*, p. 74.

increasingly becoming more secure in their knowledge and confident in their criteria for judging when and how to perform craniotomy.

Those who were admitted

While the voices of women who were treated in Glasgow Maternity Hospital cannot be recovered, the hospital's annual reports, minute books, patient registers and case notes used in this section provide some evidence of women's experiences, their circumstances, doctors' view of their patients and treatment of them.

From the hospital's inception, its stated aim was twofold: to provide education and clinical training for students and to assist the "poor creatures" of Glasgow during confinement.⁴⁹⁹ For example, the 1858 report stated that the hospital "demonstrates a great amount of relief which has been afforded to a very helpless class of sufferers, a large proportion of whom would otherwise have been neglected in their hour of trial".⁵⁰⁰ Many of the women admitted to the hospital were widows or deserted wives "in a state of extreme destitution".⁵⁰¹ Others were carried in off the streets already in labour, while "others were sent to the Hospital by the Officers of Police, perceiving their advanced pregnancy, and knowing the wretched condition of their ordinary abodes".⁵⁰² Contained in a collection of hand-written notes was a graphic account of these "wretched" conditions from which some women were admitted:

⁴⁹⁹ "The Thirty-ninth Annual Report of the Glasgow Maternity or Lying-in Hospital and Dispensary," 1872–1873, HB45/3/1, NHSGGCA, p. 7.

⁵⁰⁰ "The Twenty-fourth Annual Report of the Glasgow Lying-in Hospital and Dispensary," 1857–1858, HB45/3/1, NHSGGCA, p. 6.

⁵⁰¹ "Glasgow Lying-in Hospital Minute Book," HB45/1/1, NHSGGCA, p. 39.

⁵⁰² Ibid.

She was confined in an apartment lately used as a coal cellar, being underground, and the damp rising to the height of four feet on the walls. There was no fire place, no bed or mattress. A scanty portion of straw kept the woman's body from the cold earth; – a few rags were the substitute for bed clothes.⁵⁰³

By the time the doctor arrived this woman was in labour and the baby had been dead some time. She died on the second day after delivery from puerperal fever. The outcome in such conditions was sad but not surprising. Other women were described in hospital case notes as “pale, delicate, phthisical”, that is suffering from pulmonary tuberculosis, “thin emancipated”, and “pale anaemic” and again, hardly surprising, all died.⁵⁰⁴ The social circumstances of the parturient woman therefore jeopardised her health and increased her chances of craniotomy.

Apparently, some hospitals offered these women more than purely medical attention. The historian Alison Nuttall has used hospital records to show that the Edinburgh Royal Maternity Hospital performed a social function. She has shown that many women who entered the hospital did so because of social dislocation, broken family relationships and/or poverty, which precluded family support at home during childbirth. For them the hospital provided a social shelter.⁵⁰⁵ This was also true of the Glasgow Maternity Hospital. The Annual Reports emphasised the safe haven that the hospital gave the desperately poor. Reflecting on the previous year, the Twenty-fifth Annual Report maintained:

⁵⁰³ Ibid., p. 59.

⁵⁰⁴ “Case Notes from the Glasgow Maternity or Lying-in Hospital and Dispensary,” 1866–1881, HB45/6/1, NHSGGCA, pp. 49, 62, 107.

⁵⁰⁵ Alison M. Nuttall, “The Edinburgh Royal Maternity Hospital and the Medicalisation of Childbirth in Edinburgh, 1844–1914” (Ph.D., Thesis, The University of Edinburgh, 2002), p. 74–123; Nuttall, “‘Because of Poverty brought into Hospital: ... ‘ A Casenote-Based Analysis of the Changing Role of the Edinburgh Maternity Hospital, 1850–1912,” pp. 263–280.

As in former years, the patients who received shelter and maintenance during their confinement were of the most destitute class ... It is truly painful to contemplate what the condition of many of them must have been had they not had such an asylum for their reception in their hour of trial.⁵⁰⁶

This suggested that the hospital was not without sympathy for these women and from the report it was clear that an objective of the hospital was to provide shelter for the poor. Probably because of the number of destitute women in Glasgow, this objective remained in place throughout the century, with the 1893 report reiterating that the “comforts of the Hospital have afforded a welcome change to them in their hour of trial, from their not too comfortable homes”.⁵⁰⁷ The grounds on which some women were admitted displayed a caring and concerned attitude to the desperately poor.

At the same time, one of the common consequences of poverty was poor health. The poor health of the patient attracted much attention. For the obstetrician, the female body displayed and explained the necessity of interventions such as craniotomy. It also explained the risks and outcomes. According to John MacMichan Pagan, Professor of Midwifery at Glasgow University from 1840 till 1868, by the time the women were admitted the risks were high, even fatal, as they were in a state of “difficulty and danger”.⁵⁰⁸ Explaining the deaths of four women in the hospital from November 1851 to November 1852, James Wilson, one of the first two “Ordinary Accoucheurs” at the hospital and later the Senior Superintendent, laid the blame not with the hospital:

⁵⁰⁶ “The Twenty-fifth Annual Report of the Glasgow Lying-in Hospital and Dispensary,” 1858–1859, HB45/3/1, NHSGGCA, p. 6.

⁵⁰⁷ “The Fifty-ninth Annual Report,” HB45/3/3, NHSGGCA, p. 6.

⁵⁰⁸ J. M. Pagan, “Contributions to Midwifery Statistics and Practice,” *Glasgow Medical Journal*, 1 (1853–54): p. 208.

but solely in the character of those who resort to it [hospital], and are confined there. These individuals are a more destitute and wretched class than the others [home patients], the greater proportion of them being without homes of any description. Often diseased from exposure, irregular living, starvation, and harsh treatment from their husbands, who have deserted them, they are ill prepared to pass through childbed confinement favourably.⁵⁰⁹

He suggested that the “poor” female body came with risks attached. These women who came from the slums of Glasgow challenged the hospital’s medical role, the procedures performed, and its advocated expertise. As obstetricians encountered more desperate cases they felt confident in predicting the dangers and the appropriate treatment including the likelihood of craniotomy. A woman’s social circumstances proved a telling and potent criterion to explain the causality of rickets and hence, craniotomy.

While the hospital admitted the destitute, it did not, however, admit the unmarried. Even though these mothers often hid their pregnancies and suffered feelings of shame, fear and disgrace, Tanya Evans has argued that this was not the whole picture.⁵¹⁰ Rather than seeing them as social outcasts and morally degenerate, Evans found that friends, employers and institutions often treated them with compassion. For example, the Foundling Hospital and some lying-in hospitals accepted and helped them.⁵¹¹ One such London hospital was Store Street Lying-in Hospital to which the unmarried Elizabeth Sherwood was admitted.

Nonetheless, the Directors’ meeting minute book recorded in 1834, the year Glasgow Maternity Hospital opened, that “none shall be admitted but those who are married”.⁵¹² If

⁵⁰⁹ James Wilson, “Report of the Glasgow Lying-in Hospital and Dispensary, for the year 1851–52, with an Address to the Students Attending the Hospital,” *Glasgow Medical Journal* 1, no. 1 (1853): pp. 2–3.

⁵¹⁰ Evans, ‘*Unfortunate Objects*’, pp. 4–5, 113.

⁵¹¹ *Ibid.*, pp. 67–97, 145–60.

⁵¹² “Glasgow Lying-in Hospital Minute Book,” HB45/1/1, NHSGGCA, p. 10.

unmarried women were admitted it was feared that the Glasgow's wealthy citizens would not donate each year to support the hospital, as they might see the hospital as encouraging immorality.⁵¹³ Lara Marks, a medical historian, has argued that it was not until the end of the century that voluntary hospitals began to aid unmarried mothers. With society's increased concern for unmarried mothers and their infants, first-time mothers or those in exceptional circumstances were admitted and hospital policy regarding single mothers increasingly relaxed over time.⁵¹⁴ Yet, and in line with Evans' argument, this was not the case at the Glasgow Maternity Hospital in 1834. Even though the hospital policy was to admit married women only, many of the medical staff argued against refusing admission to single mothers on the basis of humanity for "Two lives were in peril, one of which at least was an innocent one".⁵¹⁵ Whatever their marital status, many doctors believed that these women were entitled to care. Some doctors were not without feelings over their plight. Though unsanctioned, single mothers were admitted.

Throughout the nineteenth century single women dominated the hospital patient registers, regardless of the rules. Using Jardine's figures again, from 1869 to 1898, of the 41,111 who gave birth at home only 3,773 or 9% were single. In contrast, of the 10,179 women who delivered in the hospital, 6,976 or 69% of hospital patients were single.⁵¹⁶ Moreover for the same period, the number of married women admitted increased from 810 to 1563.⁵¹⁷ It seemed that many single women chose to give birth in hospital. Perhaps they felt increasingly confident and comfortable with the social and medical care they would

⁵¹³ Dow, *The Rottenrow*, pp. 31–32.

⁵¹⁴ Lara Marks, "Mothers, Babies and Hospitals: 'The London' and the Provision of Maternity Care in East London, 1870–1939," in *Women and Children First: International Maternal and Infant Welfare 1870–1945*, ed. Valerie Fildes, Lara Marks, and Hilary Marland (London and New York: Routledge, 1992), p. 54.

⁵¹⁵ "Glasgow Lying-in Hospital Minute Book," HB45/1/1, NHSGGCA, p. 40.

⁵¹⁶ Jardine, "Statistics of Thirty Years' Work (1869 to 1898 Inclusive) in the Outdoor and Indoor Departments of the Glasgow Maternity Hospital," pp. 33–49.

⁵¹⁷ *Ibid.*, pp. 43–47.

receive in hospital. With little help available elsewhere hospital was possibly an option they chose.

Moreover, the wretched circumstances of single mothers made them more prone to conditions such as rickets. As well as recording details of deliveries, such as name, date admitted, date delivered, hours in labour, type of delivery and outcome, and the register from 3 August 1866 to 10 January 1881 also included the mother's marital status.⁵¹⁸ For example, the patient records indicated that on 22 January 1871, Elizabeth Balfour, recorded as single and suffering from a distorted pelvis, was in such poor physical condition she "died from sheer exhaustion". Jane Carney, also recorded as single, was admitted on 25 October 1867 with a very contracted "rickety pelvis" and afflicted with phthisis (pulmonary tuberculosis). The birth was difficult due to severe pelvic contraction and was finally delivered by craniotomy.⁵¹⁹ At the same time, this cannot be understood as a condition of single motherhood. Many of the married women had "small", "narrow" or "deformed" pelves. At the time Mrs Fanny Smith was admitted on 2 September 1871, she was "half starved" and "had a very emaciated look".⁵²⁰ Despite this, with the majority of inpatients being single, and often suffering from rickets and the associated contracted pelvis, they were thus more likely to require craniotomy. Ultimately, it was the social circumstances surrounding the issue of poverty that made the likelihood of craniotomy class and economic based.

⁵¹⁸ "Patient Registers: 3 August 1866–10 January 1881 – Indoor, Glasgow Maternity Hospital and Dispensary," HB45/5/15, NHSGGCA.

⁵¹⁹ Ibid.

⁵²⁰ Ibid.

Conclusion

During the nineteenth century childbirth increasingly came under medical control. As more doctors were attending births, which were both normal and difficult, they needed a medical standard by which they could assess the need for craniotomy. Backed by the rational and orderly approach of science, doctors examined the maternal pelvis more frequently than before. The pelvis was divided into numbers and measurements in order to argue the place of craniotomy. Hence, the pelvis became a crucial qualifier for craniotomy. Obstetricians could thus, state with confidence as to when and why to perform craniotomy over other procedures. The practice of craniotomy became a matter of clinical judgment.

It was not, however, as clear-cut as that. Explanations of the clinical picture for performing craniotomy, as recorded by doctors and hospital records, however revealed a more complex diagnosis. Industrialisation produced circumstances that affected some women's child-birthing outcomes. These women suffered the impact of poverty, were in bad health, physically exhausted, and exhibited the debilitating condition, rickets. Doctors, while in control, were not indifferent to the challenges these women faced. Yet, in the end, social as well as medical circumstances contributed to the incidence of craniotomy.

This chapter has argued that the criteria for craniotomy were not merely a list of scientific and clinical standards, but linked to socio-economic situations. In addition, it was also bound up with the maternal body. Doctors increasingly depicted childbirth as dangerous with craniotomy one of the necessary interventions that could resolve the problems of childbirth. As a result, obstetricians read the female body as vulnerable, a vulnerability that demanded their presence and determined the performance of this procedure. This produced a discourse on the maternal body. This was important as it helped in defining the eligibility

for craniotomy. Ultimately, obstetricians operated with greater certainty once they could categorise women, their bodies and their birthing problems.

Chapter 4

Saving her Life:

The Practice and Purposes of Craniotomy

On the whole, perforation [craniotomy] is an operation decidedly favourable to the mother.⁵²¹

At half past two in the morning of Saturday 3 January 1857, a letter arrived at the home of the respected London obstetrician, Robert Lee. The note was from a fellow practitioner who very briefly outlined the case of a thirty-four year old woman he had first seen on Thursday. At the time of writing, she had been in labour forty-two hours. Even though the labour initially progressed slowly the attending doctor was not unduly concerned. But, by midnight on Friday, there was no progress and the situation was ominous as the head of the infant was wedged in the pelvic brim. Half an hour after receiving the message, Lee was at the distraught patient's bedside. In his notes he recorded "Nature will never complete the delivery. Immediate delivery necessary. The perforator and crotchet the only means by which the life of the patient can be preserved".⁵²² With such poor prospects, the woman underwent the suggested craniotomy and after two hours of "hard exertion" the procedure was complete. The ensuing haemorrhage stopped when Lee manually removed the placenta. Even though the infant was destroyed, the operation was deemed a success with the patient recovering "most favorably".⁵²³

⁵²¹ Karl Schroeder, *A Manual of Midwifery Including the Pathology of Pregnancy and the Puerperal State*, trans. Charles H. Carter (New York: D. Appleton, 1873), p. 198.

⁵²² Robert Lee, *Three Hundred Consultations in Midwifery* (London: John Churchill, 1864), p. 104.

⁵²³ *Ibid.*, p. 105.

This case of prolonged and obstructed labour was not the normal nineteenth-century confinement. However, for such problematic labours craniotomy was judged a most appropriate procedure. By the nineteenth century craniotomy was clearly not only the most appropriate way but also the traditional means to save a woman's life in otherwise hopeless labours. For the mother the prognosis was deemed good.

From early times, hooks, chains and crotchets were commonly used to reduce the infant's head and then extract it. As such it was a ghastly procedure. Reported craniotomy cases in journals and texts do suggest a medical cruelty and indifference. In these fora such cases were used to inform and stimulate discussion and debate around clinical methods, rather than show any concern for the woman. This chapter, nevertheless, will show that the rationale behind craniotomy was not as cruel or heartless as it appeared. While the actual operation itself may have been gruesome, the ideology and practice of it was often motivated by care and consideration.

Fundamental to this discussion was the mother. She played a pivotal role, as craniotomy was designed to save her life and not let her die undelivered. This chapter will initially explore how medicine and society viewed the parturient woman. Following this, the relationship between the hazards and complications of labour and the central position that the mother's life and death occupied will be examined. These considerations will be mediated through what craniotomy could do for her in problem labours. The chapter will also consider the interaction between acceptance and safety through the designs of craniotomy instruments. Seemingly united in their purpose to define, treat and save the maternal body, nonetheless a divide opened up between the obstetricians over the method of performing the procedure, with consideration given to the body of the mother. This chapter will focus on the early and mid-nineteenth century, a period in which obstetric

writing blossomed, which in turn revealed medical observations, ideas, attitudes and practices in relation to craniotomy.

The parturient woman

Prior to the rise of the man-midwife, childbirth was a female affair. The midwife, with female friends and family surrounded the mother during her confinement. They prepared the birthing room by drawing the curtains, lighting the fire to protect the mother from drafts and sometimes stuffing the keyhole to exclude outside air and evil spirits.⁵²⁴ Candles were lit, the caudle (a hot drink of wine or gruel) was made to keep up her strength and spirits. Support and assistance was given to her throughout the delivery. Subsequent to this was a period of recovery, lying-in, which lasted a month, although some women may have had to return to domestic duties or work before this time. After the lying-in period, Anglican mothers would attend the ceremony of “churching”. At the centre of this service, the minister instructed the mother to give thanks to God for her safe deliverance from childbirth.⁵²⁵ One implication behind this was that women and society recognised the potential dangers to a woman’s life during confinement.

Once childbirth was constructed as a medical condition, it moved out of the female realm and into the custody of medicine and was subjected to its management. The mother’s safety, nonetheless, was still central under this new regime. Nowhere was this more apparent than in the birthing room. According to Charles White, a surgeon and man-midwife from Manchester, it was the practitioner’s duty to carefully watch the mother

⁵²⁴ Cassidy, *Birth: The Surprising History of How We Are Born*, pp. 51–52.

⁵²⁵ Adrian Wilson, "The Perils of Early Modern Procreation: Childbirth with or without Fear?" *Journal for Eighteenth Century Studies* 16, no. 1 (1993): p. 3; "Participant or Patient? Seventeenth Century Childbirth from the Mother's Point of View," pp. 137–41.

throughout labour, as “We shall then be better able to assist her when she stands in need, and to set her right if by any accident she has been diverted from her course”.⁵²⁶ Effectively then, the mother and the birthing room came under the custody and authority of the doctor. It was often the doctor who made any changes to the routine of delivery. William Cadogan, a physician to the Foundling Hospital, criticised the lack of ventilation, which, he claimed, often led to the mother catching “irrecoverable colds”.⁵²⁷ White suggested clean sheets, no visitors unless “absolutely necessary”, the door and windows should be open and the mother should be encouraged to get out of bed as soon as possible. He continued:

a constant fire in a small room, when the person has not been accustomed to one, may overheat the patient. This I know will be objected to by the nurses, upon their own account, especially if they are to wake, but waking is what I do not approve, except on the first night, and then only if the delivery be late in the evening.⁵²⁸

While it was true that this was reflective of the obstetrician’s emerging authority, it does not necessarily follow that this was his only concern. The doctor’s directives in the birthing room also suggested he was there for the mother’s safety. Even though male rather than female authority progressively controlled confinement, nevertheless, safe delivery of the mother was a real concern for the doctor and midwife.

⁵²⁶ Charles White, *A Treatise on the Management of Pregnant and Lying-in Women* (London: Edward and Charles Dilly, 1773), p. 93.

⁵²⁷ William Cadogan, *An Essay Upon Nursing*, 8th ed. (London: Robert Horsfield, 1764), p. 10.

⁵²⁸ White, *A Treatise on the Management of Pregnant and Lying-in Women*, pp. 113–14.

Many women approached childbirth with anxiety and fear.⁵²⁹ The “churching” ritual at the end of the mother’s lying-in period not only legitimised but also reinforced this fear, as it was a thanksgiving service for her safe delivery from the dangers of birth.⁵³⁰ A number of primary sources revealed that women were anxious about childbirth. Nineteenth-century British women’s diaries and letters have revealed that pregnant women often wrote about the anxieties they felt regarding childbirth. Francis Elizabeth Blathwayt, for example, recorded in her diary that after the birth of her second son in December 1853 she “could hardly believe the dreaded time was over”.⁵³¹ A few even prepared for death. During her pregnancy, Laura Lyttelton wrote to her brother-in-law, Edward, of her premonitions of death. So fearful was she of dying that she even wrote a will two months before her confinement. A week before the delivery she told her sister, Margot Tennant, that she felt certain she would die in labour. On 16 April 1886, after a gruelling instrumental delivery, her baby was born. Unfortunately, after suffering continual bouts of vomiting and haemorrhage for several days, Laura lapsed into unconsciousness and died.⁵³² Women’s emotions concerning childbirth were, no doubt, complex, changing and diverse. However, many women clearly feared their confinement. In Laura Lyttelton’s middle-class world, women were often apprehensive about their imminent births, and with reason - it could be perilous.

⁵²⁹ Antonia Fraser, *The Weaker Vessel: Women’s Lot in Seventeenth-Century England* (London: Mandarin, 1984), p. 77; Lucinda McCray Beier, In “Sickness and in Health: A Seventeenth Century Family’s Experience,” in *Patients and Practitioners: Lay Perceptions of Medicine in Pre-Industrial Society*, ed. Roy Porter (Cambridge: Cambridge University Press, 1985), p. 104; Patricia Crawford, “The Construction and Experience of Maternity in Seventeenth-Century England,” in *Women as Mothers in Pre-Industrial England*, ed. Valerie Fildes (London: Routledge, 1990), pp. 3–38; Sharon Howard, “Imagining the Pain and Peril of Seventeenth-Century Childbirth,” *Social History of Medicine* 16, no. 3 (2003): pp. 368–69..

⁵³⁰ Cynthia A. Huff, “Chronicles of Confinement: Reactions to Childbirth in British Women’s Diaries,” *Women’s Studies International Forum* 10, no. 1 (1987): p. 64.

⁵³¹ Quoted in *ibid.*, p. 66.

⁵³² Pat Jalland, *Death in the Victorian Family* (Oxford: Oxford University Press, 1996), p. 182.

Doctors also recorded that women were particularly nervous of childbirth, which also drew on the discourse about childbirth as pathological. John Jones, a medical practitioner with over fifty years experience, noted that a woman's nerves transformed an otherwise normal pregnancy into a diseased state. Her mind became filled with "infinite fears, apprehensions, and reluctance" while any thoughts about forceps may cause a hysterical fit.⁵³³ A working-class woman, on the other hand, according to Jones, did not suffer these nervous complaints as she worked right up until the time of birth. As such they were thought to be hardier and hence bore children more easily.⁵³⁴ Jones' claim probably rested on the gender construction of middle-class women as delicate, emotional and sensitive. Essentially, for Jones, women's child-birthing contexts divided the classes. The way class was regarded, therefore, probably had a bearing on a woman's views, experiences and fears of childbirth.

Those doctors who attended childbirth saw the perilous side of it. As a way of managing the potential "problems" they provided advice. Self-help guides, written by doctors during this time, sought not only to ease the mother's worries but also emphasised the doctor's concern for her well-being. Jones advised pregnant women to avoid "high narrow-heeled shoes upon carpeted stairs, riding unmanageable and stumbling horses, or seeing terrifying sights ... long journeys either in carriages or on foot" especially if their "former travels, perhaps, reached no farther than from the toilet to the church and the card-table".⁵³⁵

One popular guide was Pye Henry Chavasse's *Advice to a Wife* first published in 1842 and re-printed many times during the century. Chavasse started by reminding the woman that

⁵³³ John Jones, "Medical Vulgar Errors Refuted," in *Medical, Philosophical, and Vulgar Errors, of Various Kinds, Considered and Refuted* (London: T. Cadell Jun. and W. Davies, 1797), pp. 57, 60.

⁵³⁴ *Ibid.*, p. 60.

⁵³⁵ *Ibid.*, p. 62.

first and foremost she must remain healthy during her pregnancy. Included in his recommendations were: rest for two or three hours a day; short walks but avoid “running, horse-exercise, and dancing”; a diet of plain food “high-seasoned dishes should, therefore, be avoided”; her bedroom should be “large and airy”; her clothing should not be tight; and a “*tepid*-bath, once a week, is beneficial”.⁵³⁶ Even though such advice was aimed at all parturient women, realistically, many of these recommendations would have been beyond the reach of most women, as such a routine could only be carried out by middle and upper-class women with servants. Lisa Cody suggested that such advice emphasised the middle-class woman’s delicacy and her place in the home.⁵³⁷ Indeed, this seemed to be the case, possibly because the majority of women attended by doctors were from the middle class. While it conformed to the discourse about the pathological nature of childbirth, it also suggested a concern about maternal safety and the best way to enhance the mother’s wellbeing and minimise the risks associated with childbirth.

Regardless of their class, doctors gave assistance to labouring mothers. John Leake, physician at Westminster Lying-in Hospital explained, “none, who are worthy to be called men, will desert even the poorest of them; their nerves are strung to the same sensations of pleasure and pain as those of the rich; they are formed of the same materials, and ordained to the same end”.⁵³⁸ In other words, Leake believed that all women had a right to medical help during childbirth. For him, doctors had a duty and the capacity to assist women regardless of class. While many obstetricians had a patient base made up of predominately

⁵³⁶ Pye Henry Chavasse, *Advice to a Wife on the Management of Her Own Health, and on the Treatment of Some of the Complaints Incidental to Pregnancy, Labour, and Suckling*, 5th ed. (London: John Churchill, 1863), pp. 43–53. Original italics.

⁵³⁷ Cody, *Birthing the Nation*, p. 148.

⁵³⁸ John Leake, *A Lecture Introductory to the Theory and Practice of Midwifery: Including the History of That Science; with a View of Its Several Branches, and the Proper Means of Attaining a Perfect Knowledge of the Whole*, 4th ed. (London: R. Baldwin, 1782), p. 53.

middle and upper class women, in general though, when they were called to problem situations they attended women rich and poor.

Hazardous deliveries

The main cause of hazardous deliveries was cephalo-pelvic disproportion, a mismatch between the size of the mother's pelvis and the foetal head. In these cases the mother and her infant would likely die unless an operation was performed. Maternal mortality rates reflect how hazardous a contracted pelvis could be. Loudon, in his study of maternal mortality, examined the incidence of total maternal mortality compared with deaths from contracted pelvis in Britain and abroad from 1787–1899.⁵³⁹ Even though the sample sizes vary and the time scale varies from twelve to two years, based on Loudon's findings for Britain from 1787–1852, the mortality rates from a contracted pelvis ranged from 7% to 25% of the total maternal deaths. The three hospitals, Dublin Lying-in Hospital, Royal Maternity Charity, London and Glasgow Lying-in Hospital and Dispensary had the highest rates of 8%, 11% and 25% respectively. Samuel Merriman's private practice recorded the lowest rate of 7%.⁵⁴⁰ The higher hospital rate could be explained by those admitted to the hospitals included a greater proportion of emergency cases and lower socio-economic patients. A woman with a contracted pelvis did have the likelihood of having a more dangerous delivery than a woman without. While rates varied, hazardous labour from a contracted pelvis sometimes resulting in maternal death was a real possibility. It was to prevent this very outcome that craniotomy was generally employed.

⁵³⁹ Loudon, *Death in Childbirth*, pp. 139–40.

⁵⁴⁰ *Ibid.*, p. 139.

In the shadow of the death of Princess Charlotte in 1817, a rethinking, as discussed in Chapter One, regarding the British stance on intervention emerged. More and more obstetricians were aware of possible risks from non-intervention. While many accepted that some active intervention was needed to help a woman in childbirth, nevertheless, opinions differed about the type of instrumental assistance she needed. Forceps were designed to save mother and child whereas craniotomy destroyed the infant.

If the baby was high in the pelvis and the pelvis mildly deformed, many chose forceps. However, early nineteenth-century forceps could be hazardous when used hastily or by an untrained medical practitioner. If forceps were applied before the foetal head was engaged in the mother's pelvis, or even before it was visible in the birth canal, they became dangerous to the mother and child. The possible serious risks with these high forceps deliveries included, forceps slipping and causing extensive lacerations; infection in the damaged tissue; haemorrhage; and grave damage to the foetal head.⁵⁴¹

Feelings sometimes ran high over the use of forceps. It was reported that Joseph Clarke, Master of the Rotunda Hospital, Dublin from 1786 to 1793, had said that he would rather cut off his right hand than use forceps on a woman in her first labour. When Thomas Beatty (1800–1872) Professor of Obstetrics at the Royal College of Surgeons Ireland from 1842 to 1857, presented him with statistics in favour of using forceps, Clarke, in a melodramatic gesture, replied by challenging Beatty to a duel!⁵⁴² In making this emotive gesture, it appeared that Clarke, and probably others, found forceps difficult to use and more often than not unsuccessful, leaving the labour unresolved. In short, while some

⁵⁴¹ Wertz and Wertz, *Lying-In*, p. 37.

⁵⁴² A. R. Simpson, "The Invention and Evolution of the Midwifery Forceps," *Scottish Medical and Surgical Journal* 7, no. 6 (1900): p. 487.

forceps deliveries would have been successful, others, especially in small pelves, were uncertain, unsafe and frequently unsuccessful.

James Blundell (1790–1878), Professor of Obstetric Medicine at Guy’s Hospital, believed that more harm came from using forceps than was gained. If there was a risk of bruising or tearing the mother from a forceps delivery, then Blundell believed that it was better to perform a craniotomy. “Dreadful, however, as the operation is, the safety of the mother sometimes peremptorily requires its performance” while “there is none, perhaps, more easily performed”.⁵⁴³ It was clear that forceps were not necessarily safe for both mother and infant, nor did they guarantee a live child. The mother was often left in a worse condition and the foetus remained undelivered. The upshot of the sentiments of men such as Blundell was that it reinforced craniotomy’s widely accepted place in the obstetrician’s repertoire.

As forceps were sometimes inadequate in delivering the child even through a mildly deformed pelvis, craniotomy remained an important part of British practice in dealing with cephalo-pelvic disproportion. Indicative of this was the data Fleetwood Churchill (1808–1878), founder and physician to the Western Lying-in Hospital, Dublin, Professor of Midwifery at the School of Physic, and twice president of the Dublin Obstetrical Society, collected on craniotomy cases. His figures came from English, French and German practitioners and spanned 1781 to 1839. He tabulated that British doctors performed craniotomies 1 in 219 cases, French doctors 1 in 1,205.6 and German doctors 1 in 1,944.3 and those on the Continent used forceps more than twice as often as those in Britain.⁵⁴⁴

⁵⁴³ James Blundell, *The Principles and Practice of Obstetricy, as at Present Taught by James Blundell, M.D.* (London: E. Cox, 1834), pp. 531–32.

⁵⁴⁴ Churchill, *On the Theory and Practice of Midwifery*, pp. 274–76, 298–99.

This distinction was important because it indicated that British obstetricians were somewhat distrusting of forceps and consequently resorted to craniotomy more frequently than their Continental colleagues. Furthermore, the place of craniotomy was secure in British practice. In promoting craniotomy's crucial place, Edward Murphy, of Dublin and Professor of Midwifery at University College, claimed that once the infant was dead "the operation may be undertaken without hesitation, because it is one much less calculated to injure the soft parts of the mother than that, with the forceps, and it is easier to perform".⁵⁴⁵

The result of all of this was that a blend of thinking and practice regarding the benefits and limitations of the form of intervention survived well into the nineteenth century. Most doctors acknowledged craniotomy as not only acceptable but also a valuable procedure. Moreover, many maintained their stance on craniotomy during their practicing lives. One of the most prominent among them was Robert Lee (1793–1877).

Lee was born into a prosperous farming family from Melrose, Roxburghshire, Scotland. In 1814 he graduated as M.D. from Edinburgh University and became a member of the Edinburgh College of Surgeons. His fellow students described him as hard working, diligent and conscientious.⁵⁴⁶ After several years abroad, he returned to London and was elected physician to the British Lying-in Hospital in 1827. During the next few years Lee's rising reputation opened the doors to many public appointments including physician-*accoucheur* to Southwark Lying-in Institution and lecturer in midwifery at the Webb-Street School in 1829. The Webb-Street appointment was the first sound indication of his success in London, as it paid £150 per annum. In 1830 he was elected fellow of the Royal Society

⁵⁴⁵ Edward W. Murphy, "Lectures on the Mechanism and Management of Natural and Difficult Labours," *Lancet* 2 (1845): p. 113.

⁵⁴⁶ "Biographical Sketch of Robert Lee, M.D., F.R.S.," *Lancet* 1 (1851): p. 332

and in 1832 physician-*accoucheur* to the St Marylebone Parochial Infirmary and parish.⁵⁴⁷

Through Lord Melbourne, he was appointed Professor of Midwifery at Glasgow University in 1834, but resigned after his inaugural address. There had been considerable opposition to his appointment, which was possibly a factor in his resignation.⁵⁴⁸ With his Webb-Street position gone, he gladly accepted a lecturing role at St George's Hospital and the chair of midwifery in 1835.⁵⁴⁹

While his obstetric practice flourished, he amassed clinical experience and knowledge. In Lee's view, according to the transcripts from his diaries:

Writing on various subjects connected with my profession is of great utility and above all keeping a faithful record of what I witness in practice & not a week or month should pass away without some considerable increase of Knowledge & General information.⁵⁵⁰

Moreover, as he developed professionally, he sought the company of "men older, more experienced, and more talented" than himself.⁵⁵¹ Essentially, he saw himself as an expert and leader through the knowledge that he gained from his clinical practice and peers. A newspaper cutting in a manuscript in the Wellcome library stated he had "strong prejudices and much given to denunciation of those from whom he differed".⁵⁵² Nonetheless, Lee showed that there was an emotional side to him when his wife, Matilda, died in 1833. At this low ebb of his life he lamented that he "was rendered one of the most wretched beings

⁵⁴⁷ Hilary Marland, "Lee, Robert," *ODNB*, www.oxforddnb.com/view/article/16306, accessed 12 June 2012; *Ibid.*, p. 335.

⁵⁴⁸ Dow, *The Rottenrow*, pp. 24–25.

⁵⁴⁹ *Lancet* 1 (1851), p. 335

⁵⁵⁰ Robert James Lee, "Notes on, and Extracts from his Father's Diaries, with Drafts for a Book on his Life and Works," MS3225, Wellcome Library.

⁵⁵¹ *Ibid.*

⁵⁵² Robert Lee, "Autobiographical Oddments," MS3219, Wellcome Library.

in this world by her death”.⁵⁵³ Regardless, from his professional perspective he was hard working, successful, if opinionated and was “widely consulted”.⁵⁵⁴ Evidently he, and other colleagues, felt confident in his obstetric judgement, decisions and skill.

Lee promoted, with considerable influence, his views on craniotomy, as well as his attitude to forceps, which, in his opinion, could be both beneficial and harmful. He advocated performing craniotomy especially if the infant’s head was high in the pelvis, the pelvis was distorted, and the vagina or cervix was rigid.⁵⁵⁵ In a descriptive list of cases that he compiled, Lee criticised the judgement and skill of others in these matters. Called to a case at Middlesex Hospital, Lee laid the blame for the resultant sloughing (ulcerated or necrosed tissue) of the patient’s vagina and death of the child squarely on the practitioner’s rash use of the forceps.⁵⁵⁶ In a further case involving a twenty-six year old in labour for over two days, Lee stated that the attending doctor, Mr Brown, should not have delayed in performing the craniotomy once he realised that a forceps delivery was impossible. In doing so he had put the mother’s life at risk.⁵⁵⁷ Lee’s son, Robert James, adopting his father’s position also taught regardless of the situation, forceps should never be applied to deliver a dead child, craniotomy being the clear choice.⁵⁵⁸

⁵⁵³ Lee, “Notes on, and Extracts from his Father’s Diaries,” MS3225, Wellcome Library.

⁵⁵⁴ Lee, “Autobiographical Oddments,” MS3219, Wellcome Library.

⁵⁵⁵ Lee, *Clinical Midwifery*, pp. 9–10.

⁵⁵⁶ *Ibid.*, p. 16.

⁵⁵⁷ *Ibid.*, pp. 60–61.

⁵⁵⁸ R. J. Lee, “Notes of Lectures on Midwifery and Diseases of Women and Children,” in *St. George’s Hospital Reports. 1872–4*, ed. John W. Ogle and Timothy Holmes (London: J. & A. Churchill, 1875), pp. 42–43.

The core value: maternal life

One aspect of obstetric intervention that all British practitioners agreed upon at this time was that the life of the mother was paramount. Craniotomy was regarded as a low risk operation for the mother. The death of the infant was viewed as acceptable if the mother's life was saved. Such sentiments were expressed during the eighteenth-century. Osborn considered the loss of the mother "considerable", whereas the infant's death was "so extremely small as almost to vanish to nothing".⁵⁵⁹ This viewpoint concerning the relationship between maternal and foetal life continued throughout the nineteenth century, even though the attitude towards the infant did shift somewhat.⁵⁶⁰ David Davis, Professor of Midwifery at the University of London, claimed that the mother's life was "more valuable" than the life of the child.⁵⁶¹ In his text *The Principles and Practice of Obstetric Medicine and Surgery*, Francis Ramsbotham, obstetric-physician to the London Hospital, wrote that the life of the mother was "paramount". He emphasised that she was "bound to the world by many social, moral, and religious ties ... others are dependent on her; when she dies, there is left a blank, which, to some surviving, never can be filled".⁵⁶² In essence, such attitudes were arguing that the mother's life was relatively more important than the infant's life.

Craniotomy, in making the best of a terrible situation, fulfilled this core obstetric tenet. Furthermore, some doctors believed it was the mother's "right" to have "precedence over her unborn child".⁵⁶³ Lee was more circumspect in his views, but his opinion was much the

⁵⁵⁹ Osborn, *An Essay on Laborious Parturition*, pp. 42, 47.

⁵⁶⁰ The emergence of the foetus is discussed in Chapter 5 of this thesis.

⁵⁶¹ Davis, *The Principles and Practice of Obstetric Medicine*, 2, p. 1152.

⁵⁶² Ramsbotham, *The Principles and Practice of Obstetric Medicine and Surgery*, (1847), p. 217.

⁵⁶³ Robert Barnes, *Lectures on Obstetric Operations Including the Treatment of Haemorrhage and Forming a Guide to the Management of Difficult Labour*, 2nd ed. (London: J. and A. Churchill, 1871), p. x.

same. “The operation of craniotomy is performed by all British practitioners of reputation” wrote Lee, adding that “This operation is performed from a conviction that if neglected to be done at a sufficiently early period, the mother’s life will be sacrificed, and the life of the mother is considered as much more important than that of the child”.⁵⁶⁴ To Lee, the advantages of craniotomy were clear: it saved the mother’s life; caused comparatively minimal soft tissue damage to mother; and gave a timely solution to a complicated birth.

In reality, if the mother died in childbirth the foetus would also die. Post-mortem Caesarean section was the one option that could save the infant, however, most British doctors were unfamiliar with Caesarean section, as it was not commonly practiced due to the horrific maternal mortality rate. This, together with the fact that doctors had a very small window of opportunity to deliver the infant once the mother had died meant that post-mortem Caesarean sections were rarely employed. Even when performed, very few infants survived.⁵⁶⁵

It was not just doctors who adopted this pro-maternal position. The London midwife, Elizabeth Nihell, argued that while the skills and management of midwives were aimed at saving both the mother and child, they were “always with due preference however to the mother”.⁵⁶⁶ Thus with the preservation of life always resolved on the basis of saving the maternal life, as death of the mother was an “irreparable loss”, craniotomy remained an acceptable choice.⁵⁶⁷

While many doctors could justify craniotomy, they nevertheless realised that this decision went beyond the purely medical. Even though the mother’s life was the most important,

⁵⁶⁴ Lee, *Clinical Midwifery*, p. 10.

⁵⁶⁵ Young, *Caesarean Section*, pp. 224–33.

⁵⁶⁶ Nihell, *A Treatise on the Art of Midwifery*, p. ix.

⁵⁶⁷ Osborn, *An Essay on Laborious Parturition*, p. 47.

medical practitioners of the day recognised the paradox of craniotomy: saving one life meant death to the other. So the practitioners faced an extremely difficult decision and one not taken lightly. Ramsbotham described the procedure as “heart-rendering”.⁵⁶⁸ Churchill viewed craniotomy as a “sad necessity, one to be avoided “. ⁵⁶⁹ It was for the London obstetrician, William Lowder, “a shocking spectacle”.⁵⁷⁰ Doctors were not complacent about the heart-breaking nature of the operation. Sensitive to the mother’s feelings Lowder advised his students to sew up the head and put a cap on before presenting the dead infant to family and friends.⁵⁷¹ Barnes supported such advice.⁵⁷² The descriptions reflected not only the loss of the infant’s life and hence shattered the woman’s hopes of becoming a mother, but also the emotional difficulty the doctor faced in deciding upon, and then performing it. Many medical practitioners were emotionally aware and affected by the sadness and gravity of this procedure.

By the time the doctor was called and craniotomy performed often the woman had been in labour for days on end. This created further problems. John Hall Davis, accompanied by his father, was called to an Irishwoman who had already spent four days in labour. Arriving at her home in the Westminster Abbey area, they found the twenty-five year old:

seated on a chair, breathing with difficulty; her hands cold and clammy; her pulse so frequent and irregular as scarcely to be counted; her eyes sunken, and the rings around them dark; the tongue brown, almost black.

The atmosphere of the room was very offensive. The poor sufferer was immediately placed on her bed. The vagina and soft outlet were found swollen, gangrenous, and emphysematous. The unavoidable prognosis was

⁵⁶⁸ Ramsbotham, *The Principles and Practice of Obstetric Medicine and Surgery*, (1847), p. 218.

⁵⁶⁹ Churchill, “Obstetric Morality,” p. 319.

⁵⁷⁰ Hooper, “Midwifery Lectures,” MS0104/2/2, RCS, p. 618.

⁵⁷¹ Ibid.

⁵⁷² Robert Barnes, Notebook: Craniotomy, c. 1850s–1870s, S61/A/9, RCOG.

given; and the friends were prepared to expect that the patient might die during delivery.⁵⁷³

They delivered her by craniotomy, whereupon she “lapsed into muttering delirium, and died within two hours afterwards”.⁵⁷⁴ The risks, therefore, of delaying craniotomy could be fatal to the mother. Once the signs set in, the doctors in such grave and distressing circumstances could do very little but deliver and wait. While craniotomy was not always a desirable choice, it nonetheless provided a better option than the horrendous suffering and death of long-labouring mothers such as this Irishwoman.

Such cases were used as case studies for students. Signs and symptoms were described not only to show the dangers of leaving the woman in prolonged labour but also to help students and fellow practitioners recognise, evaluate and best deal with the complications of lingering labours. Davis in his text *Illustrations of Difficult Parturition*, in which the Irishwoman’s case was chronicled, explained in the preface that he hoped the text “may serve as a guide to some of my professional brethren in similar instances of difficulty and danger”.⁵⁷⁵ In spite of this, such cases also demonstrated that medical practitioners were capable of articulating compassionate responses to these grave and desperate situations. Nonetheless, the tenet was clear, “where one life is sacrificed to secure the other: the mother’s safety being purchased by the destruction of her child, in cases where both would be lost if no interference were attempted”.⁵⁷⁶ The practitioner was obliged to adhere to this.

⁵⁷³ Davis, *Illustrations of Difficult Parturition*, p. 221.

⁵⁷⁴ Ibid., p. 221.

⁵⁷⁵ Ibid., Preface.

⁵⁷⁶ Churchill, *On the Theory and Practice of Midwifery*, p. 289.

How craniotomy saved the mother

By positioning the mother's life as "paramount", the defining criterion in choosing craniotomy was the imminence of maternal death. In evaluating this, the doctor had to assess the problem and the urgency of the situation. There were several problems which could arise during labour in which craniotomy could save the mother. By far the most prevalent was a contracted pelvis, already discussed in chapter three. In this case the foetal head often became jammed in the pelvis and the resultant labour, which could last for days, either ruptured the uterus or exhausted the mother.⁵⁷⁷ Furthermore, the cervix could become swollen and rigid, thus, obstructing the birth canal. To avoid craniotomy, sometimes venesection (bleeding) and small doses of tartar emetic were given to reduce the swelling.⁵⁷⁸ However, when repeated attempts with forceps had failed, it became obvious that the only chance of saving the mother was a speedy delivery, and craniotomy was the sole option.

Many lives were lost through haemorrhage. It was ante-partum, rather than post-partum haemorrhage, in which craniotomy had a role. Edward Rigby (1747–1821) of Norwich, whose son, Edward, was also an obstetrician, divided ante-partum haemorrhage into two classes: accidental and unavoidable. Placenta praevia, the term that replaced unavoidable haemorrhage, was due to the placenta partially or completely blocking the birth canal. In the past it was only detected when labour began. Various methods were employed to control the bleeding.⁵⁷⁹ Turning and delivering in a breech position, rupturing the membranes, plus packing the vagina were the most popular options. Without any

⁵⁷⁷ Loudon, *Death in Childbirth*, p. 131.

⁵⁷⁸ Churchill, *On the Theory and Practice of Midwifery*, p. 221.

⁵⁷⁹ Loudon, *Death in Childbirth*, p. 101.

anaesthetic or septic technique, packing was not easy and if the doctor did not carry sponges, he used what was at hand such as unsterilised cotton rags and handkerchiefs. Optional treatments included douching with cold water or vinegar solutions.⁵⁸⁰ One practitioner even placed a container of ice-cold water on his patient's abdomen. Two minutes later the infant and placenta were delivered with minimal blood loss. He reported that all the mother suffered from was "slight shivering".⁵⁸¹ But if these treatments did not succeed, more urgent measures were called for.

This was exactly the situation that faced Mr Thorn as he attended a woman from Ebury Street, Pimlico. Thorn had tried "rest, cold applications, and other means" but failed to control her haemorrhage. Lee was summoned two days later and recorded that:

The circumstances were so urgent as to demand immediate delivery – her life could only be preserved by the most prompt interference ... The child was soon extracted with the crochet ... and the haemorrhage gradually ceased. Some hours lapsed before this patient was considered to be in a state of safety.⁵⁸²

Ultimately, the haemorrhage could not be stopped until the baby and placenta were delivered. Thus, when the mother's life was in immediate danger from placenta praevia, craniotomy provided the solution. While this reflected the limited state of medical knowledge and the problems of diagnosis, it nonetheless, offered some chance to the woman in such an emergency.

⁵⁸⁰ Munro-Kerr, Johnstone, and Phillips (eds.), *Historical Review of British Obstetrics and Gynaecology*, p. 17.

⁵⁸¹ James Blundell, *Lectures on Midwifery and the Diseases of Women and Children: As Delivered at Guy's Hospital* (London: Field and Bull, 1832), p. 107.

⁵⁸² Lee, *Clinical Midwifery*, p. 185.

One of the outcomes of pregnancy was, what was then termed, puerperal convulsions. Nowadays called pre-eclampsia, this condition occurs in the latter weeks of pregnancy. It is defined by its signs: protein in the urine, swelling, and high blood pressure, which can lead to *grand mal* fits known as eclampsia. The woman may then lapse into a coma and the infant, often small, may be stillborn.⁵⁸³ In the first decades of the nineteenth century only the end stage, the convulsions, were recognised. Treatment during this time included bleeding and sedation, but delivery was the only sure way of stopping the fits. Induction of labour was one way but, more often than not, the patient was already in labour when the doctor arrived. Hence, craniotomy played a role in this condition.⁵⁸⁴ Caesarean section was occasionally tried; the results for the mother from this operation, however, were appalling and remained as such until the twentieth century. As the cause of puerperal convulsions was not known during the nineteenth century, and still remains unknown, surgical intervention remained the only sure way of resolving the condition. It was only after the Second World War that maternal mortality declined with widespread antenatal care and by prescribing magnesium sulphate to reduce the risk of seizures.⁵⁸⁵ Even today, eclampsia is a troublesome issue in obstetrics and has remained a major cause of maternal and neonatal mortality and morbidity worldwide.⁵⁸⁶

Lee enjoyed a certain reputation for his skill in handling difficult cases and he meticulously recorded them, many of which he published. The first of these, published in 1842, was *Clinical Midwifery* that consisted of 400 cases and was expanded in 1848 to 545

⁵⁸³ Tamara Callahan and Aaron B. Caughey, *Blueprints: Obstetrics and Gynecology*, 5th ed. (Philadelphia: Lippincott Williams & Wilkins, 2009), pp. 92–98. Pre-eclampsia has been known by a variety of terms, see, Loudon, *Death in Childbirth*, p. 85.

⁵⁸⁴ Loudon, *Death in Childbirth*, pp. 85–89.

⁵⁸⁵ Shorter, *A History of Women's Bodies*, pp. 96–97.

⁵⁸⁶ James Roberts et al., "Summary of the Nhlbi Working Group on Research on Hypertension During Pregnancy," *Hypertension* 41 (2003): p. 437.

cases. The 1848 edition, in particular, was considered to be of immense value to students and “will be consulted by every accoucheur”.⁵⁸⁷ In essence, he was highly regarded and his texts and ideas were widely circulated and read. *Clinical Midwifery* was literally listings of case after case, with only four pages of introductory text in the latter edition. His text was organised into a series of reports, each report dealing with a separate topic. Craniotomy was the subject of the “Second Report”. From the 545 cases, a summary of the indications that Lee specified in the “Second Report” that required him to perform ninety-six craniotomies between 1824 and 1848 is shown in Table 4.1.⁵⁸⁸ The table illustrates well the range of problems that he encountered. Sometimes though, these overlapped. For example “foetal head jammed in pelvis” often led to “swelling of soft parts” or “exhaustion”. So one delivery may have two or more indications. Furthermore indications assigned to “foetal head jammed in the pelvis” may have been as a result of a contracted pelvis but without Lee stating this these two birthing difficulties have been kept separate. In all likelihood the number of “contracted pelvis” was under-represented.

⁵⁸⁷ *Lancet* 1 (1851), p. 336.

⁵⁸⁸ Compiled from, Lee, *Clinical Midwifery*, pp. 47–81. Other reports in this text including those on forceps, preterm labours, haemorrhage and convulsions included some craniotomy cases, but the “Second Report” focused solely on craniotomy cases and so this was the section examined.

Table 4.1. Incidence of Indications requiring Craniotomy

Complication	Frequency	% of Deliveries
Foetal head jammed in pelvis	40	41%
Swelling of soft parts	31	32%
Contracted pelvis	25	26%
Exhaustion	22	23%
Threatened rupture of uterus	9	9%
Preternatural presentations	8	8%
Hydrocephalus/large child	7	7%
Ante-partum Haemorrhage	6	6%
Puerperal convulsions	4	4%

Importantly, Table 4.1 demonstrates the extent and prevalence of life-threatening problems for the mother in which craniotomy played a life-saving role. Most deliveries were normal. Churchill's statistics indicated, however, that 1 in 219 deliveries had a range of problems that required craniotomy.⁵⁸⁹ For these women death was a reality. Of Lee's ninety-six cases, thirteen died from childbirth complications, one from tuberculosis.

This list of indications revealed an attempt to impose some structure and organization, based on Lee's clinical observation, on what could be done. While this was not new, what was new were useful lists of clinical symptoms, which the young practitioner could scan through, arrive at the problem and then treat accordingly. User usefulness was the key, for

⁵⁸⁹ Churchill, *On the Theory and Practice of Midwifery*, p. 299.

these works were described as “more instructive to the juvenile practitioner than a score of systematic works ... an invaluable record ... a store house of valuable facts and precedents”.⁵⁹⁰ Publishing these cases, no doubt, enhanced Lee’s reputation not just as an obstetrician but also as someone who could deal successfully with difficult cases. Nonetheless, a crucial message of such a scientific approach was detection, evaluation and management and, if followed, this then produced the best possible outcome for the mother. Despite the fact that the obstetrician may have felt sympathy towards the mother, opinions and skills, nevertheless, varied and so no guarantee could be given for the mother’s safety. It was the obstetrician’s judgment that remained paramount and determined the outcome.

So, these difficult deliveries became bound by a scheme of interventionist management. Commenting on this, some feminists such as Murphy-Lawless, have argued that intervention to save lives was then transformed into intervention for all. Such control, she claimed, was a form of patriarchy as it ignored the woman’s decisions about her body.⁵⁹¹ There is no doubt that medicine did present childbirth as inherently problematic requiring intervention. It did seem that Lee, for example, wanted birth to be managed by an all-encompassing scheme. This could be read as a way of controlling women’s bodies. However, Murphy-Lawless’ claim overlooked the complexities of childbirth. As far as craniotomy was concerned this view oversimplified the matter as the medical history surrounding craniotomy highlighted the realities of women’s bodies. It recognised that not all women could give birth easily, and in these cases the obstetrician’s opinion and assistance was crucial to their survival.

⁵⁹⁰ *Lancet* 1 (1851), p. 336.

⁵⁹¹ Murphy-Lawless, *Reading Birth and Death*, p. 97, 103. See the discussion of Murphy-Lawless’ argument in Chapter 1, p. 16.

The instruments

The success of a procedure such as craniotomy was also enhanced by publications revealing specific designs in craniotomy instruments. Publications would have benefited doctors' careers as they broadcast their expertise. However, they also informed and improved practice. So, in part, the drawings and recommendations for newer better-designed instruments bear out the way in which craniotomy was regarded and practiced.

For centuries instruments used for craniotomy had been very basic. During the Greek and Roman era, between 500 BC and 500 AD, the writings of Hippocrates (460–370 BC), Celsus (25BC–50AD) and Soranus (129–204AD), a contemporary of Galen, mentioned various instruments for craniotomy. These included a scalpel for opening the head; a pointed knife for perforating the skull; a rudimentary cephalotribe for crushing the skull; forceps and traction hooks for extracting the bones and foetus; and blunt and curved crochets. A crochet was a sharp hook.⁵⁹² During the Renaissance, Ambroise Paré (1510–1590), an influential French surgeon, described a range of instruments to extract the dead infant. These included a knife, tongs and crochets. By the seventeenth century, Françoise Mauriceau (1637–1709), another renowned surgeon-*accoucheur* from Paris, had developed his own perforator, blunt hook, crochet and *tire-tête* for holding the head while extracting.⁵⁹³ A number of instruments were used in the eighteenth century, some of which were illustrated by the Scottish surgeon-man-midwife John Aitken, in his text *Principles of Midwifery, or Puerperal Medicine* as seen in Figure 4.1.

⁵⁹² Milne, *Surgical Instruments in Greek and Roman Times*, pp. 135, 152–56.

⁵⁹³ Low, "Operative Delivery: Yesterday and Today," p. 134.

In his final piece of advice for extracting a dead unborn infant, the English physician William Sermon (1629–1679), stated “there are several other ways ... the Crotchet, Hooks, Tongs and other Instruments” which were “most commonly made use of by men”.⁵⁹⁴ These were the standard instruments of the day.

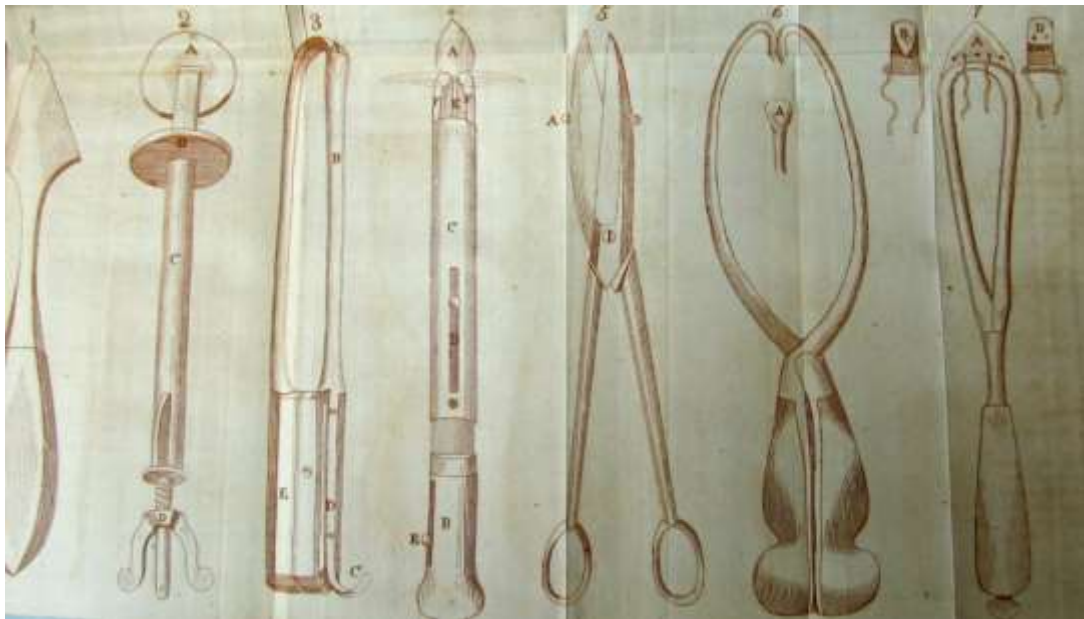


Figure 4.1. Various Craniotomy Instruments

(1) Mauriceau’s spear perforator; (2) Mauriceau’s *tire-tête*, or extractor; (3) Straight sharp crochets with guard; (4) Perforator; (5) Scissors perforator; (6) Double crochets, locked in the manner of forceps, can be use together or separately; (7) Common lever, plus two attachments, a cutting point and hook, to convert it to a perforator or crochets.⁵⁹⁵

While such instruments as illustrated were used specifically for craniotomy, in urgent situations, all manner of devices were employed, sometimes even from the kitchen such as

⁵⁹⁴ William Sermon, *The Ladies Companion, or the English Midwife* (London: Edward Thomas, 1671), p. 141.

⁵⁹⁵ Source: John Aitken, *Principles of Midwifery, or Puerperal Medicine*, 3rd ed., Enlarged and Illustrated with Engravings (London: J. Murray, 1786), Plate KKKK.

pot ladles and scissors. Around 1700, Richard Gough wrote an account of village life in the Shropshire parish of Myddle, a few miles north of Shrewsbury. In describing the Clarke family, he detailed Anne Clarke's birth experiences. The midwife told Anne's husband, Richard that the infant was:

dead in the womb, and unless it was drawne from the woman, shee would dye alsoe; and thereupon Clarke made iron hooks in his lytle smith's forge, according to the midwife's direction, and therewith shee eased the woman of her burthen and the woman recovered.⁵⁹⁶

Nothing could be more basic than the hand-forged instruments made by Richard. Unfamiliar with performing craniotomy, and apparently with no other help, the midwife, nevertheless, knew that the only way to save Anne's life was by using craniotomy hooks. It must have been a ghastly and stressful procedure for Richard to witness, because in Anne's subsequent labour in which the infant was again diagnosed dead *in utero*, he would not let the midwife perform the same procedure, so, sadly, she died.⁵⁹⁷

By the mid nineteenth century more effort was placed on the scientific design of these instruments, with an emphasis on the safety of the mother. A simple crotchet was an essential item for the obstetrician but, as it was sharp, it had the potential to damage the birth canal. David Davis designed a number of hooks; his guarded crotchets (Figure 4.2) were specifically designed for the safety of the mother while they securely grasped the head. Davis was awarded the gold medal from the Society for the Encouragement of the

⁵⁹⁶ Richard Gough, *The History of Myddle*, ed. D. Hey (London: Penguin Books, 1981), p. 173.

⁵⁹⁷ Ibid.

Arts and Sciences in London for his design as his guarded crotchets were deemed significantly safer for the mother than any other previous model.⁵⁹⁸



Figure 4.2. Davis' Guarded Crochet

The entire instrument, on the left, is made up of two separate components: the three-pronged crochet in the middle, and the guard on the right.⁵⁹⁹

While the practice of crushing and then extracting the foetus was known in ancient times, it was only in the nineteenth century that instruments were specifically designed for this purpose. A number were developed, the most popular in Britain being the cephalotribes, cranioclasts (craniotomy forceps) and basilysts. Such developments were often the result

⁵⁹⁸ Hibbard, *The Obstetrician's Armamentarium*, p. 230.

⁵⁹⁹ Source: Davis, *The Principles and Practice of Obstetric Medicine*, 2, opposite p. 1155.

of a need. In 1828 the French obstetrician Auguste Baudelocque witnessed the horrific fatal complications of a woman delivered by perforators and crotchets. The post-mortem examination revealed the vagina “riddled with perforations, the pubic bone was fractured in two places and stripped to some extent of its periosteum; while search was made in vain for the bladder and urethra”.⁶⁰⁰ So distressed to see the subsequent injuries and consequent death from the perforators and crotchets, he designed the cephalotribe. Thus, innovation could come from compassionate necessity.

The advantage of this instrument was that while it crushed the head, the skin remained intact thereby protecting the mother from sharp bone fragments.⁶⁰¹ These bone fragments could also be dangerous, and even fatal, for the obstetrician. Infection and the subsequent septicaemia was therefore a risk for both patient and doctor. It was announced in the *BMJ* on 9 August 1873 that the death of J. P. Perrie, consultant physician of the Belfast General Hospital and Master of the Belfast Lying-in Hospital, was due to “a wound by a spiculum of bone, which happened to him in performing the operation of craniotomy”. It also reported that Mr Erichsen and Dr Braxton Hicks had also suffered similar injuries, from wounds they sustained while operating. They, unlike Perrie, survived.⁶⁰² So, while doctors used these instruments to save the mother, it was not always safe or easy to perform.

In many cases of marked pelvic contraction, it could be difficult to deliver the foetus even after reducing the head. David Davis referred to the piecemeal destruction of the foetus as *embryulcia*, while others termed it embryotomy. Aware of the horrendous things that an

⁶⁰⁰ Alexander Russell Simpson, “A Lecture on the History of Embryulcia,” *BMJ* 2, no.1251 (1884): p. 1231.

⁶⁰¹ Sir James Y. Simpson, “On the Cephalotribe,” *BMJ* 2, no. 355, (1867): p. 1231.

⁶⁰² “Professional Risks,” *BMJ* 2, no. 658 (1873): p. 166.

exposed blade could do, Davis designed a guarded embryotomy knife (Figure 4.3); one blade was the knife while the other blade acted as the guard.⁶⁰³

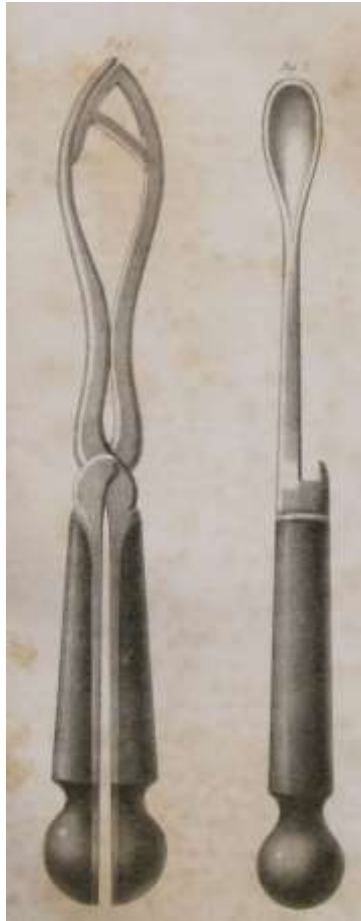


Figure 4.3. Davis' Guarded Embryotomy Knife
The guard is shown separately on the right.⁶⁰⁴

There was little doubt that these instruments fulfilled a function and need during the nineteenth century. The time invested and the variety of designs indicated their necessity for them, along with dissatisfaction with the older style instruments. When the baby was dead and the mother's condition was critical, these newly designed instruments, when properly applied, were safer than the previous cruder varieties. Craniotomy instruments, in

⁶⁰³ Hibbard, *The Obstetrician's Armamentarium*, pp. 254–258.

⁶⁰⁴ Source: Davis, *The Principles and Practice of Obstetric Medicine*, 2, opposite p. 1172.

general, became more complex in design. This development was important because it considered the mother. Moreover, it suggested that doctors saw this procedure as a continuing option long into the nineteenth century. The use of these instruments only began to wane when Caesarean section became a safer option towards the end of the century. In addition, as the justification for craniotomy was to save the mother, these newer designed instruments guaranteed the mother herself, a less perilous delivery. So while craniotomy still meant death to the infant, the mother could rest assured that she was in safe hands.

Confronting Osborn's paradigm

It was widely accepted that many women who laboured for days on end would certainly have died without craniotomy. However, in line with their concern for the mother's safety and wellbeing, some doctors were starting to challenge an established technique and accepted practice. Osborn's line of reasoning over the advantages of his method, employed in the case of Elizabeth Sherwood, was well known by the nineteenth century. He advocated that by reducing the foetal head early and then leaving the foetus in the uterus for up to thirty-six hours, to putrefy, enabled the uterus to expel this smaller form, or at least move it down within secure reach of the crotchet. This, he claimed, made the delivery easier.⁶⁰⁵ According to Osborn, this model meant that it was possible to deliver a child "through almost any pelvis" while greatly improving the chances of the mother not dying undelivered.⁶⁰⁶

Suspending craniotomy mid-way through the procedure drew on the discourse about the timing of intervention. But the discourse around Osborn's paradigm was not so much about

⁶⁰⁵ Osborn, *Essays on the Practice of Midwifery*, pp. 171–78.

⁶⁰⁶ *Ibid.*, p. 212.

when to intervene, but rather when to complete the intervention. Osborn had convincingly argued that waiting was the key to a successful outcome. Many, during the first decades of the nineteenth century, saw this as a sound doctrine that they translated into common practice. For example, a report from the Westminster General Dispensary compiled by Augustus Bozzi Grenville (1785–1862), an Italian physician-*accoucheur* to this dispensary, recorded details of a birth that he and Samuel Merriman, a fellow physician-*accoucheur* at the hospital, attended in 1818. Merriman (1731–1818) was called in by Grenville to see a patient, Mary Graham who had been two days in labour. By four o'clock the next morning, Granville realised that “to have delayed any longer in giving assistance, under these circumstances, would have proved highly injurious to the patient” and so he perforated the child’s head.⁶⁰⁷ With much difficulty he reduced the size of the head, but decided to leave her, as he was exhausted and his hands “cramped”. Both were convinced of the soundness of this practice. Their reluctance to complete the intervention in one stage reflected this. Then, as if to justify this two-stage method, Granville concluded that Graham “bore her sufferings with great fortitude” and recovered “perfectly”.⁶⁰⁸ The critical part of this practice was that there was no easy way to predict complications resulting from the time delay or, in fact, if the woman’s body could cope with it. While Merriman maintained that Osborn’s practice had its “advantages”, he conceded, nonetheless, that it relied on the judgment of the practitioner.⁶⁰⁹

⁶⁰⁷ Augustus Bozzi Granville, *A Report of the Practice of Midwifery, at the Westminster General Dispensary, During 1818* (London: Burgess and Hill, 1819), p. 100.

⁶⁰⁸ *Ibid.*, pp. 102–03.

⁶⁰⁹ Samuel Merriman, *A Synopsis of the Various Kinds of Difficult Parturition*, (1826), p. 171. Even Denman, who attended and endorsed Sherwood’s craniotomy, acknowledged that adverse maternal symptoms, rather than time, dictated the necessity for immediate delivery. Denman, *An Introduction to the Practice of Midwifery*, (1807), p. 272.

In line with this, George Spratt (1784–1840), a London surgeon-*accoucheur*, argued that once the head had been reduced the uterine contractions would deliver the infant. He continued, as long as “this desirable circumstance “ occurred “we may wait for some hours without any further interference”.⁶¹⁰ The problem was that “this desirable circumstance” was often not achievable and a question mark arose over how long to leave the woman without endangering her. Complications from this method, which could prove fatal for the woman, were: infection from the decaying foetus; physical trauma from the jagged foetal bones; and shock.⁶¹¹ So those that followed Osborn’s method straddled a fine line between achieving “this desirable circumstance” and leaving the woman too long. Spratt’s claims, along with other colleagues, were grounded on the concept that the mother’s body could endure the lengthy labour; even when the infant had not, or could not, survive. Even as these obstetricians were justifying their point, there were others that disagreed and ultimately undermined their claims.

From the individual’s perspective, each obstetrician had his own preferred method. Many described their favoured technique in their writings, some commented specifically on Osborn’s method. Twelve obstetric texts written in the nineteenth century that commented directly on Osborn’s paradigm were located and selected. These spanned sixty-seven years. By collating the obstetrician’s discussion about his preferred method with the date of publication of the author’s particular text, and then placing the dates in chronological order a striking pattern emerged as shown in Table 4.2.⁶¹²

⁶¹⁰ George Spratt, *Obstetric Tables: Comprising Graphic Illustrations, with Descriptions and Practical Remarks, Exhibiting on Dissected Plates Many Important Subjects in Midwifery*, 3rd ed., 2 vols., vol. 2 (London: John Churchill, 1841), Table VII. B.

⁶¹¹ Murphy-Lawless, *Reading Birth and Death*, p. 85.

⁶¹² Compiled from, Burns, *The Principles of Midwifery*, (1809), pp. 113–116; Samuel Merriman, *A Synopsis of Various Kinds of Difficult Parturition*, 2nd ed. (London: J. Callow, 1814), p. 190; Granville, *A Report of*

Table 4.2. Chronological Pattern of Responses to Osborn's Method

Date	Pro-Osborn	Anti-Osborn
1809		Burns
1814	Merriman	
1819	Granville	
1833	Spratt	
1836		D. D. Davis
1841	Rigby	
1842	Churchill	
1845		Murphy
1847		F. Ramsbotham
1858		J.H. Davis
1860		Ashton
1876		Barnes

It becomes apparent that during the nineteenth century the consensus was swinging away from this two-stage technique. Changes in management practice, the use of anaesthetics and the growth in medical knowledge may in part explain the shift in practice. But these fail to take into account the influence of attitudes toward the mother that affected the practice.

the Practice of Midwifery, at the Westminster General Dispensary, During 1818, p. 100; Spratt, *Obstetric Tables*, 2, Table VII. B; Davis, *The Principles and Practice of Obstetric Medicine*, 2, p. 1154; Edward Rigby, *A System of Midwifery* (London: Whittaker, 1841), pp. 258–59; Churchill, *On the Theory and Practice of Midwifery*, p. 297; Murphy, "Lectures on the Mechanism and Management of Natural and Difficult Labours.," p. 116; Ramsbotham, *The Principles and Practice of Obstetric Medicine and Surgery in Reference to the Process of Parturition*, (1847), p. 223; Davis, *Illustrations of Difficult Parturition*, p. 69; Ashton, "On a Case of Caesarean Section," p. 442; Barnes, *Lectures on Obstetric Operations*, (1876), p. 400.

The claims of those that followed Osborn's method and reasoning were matched by an equally strong response from those who opposed the ideology behind this technique. The Glaswegian physician and surgeon Burns in his 1809 edition of *Principles of Midwifery* argued that the delay of thirty hours did not produce, as Osborn suggested, "such a degree of putrefaction [*sic*] as materially to facilitate the operation".⁶¹³ Adding later, while some minor delay was acceptable, he warned however, that care should be taken not to exhaust the mother "by the continuance of pains".⁶¹⁴ Such thinking also formed the basis of David Davis' rejection of Osborn's practice. He indicated that any prolonged waiting not only subjected the woman to considerably more suffering but also the power of the uterus to expel the foetus was "considerably reduced".⁶¹⁵ Davis could not fail to conclude, therefore, that the earliest possible delivery was mandatory, and that any other practice placed the mother's life in jeopardy. Davis' son, John Hall Davis, shared this kind of thinking, but took it one step further. He outlined the serious risk that the mother faced of infection from the decaying foetus whilst a prolonged wait only meant "additional evils" for the mother.⁶¹⁶

Similarly, Barnes noted the terrible consequences from Osborn's method. He finished his discussion on this practice by deciding that craniotomy was distressing enough for the mother so, "it will hardly appear justifiable to throw upon an enfeebled system a task entailing further exhaustion, and under which it may sink. It is our duty to relieve Nature, and not to leave her to struggle through unaided".⁶¹⁷ The key issue for these "anti-

⁶¹³ Burns, *The Principles of Midwifery*; (1809), p. 263.

⁶¹⁴ Burns, *The Principles of Midwifery*, (1837), p. 501.

⁶¹⁵ Davis, *The Principles and Practice of Obstetric Medicine*, 2, p. 1154.

⁶¹⁶ Davis, *Illustrations of Difficult Parturition*, p. 69.

⁶¹⁷ Barnes, *Lectures on Obstetric Operations*, (1876), p. 400.

Osbornians” was time. And increasingly, it seemed, these obstetricians were questioning the effectiveness of Osborn’s practice.

While accepting the necessity of craniotomy, the ‘anti-Osbornians” wanted to replace the outdated, ineffective doctrines of the eighteenth century with those of the newly emerging professional obstetricians, clearly visible in the nineteenth century. They therefore, asked: what was achieved by this two-stage craniotomy, how did it benefit the mother, why unnecessarily draw out the woman’s labour? Hence, by noting what element of the method was problematic, that is leaving the woman, often distressed, in pointless labour, it was evident that concern over the woman, her fragility and her role as mother, drove this change away from Osborn’s paradigm.

Conclusion

The widespread acceptance of craniotomy during much of the nineteenth century came about from its relative safety to the mother. As obstetricians could point to good, often excellent rates of “success”, craniotomy was a popular choice in obstructed labour. Craniotomy was seen as fundamental to the woman’s survival. Expressing a widely held view, practitioners claimed that the death of the infant was much less significant than the death of the mother, and so it emerged that medicine and society not only permitted but also respected its practice.

The ideas and practical experience of various obstetricians were set down and published in textbooks, case notes and journals, and specialist instruments were developed and refined, which assisted in establishing the doctrine towards the craniotomy. This was that craniotomy, in difficult and urgent situations, gave the woman the best chance of survival.

At first glance it seemed that mid-nineteenth century doctors accepted that this cruel operation had a place in their practice. On closer inspection it appeared that doctors were not without compassion during its performance.

Even though the procedure of craniotomy was well accepted, it did not continue uncontested. Tensions first appeared over the practice espoused by Osborn. In questioning the old established practice, a continual push towards improving knowledge and a drive to more successful methods that effectively treated women in these life-threatening labours was at the heart of this. Obstetricians knew, nonetheless, that these obstructed labours were certain to be fatal to the woman, and hence they could not abandon craniotomy, but perhaps be more judicious in their mode of approach.

Moreover, the overall ideology and approach to craniotomy was also responsible for firming up ideas that women were highly vulnerable and their bodies susceptible to the “problems” of childbirth. As medical practitioners embodied a systematic scientific approach to treatment, they stressed that maternity may well lead along a path of physical and nervous issues for many women. Thus, the medical discourse over the practice and ideology surrounding craniotomy not only served to justify it and hence, enabled it to continue within obstetrics, but also to increase the professional interest in the woman’s body.

Chapter 5

An Inevitable Outcome:

The Life and Death of the Foetus

Most men feel the greatest reluctance and horror at performing this operation [craniotomy] on a living infant, and naturally wish to delay, until there are certain signs of its death.⁶¹⁸

During the nineteenth century there was a constant drive towards greater knowledge and more successful outcomes. With little that could be done for women in impossible labours, other than craniotomy, its outcome, the destruction of the foetus was often accepted as inevitable. However, morals were often stronger than science and many obstetricians began to place greater emphasis on the life of the foetus. Increasingly, they voiced the opinion that craniotomy unnecessarily sacrificed the foetus. Even so, there were many instances in which craniotomy saved the mother's life. Nonetheless, medical practitioners felt an increasing pressure to carry out a decision based not on the long-established paramount duty of the obstetrician to the woman, but instead, on the state of the infant. During the nineteenth century this pressure became more frequent, brought about, in a large part, by obstetric concerns in relation to the welfare of the infant. A dilemma over the traditional patterns of medical decision-making resulted from a growing discomfort from medicine and society about the criteria used to determine the necessity of craniotomy.

⁶¹⁸ Michael Ryan, *A Manual of Midwifery, or Compendium of Gynaecology and Paidonology; Comprising a New Nomenclature of Obstetric Medicine, with a Concise Account of the Symptoms and Treatment of the Most Important Diseases of Women and Children*, 1st American from 3rd London ed. (Burlington: Smith and Harrington, 1835), p. 422.

Questions about the place of the live foetus were increasingly raised as obstetrics sought to save both mother and child.

Recently, scholars have focused on the manifestation of the foetus in medicine in terms of new technologies including X rays, amniocentesis and ultrasound imaging. These technologies, they argued, helped to visualise the foetus and thus increasingly drew attention away from the mother. Scholars have claimed that these reproductive technologies have of late consistently positioned the foetus as the key subject in childbirth.⁶¹⁹ According to Barbara Duden, technology along with the discourse that pregnancy was to be medically and socially managed has changed “the unborn into a life, and life into a supreme value”.⁶²⁰ Susan Squier has adopted a more radical position. She claimed that as a result of new reproductive and visual technologies the mother has become not only an object but also viewed as an antagonist, a potential barrier to foetal health.⁶²¹ Underpinning such claims was the idea that the visual images of the foetus distinguished it as a person, as distinct from the mother. In effect, these scholars explain the shift away from the mother and towards the foetus in terms of twentieth-century technologies.

⁶¹⁹ See, for example, Ann Oakley, "From Walking Wombs to Test-Tube Babies," in *Reproductive Technologies: Gender, Motherhood and Medicine*, ed. Michelle Stanworth (Cambridge: Polity Press, 1987); Rosalind Pollack Petchesky, "Foetal Images: The Power of Visual Culture in the Politics of Reproduction," *ibid.*; Barbara Duden, *Disembodying Women: Perspectives on Pregnancy and the Unborn* trans. Lee Hoinacki (Cambridge, Mass.: Harvard University Press, 1993); Carol A. Stabile, "Shooting the Mother: Fetal Photography and the Politics of Disappearance," *Camera Obscura* 10, no. 1 28 (1992): pp. 178–205; Rayna Rapp, *Testing Women, Testing the Fetus: The Social Impact of Amniocentesis in America* (New York and London: Routledge, 1999); Lisa M. Mitchell, *Baby's First Picture: Ultrasound and the Politics of Fetal Subjects* (Toronto: University of Toronto Press, 2001); Sara Dubow, *Ourselves Unborn: A History of the Fetus in Modern America* (Oxford: Oxford University Press, 2011). The Swedish photographer Lennart Nilsson published the best known and widely reproduced foetal photographs in *Life Magazine* in 1965.

⁶²⁰ Duden, *Disembodying Women*, p. 2.

⁶²¹ Susan Squier, "Fetal Subjects and Maternal Objects: Reproductive Technology and the New Fetal/Maternal Relation," *Journal of Medicine and Philosophy* 21 (1996): pp. 515–35.

Other scholars have viewed the rise of the foetus in relation to antenatal care.⁶²² Catherine Kevin in her study of pregnancy after World War Two has linked the emergence of the foetus as a “patient” to the broader issue of antenatal care. She has argued that conscientious antenatal programmes intensified the differentiation between the mother and the foetus. In medically managing the whole of the pregnancy, antenatal care facilitated a clearer and more public picture of the foetus.⁶²³ Similarly, Lisa Featherstone argued that the repositioning of the foetus was not merely dependent on new technologies. Following on from Anna Davin’s work “Imperialism and Motherhood”, Featherstone suggested that in late nineteenth-century Australia, its relocation was guided by society’s concerns over population, nationhood and race. As such the foetus emerged as a subject that merited the medical surveillance of antenatal care.⁶²⁴ While it is true that technology and the wider social, legal and medical landscape contributed to this shift, these scholars focused on twentieth-century technologies.

This analysis will diverge from these studies. It will suggest that the emergence of the foetus was dependent not only on technologies but also on discussions around craniotomy in the nineteenth century. Initially, it will examine changing medical and social understandings of the foetus, including its conception and formation, visual images and abortion. It will consider the rise of morbid anatomy and new developments such as the

⁶²² Marks, "Mothers, Babies and Hospitals: 'The London' and the Provision of Maternity Care in East London, 1870–1939," pp. 48–70; Salim Al-Gailani, "Pregnancy, Pathology and Public Morals: Making Antenatal Care in Edinburgh around 1900," in *Western Maternity and Medicine, 1880–1990*, ed. Janet Greenlees and Linda Bryder (London: Pickering & Chatto, 2013), pp. 31–46; Earner-Byrne, "Twixt God and Geography: The Development of Maternity Services in Twentieth-Century Ireland," in *Western Maternity and Medicine, 1880–1990*, ed. Janet Greenlees and Linda Bryder (London: Pickering & Chatto, 2013), pp. 99–112.

⁶²³ Catherine Elizabeth Kevin, "A Genealogy of Pregnancy in Medicine and the Law: Australia 1945–2000" (Ph.D., Thesis, University of Sydney, 2003).

⁶²⁴ Anna Davin, "Imperialism and Motherhood," *History Workshop Journal* 5, no. 1 (1978): pp. 9–65; Lisa Featherstone, "Becoming a Baby? The Foetus in Late Nineteenth-Century Australia," *Australian Feminist Studies* 23, no. 58 (2008): pp. 451–52.

stethoscope, which created a new medical interest in the foetus. It will then show that as these discussions on the foetus increased, anxiety over foetal outcomes, specifically destroying foetal life through craniotomy also increased. As a result, craniotomy became a force by which foetal life was re-examined and rethought. Further to this, these discussions also contributed significantly to the shift in focus from the mother to the foetus.

The beginning of existence

Before the nineteenth century, understandings of conception and foetal development were keenly debated. For nearly two thousand years, Aristotle's theory of embryonic development in which the foetus developed into distinctive parts, which he called epigenesis, remained intact.⁶²⁵ William Harvey (1578–1657), physician and anatomist, agreed with Aristotle's theory of embryonic development, in so far as embryos began as "a homogenous mass, from which the organs derive one after another by the process of formation, or epigenesis".⁶²⁶ However, unlike Aristotle, Harvey attributed a key role in fertilisation to the ovum. He showed through a series of experiments conducted on a deer donated by Charles I, the successive appearance of the vital components in the developing foetus.⁶²⁷

The preformationists took a contrary position on foetal development. Dismissing Harvey's ideas, they contended that the infant was already completely developed from the moment

⁶²⁵ Dubow, *Ourselves Unborn*, p. 12. Although the term "embryo" strictly refers to the first eight weeks of life and the "foetus" to the remaining developmental period, the term "foetus" in this thesis will encompass the whole or any part of the developmental period.

⁶²⁶ Quoted in *ibid.*

⁶²⁷ Roy Porter, "Medical Science," in *The Cambridge Illustrated History of Medicine*, ed. Roy Porter (Cambridge: Cambridge University Press, 1996), p. 169.

of conception, firstly in the spermatozoa and then in the womb.⁶²⁸ Similar to a Babushka doll, all individuals were preformed inside their precedents, placed there by God at creation.⁶²⁹ Their claim lay, in part, that when examining a chicken egg and spermatozoa through the microscope, a fully formed pre-conceived version of themselves was visible. This only needed to be stimulated into growth.⁶³⁰

According to historian and development biologist Clara Pinto-Correia, preformationism provided a scientific explanation while not challenging the role of God. It established that all men came from the same gonad, and, thus, were brothers as Jesus had claimed.⁶³¹ And finally, it explained the inevitability of original sin; each person had been born from the first sinner. In addition, preformationism sustained the social hierarchy as it claimed the predictability of it; servants came from servants and kings came from kings. Preformation, therefore, implicitly legitimised the state and its systems.⁶³² As Pinto-Correia stated, this theory was so successfully adopted that it was another century before any believable alternatives were presented.⁶³³

Against the background of the Enlightenment, however, preformation theory began to wane for want of scientific evidence. Among the most famous of studies supporting the epigenesis theory was that by Caspar Friedrich Wolff (1734–1794) of Berlin. In his publication in 1759, *Theoria Generationis*, Wolff provided experimental evidence of the gradual formation of the foetus.⁶³⁴ Even so, some, such as the eminent man-midwife

⁶²⁸ Ibid.

⁶²⁹ Clara Pinto-Correia, *The Ovary of Eve: Egg and Sperm and Preformation* (Chicago: University of Chicago Press, 1997), p. 3.

⁶³⁰ Dubow, *Ourselves Unborn*, pp. 12–13.

⁶³¹ Pinto-Correia, *The Ovary of Eve*, p. 4.

⁶³² Ibid.

⁶³³ Ibid., p. 3.

⁶³⁴ Porter, "Medical Science," p. 169.

Thomas Denman, attempted to reconcile preformation with the early knowledge of embryology. In Denman's chapter on conception in *An Introduction to the Practice of Midwifery* (1794), he declared, "as the skin of the smallest *embryo* which can be examined is perfect, it may be presumed that what has been called addition or coaptation of parts, is, in fact, nothing more than the expansion or unfolding of parts already formed".⁶³⁵ However, in his 1807 edition, Denman was less than certain about this claim. Acknowledging that conception has been "much disputed", Denman hedged his bets claiming that "the parts remain too small, to admit a very accurate examination". He concluded the formation of the foetus was "involved in too much obscurity to be discovered by the human faculties".⁶³⁶ In part, it was in the uncertainty of these early constructions that the discussion around the foetus increased.

Evidence for the epigenesis model came when German biologist Karl Ernest von Baer (1792–1876) identified the mammalian egg (ovum) in the ovary in 1827. This, together with the cell theory published in the 1830s, ultimately explained how the egg and the spermatozoa combined to create an embryonic cell.⁶³⁷ Owing to this, during the nineteenth century scientific progress led to the general belief in the epigenesis theory of embryonic development as well as the idea that both the ovum and the spermatozoa were needed for conception. Significantly, both theories reflected a fascination about the foetus. It followed

⁶³⁵ Thomas Denman, *An Introduction to the Practice of Midwifery*, 2 vols., vol. 1 (London: J. Johnson, 1794), p. 226. Original italics.

⁶³⁶ Denman, *An Introduction to the Practice of Midwifery*, (1807), p. 94.

⁶³⁷ Dubow, *Ourselves Unborn*, p. 13. For further reading on the history of embryology see Arthur William Meyer, *The Rise of Embryology* (New York: Stanford University Press, 1939); Joseph Needham, *A History of Embryology*, 2nd rev. ed. (Cambridge: Cambridge University Press, 1959); Norman M. Ford, *Where Did I Begin? Conception of the Human Individual in History, Philosophy and Science* (Cambridge: Cambridge University Press, 1988); G. R. Dunstan (ed.), *The Human Embryo: Aristotle and the Arabic and European Traditions* (Exeter: University of Exeter Press, 1990); Eve Keller, "Embryonic Individuals: The Rhetoric of Seventeenth-Century Embryology and the Construction of Early-Modern Identity," *Eighteenth-Century Studies* 33, no. 3 (2000).

then, that these scientifically based developments would have attracted the attention of many obstetricians, which, in turn, would have sparked their interest in the start of life.

Seeing new life

Alongside the scientifically based developments and discussions, obstetricians were viewing foetal development through realistic depictions of the pregnant uterus showing the growth, position and delivery of it. Both Smellie and Hunter commissioned detailed, realistic atlases of maternal and foetal anatomy. Smellie's *Anatomical Tables* was published in 1754, while twenty years later in 1774, John Baskerville printed Hunter's *The Anatomy of the Human Gravid Uterus*. They were markedly different from any earlier atlases in their accuracy and realism.⁶³⁸ Earlier illustrations showed the foetus as a miniature adult floating within the womb. In discussing fifteenth-century illustrations John Thornton and Carole Reeves noted that the foetus looked and remained frog-like for several hundred years. Leonardo da Vinci, Andreas Vesalius, Smellie and ultimately, and outstandingly, Hunter finally replaced it with more precise and meticulous depictions.⁶³⁹

Anatomists rarely managed to dissect a pregnant woman in her final weeks as they were never hanged at Tyburn and were very rarely left to die undelivered, craniotomy being employed to this end. Since corpses of pregnant women were difficult to obtain, eighteenth-century anatomists had only rarely investigated the structure of the pregnant woman and her foetus. For many anatomists, like Hunter, they had only studied full-term

⁶³⁸ Cody, *Birthing the Nation*, p. 167.

⁶³⁹ John L. Thornton and Carole Reeves, *Medical Book Illustration: A Short History* (Cambridge, New York: Oleander, 1983), p. 38. See also, Karen Newman, *Fetal Positions: Individualism, Science, Visuality* (Stanford: Stanford University Press, 1996), pp. 28–36.

pregnant animals and drawn their conclusion from these.⁶⁴⁰ Moreover, in the winter of 1750 a unique opportunity presented itself to Hunter. His brother John had procured the body of a full-term woman; the infant inside was untouched and the cold winter weather had preserved it. The likelihood of obtaining a woman with the full-term infant still in the womb was indeed remarkable. Hunter and his brother John, also an anatomist, were able to take full advantage of this rare opportunity. They meticulously dissected and graphically showed the foetus in ways that had never been depicted before.⁶⁴¹ It was undoubtedly an exceptional situation and a very exciting time.

The Dutch artist Jan van Rymsdyk illustrated each phase of this unprecedented dissection.⁶⁴² For the first time, the detailed drawings by van Rymsdyk portrayed the relationship between mother and child in a naturalistic style. For anatomists looking at the drawings it was as though they had the ability to see within the maternal body, which revealed to them the certainty and reality of the connection between mother and foetus. These realistic depictions also linked reproduction to the scientific. According to Amy Munson, these lifelike drawings revealed an increased medical interest in reproduction and the body, both maternal and foetal. This atlas, she claimed, presented pregnancy as a medical condition whereby the woman and her infant were subjected to a multitude of risks. Solving those obstetric risks, involved the protection and safe delivery of the infant. Protecting the maternal body and its reproductive capacity, she argued, was seen as safeguarding Britain's future. As population was viewed as key to maintaining Britain's

⁶⁴⁰ Wendy Moore, *The Knife Man: Blood, Body Snatching, and the Birth of Modern Surgery* (New York: Broadway Books, 2005), pp. 42, 57.

⁶⁴¹ *Ibid.*, pp. 57–58.

⁶⁴² Jan van Rymsdyk did ten chalk drawings, which were converted into ten copper plates. These were originally planned for publication but as further pregnant bodies were dissected Hunter delayed publication until thirty-four drawings were ready for publication in 1774. Of these thirty-one were by van Rymsdyk. See, Betsy Copping Corner, "Dr. Ibis and the Artists: A Sidelight Upon Hunter's Atlas, *the Gravid Uterus*," *Journal of the History of Medicine and Allied Sciences* VI (Winter, 1951): pp. 1–2.

national and world power and, so, the reproducing mother and her foetus naturally needed protection.⁶⁴³ Munson viewed the illustrations from Hunter's atlas as spotlighting the womb and its contents. The foetus was becoming a point of focus for medicine; besides which, the foetus was now viewed as somewhat essential to the national interest.

One of the most frequently reproduced of Hunter's plates was Plate VI, (Figure 5.1), showing the coronal section of a pregnant woman just before birth. The maternal skin was peeled back and the body was then sectioned, from the upper limits of the uterus to the top of the thighs. The maternal body was shown in great detail, with the foetus, curled tightly in the uterus, also meticulously detailed. At once, the realism was apparent. Clearly visible was each layer of maternal skin, fat and the uterus, the wrinkles on the skin of the foetus, the hair on its head and its curled fingers. Most significantly though, the uterus and the foetus were the focus, the rest of the maternal body seemingly immaterial.⁶⁴⁴

These visual depictions not only embodied the potential for new life but also created a penetrative gaze that centred on the foetus. This was important as they marked a defining moment in the emerging interest in the foetus.

⁶⁴³ Amy T. Munson, "Attending the Birth of a Nation" (Ph.D., Thesis, Purdue University, West Lafayette, Indiana, 2008), ProQuest (AAT 3330551), pp. 32–33.

⁶⁴⁴ Described from the image in Figure 5.1.

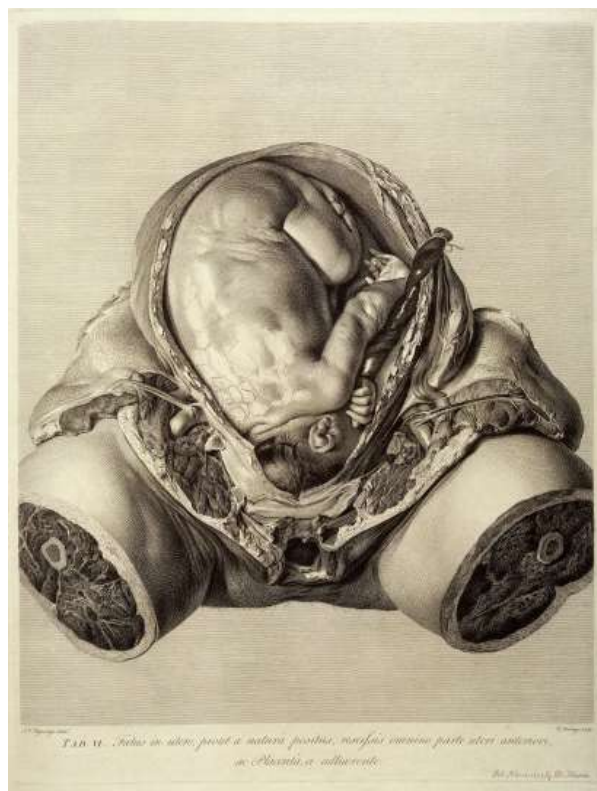


Figure 5.1. Plate VI. “The child in the womb, in its natural situation”⁶⁴⁵

Cultural historian Ludmilla Jordanova has remained guarded about the realism of Hunter’s illustrations. Jordanova asserted that Hunter’s work was “not a reflection of nature but an imitation of it”.⁶⁴⁶ She claimed that “realism”, like medicine, “is, in fact, itself a historical construct [*sic*], not an unproblematic and self evidently valuable analytical term”.⁶⁴⁷ She believed that the study of the body could not be separated from the society that surrounded it. Medicine and especially *The Anatomy of the Human Gravid Uterus* raised issues, not obviously visible, about death, birth, production, creativity, gender and family

⁶⁴⁵ Source: William Hunter, *The Anatomy of the Gravid Uterus* (Birmingham: J. Baskerville, S. Baker and G. Leigh, 1774), The Wellcome Library.

⁶⁴⁶ L. J. Jordanova, "Gender, Generation and Science: William Hunter's Obstetrical Atlas," in *William Hunter and the Eighteenth-Century Medical World*, ed. W. F. Bynum and Roy Porter (Cambridge: Cambridge University Press, 1985), p. 394.

⁶⁴⁷ *Ibid.*, p. 400.

relationships.⁶⁴⁸ On the one hand, gender and family relations certainly seemed to underscore these anatomical images of mother and infant. Moreover, essential to Jordanova's assertion is the dissected nature of the body. The obvious corpse in Figure 5.1 emphasised mortality, including a reminder that sometimes with the potential for life came death. From this perspective, the artwork was laden with cultural meanings.

On the other hand, however, these images were surrounded by the scientific. Gone are the free-floating, adult-like infants of the preformationists, replaced instead by a developing and confined foetus. This, together with the attention to detail, reflected the scientific knowledge of the day. While the images were perhaps more than just medical illustrations, they were, nevertheless, designed to instruct. For the student and the medical practitioner, the detailed illustrations conveyed, at a glance, more obstetric information than could be gained from written texts.

Equally important, was the fact that Hunter's atlas supported the latest scientific theory. The last of Hunter's plates, showed conception at three, four and five weeks, indicating that the foetus grew gradually. He stated that the head, trunk, arms, legs and abdominal organs were not fully formed in a five-week-old foetus. This, in turn, supported those followers of the epigenesis view, including medical practitioners and natural philosophers.⁶⁴⁹ It therefore merged obstetric images with those of science and anatomy. Furthermore, as Lyle Massey, art historian, has argued, the book's sheer size and cost, at six guineas, was the most expensive of Baskerville's publications, and together with the numerous beautiful copperplate engravings elevated the visibility and status of man-

⁶⁴⁸ Ibid.

⁶⁴⁹ Clare Hanson, *A Cultural History of Pregnancy: Pregnancy, Medicine and Culture, 1750–2000* (Basingstoke: Palgrave Macmillan, 2004), p. 47.

midwifery.⁶⁵⁰ Through such publications, obstetrics acquired a prominent and eminent place in defining the foetus.

Despite its cost, the book was widely read.⁶⁵¹ Many obstetricians, consequently, became very familiar with Hunter's images. Burns, in publishing his own obstetric atlas in 1799, *The Anatomy of the Gravid Uterus*, acknowledged Hunter's work as, "without doubt, truly valuable and useful".⁶⁵² Arguably however, it did more than that. Hunter's atlas reorganised the medical gaze. While it visualised the interior of the pregnant woman, it also depicted the foetus not as an object, but as a person with a potential for life. It was no longer viewed as separate from and insignificant to the mother. This distinction was important because at this time obstetrics, backed by science, had an authority that was gradually reconsidering and re-interpreting the relationship between the maternal body and the foetus.

The start of life

For most nineteenth-century women, the defining moment of pregnancy occurred when the foetus quickened. Quickening was the first foetal movement that the mother felt, about half way through her pregnancy. It was commonly believed that at this stage the foetus came to life.⁶⁵³ During this century, however, medicine and the law began to challenge this definition. According to W. F. Montgomery, Professor of Midwifery at the King and Queen's College of Physicians, Ireland, quickening only represented the first movements

⁶⁵⁰ Lyle Massey, "Pregnancy and Pathology: Picturing Childbirth in Eighteenth-Century Obstetric Atlases," *The Art Bulletin* 87, no. 1 (2005): pp. 75, 78–80.

⁶⁵¹ Duden suggested that its wide readership was due to the late eighteenth-century technique of wood engraving, which made it possible to produce countless cheap copies. Duden, *Disembodying Women*, p. 47.

⁶⁵² John Burns, *The Anatomy of the Gravid Uterus. With Practical Inferences Relative to Pregnancy and Labour* (Glasgow: At the University Press, 1799), p. v.

⁶⁵³ Cody, *Birthing the Nation*, p. 276.

that the mother felt “and not that the child then becomes for the first time endowed with life”.⁶⁵⁴ According to the law, a woman can plead for her life only if “she is *quick with child* or not, for being merely pregnant will not be sufficient”.⁶⁵⁵ Critical of the law, Montgomery continued:

It is perfectly monstrous and absurd to suppose for a moment that the foetus does not enjoy vitality from the first moment of its existence, and of course long before the sensation of quickening is felt by the mother; and if it be asked why no indications of life are given before the time at which quickening generally takes place, the obvious answer is, that the absence of any consciousness on the part of the mother relative to the motions of the child is no proof whatever that such motions do not exist.⁶⁵⁶

Therefore, Montgomery did not believe that quickening marked the beginning the foetus’ life, but rather, the foetus was alive long before the mother experienced foetal movements. In contrast to popular belief, Montgomery, and many in the medical community, believed the foetus was always alive.⁶⁵⁷

Indicative of the medical, social and legal divide over the start of life was the issue of abortion.⁶⁵⁸ Prior to the nineteenth century, abortion was legally and socially sanctioned if

⁶⁵⁴ W. F. Montgomery, *An Exposition of the Signs and Symptoms of Pregnancy, the Period of Human Gestation, and the Signs of Delivery* (London: Sherwood, Gilbert, & Piper, 1837), p. 75.

⁶⁵⁵ *Ibid.*, p. 76. Original italics.

⁶⁵⁶ *Ibid.*, p. 77.

⁶⁵⁷ *Ibid.*, p. 75.

⁶⁵⁸ The history of abortion has been contextualised within medicine, law, society and the state. For readings on abortion that include a medial context see, Lisa Featherstone, “Breeding and Feeding: A Social History of Mothers and Medicine in Australia, 1880–1925” (Ph.D., Thesis, Macquarie University, 2003), pp. 209–244; Angus McLaren, *Birth Control in Nineteenth Century England* (London: Croom Helm, 1978); Barbara Brookes, *Abortion in England 1900–1967* (London: Croom Helm, 1988), especially pp. 51–78; Leslie J. Reagan, *When Abortion Was a Crime: Women, Medicine, and the Law in the United States, 1867–1973* (Berkeley, Ca.: University of California Press, 1997); Angus McLaren, “Illegal Operations: Women, Doctors, and Abortion, 1886–1939,” *Journal of Social History* 26, no. 4 (1993): pp. 797–816; Lesley A. Hall, “Articulating Abortion in Interwar Britain,” *Women's History Magazine* 70 (Autumn 2012): pp. 13–21; “Memorandum Submitted to the House of Commons Science and Technology Select Committee Inquiry: Scientific Developments Relating to the Abortion Act of 1967,” *History & Policy* (September 2007). www.historyandpolicy.org/docs/abortion_act_1967.pdf, accessed 8 December 2013.

performed before quickening. As no crime was committed, no charge could be laid against the woman.⁶⁵⁹ However, by the nineteenth century the practice of abortion was believed to be widespread leading to excessive infant and, sometimes, maternal deaths. The current law was regarded as inadequate to curb it. Seen as a social problem and wishing to clarify the law on it, the introduction of the Ellenborough Act in 1803 made abortion at any stage of pregnancy illegal.⁶⁶⁰ As a consequence of the act, abortion was punishable before quickening. Even so, it did distinguish between abortion pre and post-quickening. Pre-quickening abortion was a less serious offence.⁶⁶¹ The punishment included fines, corporal punishment, imprisonment and even transportation, while abortion after quickening was punishable by death.⁶⁶²

Although the act did not solely protect the foetus, it did nonetheless, address the issue that foetal life deserved protection. It expressed an interest in all stages of foetal life.⁶⁶³ It then asserted, and brought attention to, the fact that the foetus was alive from the moment of conception. Even though the theory of it protected the mother from dangerous attempts at abortion, the infant remained the focus. Despite the severity of the law, it seemed that the public was relatively understanding of women's plight, as few went to trial and, thus, few were convicted. There were no known executions for abortion during the nineteenth century.⁶⁶⁴

⁶⁵⁹ Cody, *Birthing the Nation*, p. 276; Featherstone, "Becoming a Baby? The Foetus in Late Nineteenth-Century Australia," pp. 452–53.

⁶⁶⁰ John Keown, *Abortion, Doctors and the Law: Some Aspects of the Legal Regulation of Abortion in England from 1803 to 1982* (Cambridge: Cambridge University Press, 1988), pp. 21–22. The Ellenborough Act was introduced into Parliament as the Malicious Shooting Bill, which included a clause dealing with abortion. Specifically it mentioned the use of poisons for abortion. For a detailed discussion of the Ellenborough Act of 1803 see, *ibid.*, pp. 12–25.

⁶⁶¹ *Ibid.*, pp. 16–21.

⁶⁶² Featherstone, "Becoming a Baby? The Foetus in Late Nineteenth-Century Australia," 452–53.

⁶⁶³ Keown, *Abortion, Doctors and the Law*, pp. 18–20.

⁶⁶⁴ R. Sauer, "Infanticide and Abortion in Nineteenth-Century Britain," *Population Studies* 32, no. 1 (1978): p. 84.

However, many medical practitioners disapproved of the legal distinction and punishment ascribed to quickening. Significantly, the act coincided with the growing scientific belief that infant life began at conception. In accordance with the medical belief, Professor A. T. Thomson in his lectures on medical jurisprudence questioned the notion of quickening which determined the two categories of punishment for abortion, as outlined in the Ellenborough Act. Thomson stated “the crime is thought to be of a minor degree if the woman have not quickened, an opinion which is extraordinary” and so urged lawyers and statesmen to consult with medical men before passing any act which involved “physiological questions”.⁶⁶⁵ The obstetric-surgeon Charles Severn reiterated the medical belief that every stage of foetal life should be treated equally. He wrote that the distinction that the law made was “arbitrary and unfounded”.⁶⁶⁶ Likewise, the distinction in punishment was, according to Michael Ryan, member of the Royal College of Physicians and lecturer in medicine, obstetrics and medical jurisprudence, “based upon erroneous physiological principles”. The resulting law, he claimed, “abounds with great absurdities”.⁶⁶⁷

One implication from these comments was that medical practitioners were viewed as having an authoritative insight into reproduction. Their authority then dismissed the mother’s subjective experiences of verification of foetal life and replaced it with the rationale of medical science. This was significant because it seemed that the doctor, and the public, were increasingly growing confident in the doctor’s ability and authority to judge “truths” on childbirth. Whether Ryan, Thomson, Severn or their colleagues, had any

⁶⁶⁵ A. T. Thomson, “Lectures on Medical Jurisprudence, now in Course of Delivery at the University of London,” *Lancet* 1 (1837): p. 626.

⁶⁶⁶ Charles Severn, *First Lines of the Practice of Midwifery: To Which Are Added Remarks on the Forensic Evidence Requisite in Cases of Foeticide and Infanticide* (London: S. Highley, 1831), p. 134.

⁶⁶⁷ Michael Ryan, *A Manual of Medical Jurisprudence Compiled from the Best Medical and Legal Works*, 1st American ed., With Notes and Additions by R. Eglesfeld Griffith (Philadelphia: Carey and Lea, 1832), p. 128.

bearing on law making was not clear. But in 1837 an amendment to The Offenses Against the Person Act abolished the distinction between pre and post-quickening abortion and replaced the death penalty with transportation for life or three years imprisonment.⁶⁶⁸ It seemed that those in the law and probably the wider-educated society now aligned their views with the medical understanding that new life began with conception.

From 1837 the Registrar General's office began to record maternal deaths and from 1870 it was compulsory to record the cause of death. The four main causes of maternal death in the nineteenth century were puerperal fever, convulsions, haemorrhage and illegal abortion. It seemed that illegal abortion commonly resulted in the mother's death.⁶⁶⁹ It was not just unmarried women who sought abortions but frequently it was women in their thirties for whom contraception had failed.⁶⁷⁰ Towards the end of the century the death rate from illegal abortions was on the increase. This presented a major health problem for the state.⁶⁷¹ Alongside this, there was a concern over declining birth rates. The state was stressing the need for population growth. A large population could support the nation's industry, defend itself and maintain its imperial standing.⁶⁷² The state, therefore, began to take an interest in reproduction and with that a concern for the foetus. It followed then, that part of the medical interest in the foetus was derived from social, political and economic discourses produced by the state.

⁶⁶⁸ Keown, *Abortion, Doctors and the Law*, pp. 29–31.

⁶⁶⁹ Geoffrey Chamberlain, "British Maternal Mortality in the 19th and Early 20th Centuries," *Journal of the Royal Society of Medicine* 99 (2006): p. 559.

⁶⁷⁰ *Ibid.*, p. 562.

⁶⁷¹ Loudon, *Death in Childbirth*, p. 109. Loudon stated that while the rise was clear, exact numbers were difficult to determine as deaths from abortion were sometimes concealed and the death was certified from another cause in order to save the family's reputation because of the stigma attached to abortion.

⁶⁷² Moscucci, *The Science of Woman*, p. 11.

From the moment of conception the mother was now placed under intense surveillance. Thus, the mother, as the determinant of a new life, was replaced by a legal and medical construct. Kevin argued in her study of post World War Two pregnancy, nineteenth-century medicine and the law defined pregnancy. The 1837 amendment to the Offences Against the Person Act, which removed the distinction between the quickened and the unquickened foetus, offered the foetus uniform legal protection throughout pregnancy. This, Kevin stated, signified an early change towards a new concept of the pregnant body.⁶⁷³ At the same time medicine was also defining the pregnant body. Thomas Bull's *Hints to Mothers for the Management of Health During Pregnancy, and in the Lying-in Room* was published in 1837. This was the first medical text aimed specifically at the antenatal mother and her care.⁶⁷⁴ While Kevin's study focused on the twentieth century she made the point that the foetus through the pregnant body was placed under a defining medical and legal gaze in the nineteenth century. However, as far as medicine was concerned this increased surveillance was probably also part of a wider medicalisation of childbirth. Nevertheless, the central point was that foetal life was now emphasised. It was viewed as important and was protected at any stage of pregnancy.

Such discourses not only affirmed the foetus as a living being that needed legal protection but also positioned it at least level to, if not above, the mother. This also had the potential to add to an anxiety amongst obstetricians that craniotomy killed the child. Their procedures, they claimed, should save both mother and child. While such thinking occupied obstetrics for the rest of the century, this paradigm shift would not be fulfilled until alternatives to craniotomy were developed.

⁶⁷³ Kevin, "A Genealogy of Pregnancy in Medicine and the Law," pp. 36–37.

⁶⁷⁴ Ibid., p. 37.

Dissecting the dead: the place of morbid anatomy

Along with the constant investigation of normal bodies and organs for the purpose of increasing physiological knowledge, was the growing interest in morbid anatomy. Dissecting and examining the dead played a key role in establishing the cause of death. The basic purpose of anatomical dissection was to learn. The study of anatomy from Renaissance times had shifted away from the Classical texts towards direct observation. Cadavers were essential to this.⁶⁷⁵ Prior to the early nineteenth century, nonetheless, such dissections were hampered by the demand from medical schools for cadavers, which outstripped the legal supply. There had been a public outcry against grave robbing, as people cared deeply about the remains of their loved ones. Spurred on by the famous Burke and Hare bodysnatching murders of 1828, the Anatomy Act of 1832 allowed unclaimed bodies to be used for dissections.⁶⁷⁶

Despite the shortage of bodies, some morbid anatomists did procure a number of bodies that enabled them to identify sites of disease in specific organs and thus the aetiology. The hospital provided plenty of opportunity for the morbid anatomist. Matthew Baillie, for instance, who had attended Princess Charlotte, worked as a physician at St George's Hospital where he frequently examined corpses. No doubt to promote himself and his work, he published a comprehensive text on his post-mortem examinations, *The Morbid Anatomy of Some of the Most Important Parts of the Human Body* in 1793. During his lifetime, this ran to five editions in Britain, three in America, two in France, four in

⁶⁷⁵ S. Ryan Gregory and Thomas R. Cole, "The Changing Role of Dissection in Medical Education," *JAMA* 287, no. 9 (2002): p. 1180.

⁶⁷⁶ Ruth Richardson, *Death, Dissection and the Destitute*, 2nd ed. (Chicago: The University of Chicago Press, 2000), pp. 132–41.

Germany and three in Italy.⁶⁷⁷ In this preface he considered the advantages of studying morbid anatomy, which included, guiding the practitioner “on such knowledge in similar cases, and also to inform others. It may, perhaps, too, lead him to a proper method of treatment”.⁶⁷⁸ In other words, the development in morbid anatomy justified medical theory and thus, could determine practice.

One outcome of post-mortem examinations was that it enabled medical practitioners to work backwards from the cadaver to determine whether diagnosis and treatment during life had accurately matched the patient’s condition. Moreover, with the increasing interest in morbid anatomy, post-mortems provided a relevance to findings of clinical examinations.⁶⁷⁹ Autopsies were often well attended and, in the case of childbirth deaths, models were sometimes made of the pelvis. James Braid, a surgeon from Cheshire, for example, attended the post-mortem of his patient, Mrs Taft in 1847. He took some plaster of Paris with him to make a model of her pelvis. “From this it was satisfactory to find” he admitted with relief, “that the estimate made of the brim of the pelvis, previous to undertaking the operation, had been very correct”.⁶⁸⁰ Seeing the diseased anatomy explained, to Braid, the reason for both Taft and her infant’s death. For nineteenth-century obstetricians, autopsies became an index by which their diagnosis and procedures could not only be measured but also justified.

⁶⁷⁷ John Jones, “Baillie, Matthew,” *ODNB*, online ed. January 2008, www.oxforddnb.com/view/article/1066, accessed 16 June 201.

⁶⁷⁸ Matthew Baillie, *The Anatomy of Some of the Most Important Parts of the Human Body*, 2nd American, from 3rd London ed. (Brattleborough, Vt.: Walpole, 1808), p. vi.

⁶⁷⁹ Youngson, *The Scientific Revolution in Victorian Medicine*, p 20. The terms post-mortem and autopsy are used interchangeably to describe the systematic examination of the dead body.

⁶⁸⁰ Thomas Radford, *Observations on the Caesarean Section, Craniotomy, and Other Obstetric Operations*, 2nd ed. (London: J. & A. Churchill, 1880), p. 174.

One of the skills obstetric practitioners needed was to correlate pelvic size to a successful outcome. Visual anatomical evidence focused not just on the abnormal but also on the mother and child. Indicative of this was Caesarean section. One of the earliest recorded Caesarean sections in England was performed on 21 October 1769. Alas, the mother, Martha Rhodes, and her infant both died. The grieving family gave permission for an autopsy.⁶⁸¹ Five years later on 13 August 1774, Elizabeth Foster underwent the twelfth recorded British Caesarean section. Her infant survived, although, sadly, she did not. Again, a post-mortem was performed.⁶⁸² Upon dissection and examination, it was found that both pelves were severely deformed, Rhodes from rickets and Foster from *mollities ossium*.⁶⁸³ Images of these distorted pelves were widely published. For example, Spratt published a brief clinical history along with the drawings from models taken of these two pelves (Figure 5.2). These seemed to stress the hope that this would lead to an understanding of the relationship between the abnormal structure, best treatment and birthing outcomes for mother and child. From these drawings it must have been very clear to most doctors that no child could fit through them.

⁶⁸¹ William Cooper, the physician initially called by the midwife and Henry Thomson, the surgeon who performed the operation wrote accounts of this Caesarean operation that were published in *Medical Observations and Inquiries* 4 (1771). See William Cooper, “A Case of the Caesarean Section,” and Henry Thomson, “An Account of the Performing of the Caesarean Operation, with Remarks,” *Medical Observations and Inquiries* 4 (1771): pp. 261–271, 272–279. This Caesarean section was listed as the eleventh one performed in Britain, see James Blundell, *The Principles and Practice of Obstetrics, as at Present Taught by James Blundell, M. D.* (London: E. Cox, 1834), pp. 573–74.

⁶⁸² “An Account of the Caesarean Operation, by William Cooper,” *Medical Observations and Inquiries* 5 (1776): pp. 217–232.

⁶⁸³ George Spratt, *Obstetric Tables: Comprising Graphic Illustrations, with Descriptions and Practical Remarks, Exhibiting on Dissected Plates Many Important Subjects in Midwifery*, 3rd ed., 2 vols., vol. 1 (London: John Churchill, 1841), Table III. B.

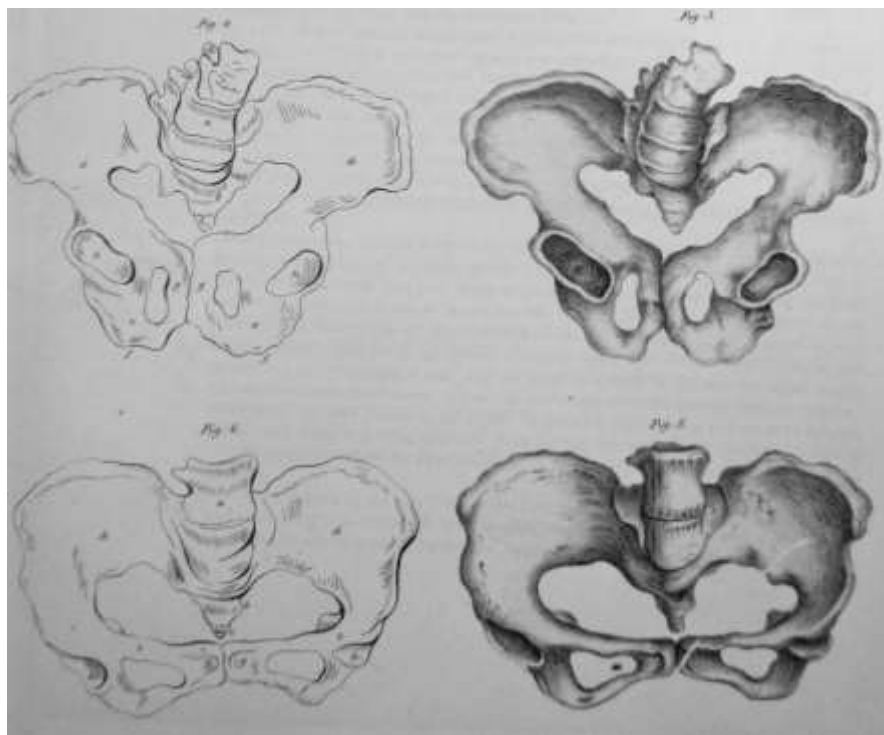


Figure 5.2. The Distorted Pelves of Elizabeth Foster (top) and Martha Rhodes (below)⁶⁸⁴

While these visual texts explained the nature of the disease process of the mother and the resulting dreadful pelvic distortion, it also focused on the realistic options for the foetus. It was obvious that such distortion would inevitably destroy the child. Visualising such conditions allowed the doctor to identify the problem and so how to best save the child.

Jordanova has argued, through visual images such as wax anatomical models of women and their developing foetuses, medicine was a vehicle for defining ideas of nature, culture and gender. These visual models, she argued, provided a natural explanation of gender. Women's identity was, therefore, bound to their reproductive capacity and medicine

⁶⁸⁴ Source: Ibid., Table III. B, Figs. 3,4,5,6. Although Spratt named the patient Mary Rhodes, this thesis will refer to her as Martha Rhodes, in keeping with the name that William Cooper, the attending physician, referred to her in his account of her Caesarean section.

facilitated this.⁶⁸⁵ The same could be said of the pelvic models and illustrations. However, women were not only defined by medicine. Prevailing cultural constructions of gender also emphasised women's domestic and reproductive roles. Moreover, an aspect that needs emphasising is that obstetrics was dealing with life and death. These pelvic images were indicative of the guiding principal of trying to save life. With this in mind, the doctor's view concentrated not only on the mother but also focused on the endangered life of the infant.

This thesis has shown that the patient did not become simply an object of the medical gaze. However, in relation to morbid anatomy, it appeared that dead bodies did become "objectified", considered as subjects of study, a "fruitful source" of knowledge.⁶⁸⁶ The dissected cadaver became a readable text. So, although this thesis concedes that these bodies did seem to produce authoritative knowledge, this was only one way of viewing the knowledge/power nexus. Rather, morbid anatomy reflected a new scientific preoccupation with anatomical findings whereby clinical signs were correlated to the outcome. Such scientific inquiry and resultant medical knowledge also placed a new emphasis on the life of the foetus.

Repositioning the foetus to centre stage

A common theme in nineteenth-century obstetric literature was the detection of foetal death. Determining the death, or life, of the child during labour had far reaching consequences: the type of procedure, the timing of the procedure and the anticipated outcome. Typical signs of death were: no foetal movement, a sinking abdomen, a feeling of coldness and weight in the abdomen, flaccid breasts and cessation of any secretions,

⁶⁸⁵ Jordanova, "Natural Facts: A Historical Perspective on Science and Sexuality," pp. 54–58.

⁶⁸⁶ Foucault, *The Birth of the Clinic*, p. 125.

dark circles around the woman's eyes, offensive breath, rigors, and loss of appetite. Anxious to know what signs to look for in order to avoid unnecessary suffering to both the mother and infant, Burns recommended that every student should become an "expert in this matter".⁶⁸⁷ Most of these symptoms, however, could be "notoriously delusive".⁶⁸⁸ It was recognised that just one of these signs did not necessarily signal a dead foetus.

While well aware of the importance of establishing if the foetus were alive or not, many obstetricians agreed that the diagnosis of this was very difficult. To illustrate this point Alexander Tyler from Dublin, recalled the case of Mrs B from Manor Street, who was in labour with her first child. She sent for a doctor, who, after examining her, told her child was dead and that it should be delivered immediately by craniotomy. Refusing to believe this, she called for Drs Tyler and French. Upon arrival they found the infant on the verge of delivery. After consultation, Tyler decided to deliver the infant with short forceps, and "had the satisfaction to find that the child (a male) was alive", moreover, the infant did well.⁶⁸⁹ Tyler's "satisfaction" at the live birth unmistakably demonstrated the differences of opinions amongst the medical practitioners as to how to assess precisely the state of the infant.

Another set of signs of foetal death was concerned with the condition of the foetus itself. These, according to Ramsbotham, were more indicative and conclusive. They included: the loss of pulsation in the funis (umbilical cord), looseness and braking up of the bones of the cranium, no cranial swelling from continual pressure during labour, emphysema of the

⁶⁸⁷ Burns, *The Principles of Midwifery*, (1837), p. 500.

⁶⁸⁸ Fleetwood Churchill, *On the Theory and Practice of Midwifery* (London: Henry Renshaw, 1842), p. 132.

⁶⁸⁹ Charles Clay, *The British Record of Obstetric Medicine and Surgery for 1848: Consisting of the Original Papers on Midwifery, and the Diseases of Women and Children, by the Most Living Practical Obstetricians*, vol. 1 (Manchester, London: William Irwin, 1848), pp. 298–99.

scalp, and no foetal sounds.⁶⁹⁰ Despite these additional signs, there was ambiguity over the clinical diagnosis of foetal life and death. Merriman summed up the medical situation:

Upon the whole, we cannot be too cautious in forming an opinion respecting the death of the infant *in utero*. In a point of so much importance, it is our duty to call in to our aid every possible evidence; we ought never to be satisfied with a single token of death; but should examine each symptom separately, and afterwards the whole collectively, before we allow ourselves to come to the ultimate conclusion.⁶⁹¹

The medical profession did not yet have the ability to always differentiate between life and death. The medical practitioner required a more precise way other than noting signs and listening to the patient's story to determine the death of the foetus.

Arguably the most important development of the nineteenth century to aid with this diagnosis was the stethoscope, although it was not without its detractors. During the late eighteenth century, the introduction of thoracic percussion and auscultation was one way that expanded the diagnostic potential of the doctor. Percussion involved tapping the body to detect the position, size and consistency of an organ; however, it was auscultation, listening to sounds produced in the body, which proved crucial to obstetrics.⁶⁹² René-Théophile-Hyacinthe Laennec (1781–1826) a French doctor working at Necker Hospital in Paris, took advantage of auscultation and invented the stethoscope. This came about in 1816 when a woman with possible heart disease consulted him. Unable to examine her properly, Laennec rolled a notebook into a cylinder and put one end on the patient's heart

⁶⁹⁰ Ramsbotham, *The Principles and Practice of Obstetric Medicine and Surgery*, (1847), p. 224.

⁶⁹¹ Merriman, *A Synopsis of the Various Kinds of Difficult Parturition*, (1826), p. 57.

⁶⁹² Singer and Underwood, *A Short History of Medicine*, p. 172.

and the other end to his ear. To his surprise he heard her heart beat. This cylinder then developed into the stethoscope.⁶⁹³

With the stethoscope, internal organs and structures could be heard and hence “seen” before they became the subject of the morbid anatomist. Practitioners were able to determine what was happening inside the body and predict any changes and thus effect a treatment. In relation to obstetrics, I. F. Mayor, of Geneva, in 1818, discovered that the stethoscope could also hear foetal sounds.⁶⁹⁴ Jean Lejumeau de Kergaradec was the first to describe the foetal heartbeat and the placental souffle, the murmur heard from the circulation of blood in the placenta. Thus, detecting the viability of the foetus became possible with the stethoscope. The value of the mother’s perception of foetal movement became of secondary importance.⁶⁹⁵ Accordingly, doctors were focusing more on the foetus than they had done previously.

In discussions about the life of the foetus, many nineteenth-century obstetricians agreed that the stethoscope provided the definitive means to assess the state of the foetus. Evory Kennedy, Licentiate of the King and Queen’s College of Physicians in Ireland, lecturer in midwifery and assistant at the Dublin Lying-in Hospital, believed that the signs of foetal death that practitioners had relied upon were “futile and unworthy of dependence”. He pointed out in his text on obstetric auscultation that auscultation was an additional diagnostic technique that could assist doctors “in arriving at accurate conclusions on one of

⁶⁹³ Jacalyn Duffin, *History of Medicine: A Scandalously Short Introduction* (Toronto: University of Toronto Press, 2000), pp. 195–96.

⁶⁹⁴ Playfair, *A Treatise on the Science and Practice of Midwifery*, 2, p. 165.

⁶⁹⁵ Duffin, *History of Medicine*, pp. 252–54.

the acknowledged most doubtful points in practice”.⁶⁹⁶ Others maintained that auscultation was particularly applicable to craniotomy. Collins, Master of the Dublin Lying-in Hospital, proclaimed it was “one of the greatest improvements that has been made in the practice of midwifery” for if the child were dead, there was no need to delay craniotomy.⁶⁹⁷ Ramsbotham summed up the promising results from listening to the foetal heartbeat:

by the simple application of the stethoscope to the abdomen of the parturient woman, we can decide, in a doubtful case, on the present state of the foetal vitality, we shall be gaining the greatest possible advantage, without subjecting the patient to the least pain, danger, or inconvenience; and even without shocking, in the slightest degree, the most delicate or sensitive mind.⁶⁹⁸

An added advantage for Ramsbotham and his colleagues was that the stethoscope removed any unpleasant and embarrassing manual examination, for both the doctor and woman. While respecting female modesty, the doctor’s use of the stethoscope enabled a critical internal examination of the child without transgressing the standards of the day.⁶⁹⁹

Despite these claims, some doctors were not as convinced as Ramsbotham about the benefits of the stethoscope. Part of the problem was learning to use it. One practitioner applied the stethoscope incorrectly, only to remark that he heard a distinct murmur. What he really heard though was the sound of a passing coach on the newly paved road!⁷⁰⁰

⁶⁹⁶ Evory Kennedy, *Observations on Obstetric Auscultation, with an Analysis of the Evidences of Pregnancy, and an Inquiry into the Proofs of the Life and Death of the Foetus in Utero*, With an Appendix Containing Legal Notes by John Smith, with Notes and Additional Illustrations by Isaac E. Taylor (New York: J. & H. G. Langley, 1843), p. 264.

⁶⁹⁷ Collins, *A Practical Treatise on Midwifery*, p. 16.

⁶⁹⁸ Ramsbotham, *The Principles and Practice of Obstetric Medicine and Surgery*, (1847), p. 227.

⁶⁹⁹ Malcolm Nicholson, "The Introduction of Percussion and Stethoscopy to Early Nineteenth-Century Edinburgh," in *Medicine and the Five Senses*, ed. W. F. Bynum and Roy Porter (Cambridge: Cambridge University Press, 1993), pp. 152–53.

⁷⁰⁰ Stanley Joel Reiser, *Technological Medicine: The Changing World of Doctors and Patients* (Cambridge: Cambridge University Press, 2009), pp. 11–12.

Another problem was finding and deciphering the sounds. Foetal sounds were sometimes confused with the sounds from the woman's intestines, or the foetus was in such a position as to screen its sounds and the placenta souffle.⁷⁰¹ Then again, the problem with the souffle was that, at times, it was confused with uterine and ovarian tumours or even with labour.⁷⁰² Fleetwood Churchill summed up the problem: "much depends on the tact and experience of the auscultator; one person may detect a pulsation that is inaudible to another: to pronounce, therefore, that a foetus is dead because we do not at any one visit hear the heart, would be too hasty a conclusion".⁷⁰³ Consequently, listening for foetal life was, for some doctors, an unreliable indicator of the condition of the foetus.

Others drew on their clinical experience. Lee criticised the shortcomings of auscultation in a case that he attended with Dr Andrews on 7 May 1843. They examined the exhausted woman, including auscultation to the whole of the uterus. Lee and Andrews could not detect any foetal heartbeat. Believing the child to be dead, they were tempted to perform a craniotomy, but decided, at the last minute, to deliver with forceps. The child was born alive, although, sadly, it died shortly afterwards. Lee concluded that had they trusted "auscultation alone ... that a great error would have been committed". Lee ruled it out as "an infallible test of the child being alive or dead, and ought not, independent of other circumstances, to regulate our practice".⁷⁰⁴ This aspect of Lee's opinion was revealing because it illustrated not only the skill needed to assess the viability of the foetus but also the conservatism, and thus inflexibility, of some doctors to new technology. Fearing the new caused a stubbornness, which subsequently created a resistance to change. Further to

⁷⁰¹ William Cummin, "Lectures on Forensic Medicine," *London Medical Gazette* 19 (1836): p. 440.

⁷⁰² Playfair, *A Treatise on the Science and Practice of Midwifery*, 2, pp. 170–71.

⁷⁰³ Churchill, *On the Theory and Practice of Midwifery*, p. 133.

⁷⁰⁴ Lee, *Clinical Midwifery*, pp. 34–35.

this, understanding the importance of detecting foetal viability did not necessarily translate in obstetric accuracy. However, the possibility to detect foetal life effectively accelerated the surveillance methods aimed at both mother and child.

The period from 1820 to 1840 saw a gradual yet widespread medical conceptualisation of the foetus as a patient. Detecting its life and, hence, its survival was translated into a problem that required medical attention. Indicative of this trend, William Lowder also warned his pupils “not to get into the habit of disregarding the Life of the Child”.⁷⁰⁵ Within certain medical knowledge, categories and definitions, the foetus became medicalised. While it was not viewed as a separate entity, it was given close medical attention. It followed then, that this focus moved attention away from the traditional privileged place of the mother, while, at the same time, reinforcing the new interest in the foetus. Therefore, whilst discussions over the ability to detect foetal life or death generated tensions, it repositioned the foetus to centre stage.

Making the decision

Obstetric practitioners in the second half of the nineteenth century took confidence in the growing public demand for their expertise. They were also boosted by the growth in medical knowledge and technological developments such as improved forceps design and anaesthesia. Accordingly, they had to make decisions. That is, when faced with a birthing problem they had to interpret and evaluate the difficulty in order to optimise the outcome. In the end, the choice was based on the maternal outcome. Nonetheless, these decisions were far from easy.

⁷⁰⁵ Hooper, “Lectures on Midwifery,” MS0104/2/2, RCS, p. 590.

It was generally agreed that there were certain cases concerning the state of the foetus that indicated craniotomy. Archibald Donald, honorary surgeon at St Mary's Hospital for Women in Manchester began his discussion at the Obstetrical Society of London 1889 by listing them: when the foetus presented abnormally or was wedged in the pelvis and forceps or turning had proved ineffectual; when the child was, or most likely, dead; and foetal abnormalities.⁷⁰⁶ There were, nevertheless, difficulties in following these seemingly simple and straightforward rules.

In most cases of craniotomy the child had already ceased to live. All agreed that if the infant were dead, craniotomy was to proceed solely with the mother's interest at heart. By the mid nineteenth century, there was, however, a tension over the living foetus and what must be done for the mother. Even when craniotomy was the only solution, not all practitioners were in agreement over the timing of the death of the infant and thus when to perform it. Tyler Smith clarified the problem:

There is little distinction, in a moral point of view, between standing by while the foetus dies and the actual performance of craniotomy ... the moment we are positively certain that the head cannot pass naturally or artificially without perforation, but that with perforation it may pass, we should prepare for craniotomy, with little reference to the question of whether the mother can bear an hour or two of additional suffering, or whether the child may linger a few hours more or less before it expires from compression.⁷⁰⁷

The controversial issue was that while craniotomy hinged on the mother, there was an area of negotiation around when to operate; dependent on whether the foetus was alive or dead.

⁷⁰⁶ "Obstetrical Society of London," *Lancet* 1 (1889): p. 78.

⁷⁰⁷ William Tyler Smith, *A Manual of Obstetrics: Theoretical and Practical* (London: John Churchill, 1858), p. 604.

During the second half of the century, this anxiety gathered momentum and created further discussion over its practice. Tyler Smith's insistence on acting on behalf of the mother was sometimes at odds with others and their anxiety over the live foetus. The problem of managing a craniotomy on a living child was that it did not conform to a universally agreed scheme. Even working under the principle that "no practitioner is justified in taking away human life, even from an unborn child, unless he is nearly certain that it will be the means of saving the parent"⁷⁰⁸ The practice of craniotomy was performed in order to save life, but its invasiveness also caused death.

With the shifting focus towards the child, it was clear that obstetric practitioners had a moral obligation not to actively harm it. Consequently, some were concerned about killing the infant while performing the craniotomy. A physician from Manchester, Thomas Radford, in his condemnation of craniotomy, referenced the remarks of Dr Bedford in his text *Observations of the Caesarean Section, Craniotomy, and on Other Obstetric Operations*, as he felt they effectively expressed his viewpoint. He wrote:

In truth, it needs some nerve, and, for a man of high moral feeling, much evidence as to the necessity of the operation, before he can bring himself to the perpetration of an act which requires, for his own peace of mind, the fullest justification. The man who would wantonly thrust an instrument of death into the brain of a living foetus would not scruple, under the mantle of night, to use the stiletto of the assassin.⁷⁰⁹

It was obvious that Radford abhorred the killing of live infants during craniotomy. Therefore, some obstetric practitioners, such as Radford, waited until the infant had died before carrying out the craniotomy. There was no room for negotiation. For them it was a

⁷⁰⁸ "Reports of Societies," *BMJ* 1, no. 105 (1859): p. 14.

⁷⁰⁹ Radford, *Observations on the Caesarean Section*, p. 58.

question of not going against the moral guidelines of medicine: not to actively destroy another life. The fact that Radford mentioned this at all indicated that he was certain that some of his contemporaries were morally wrong in how they practiced.

Others were not convinced that to let the infant die naturally before proceeding with craniotomy was a safe practice. The first point that they argued was that in the course of craniotomy every infant must die; this was the reality of the procedure. As Alexander Milne a physician-surgeon from Edinburgh explained in quite a confronting manner, “Living or dead the infant’s bones must be crushed within a reasonable time”.⁷¹⁰ Even with the growing medical momentum of the importance of the wellbeing of the child, in putting the mother before the child, they came to believe “if the symptoms demand it, we must discard all consideration of the child, even if it be alive”.⁷¹¹ Once it was confirmed that the child could not be delivered alive, Barnes saw no distinction between the foetus being destroyed by craniotomy or waiting till it died naturally. For him, “waiting till the child is dead is opposed both to reason and to humanity. It seems a refinement of casuistry to distinguish between directly destroying a child, and leaving it exposed to circumstances which must inevitably destroy it”.⁷¹² Barnes argued that in delaying craniotomy till the child died naturally offered no advantage to the child, but it endangered, even killed, the mother. His reasoning addressed the moral conflict of the live foetus and craniotomy. Such thinking proposed to resolve morally problematic cases by reference to the most important issues of the case and judging these against the best possible outcome. This clinical and somewhat insensitive philosophy probably resulted from witnessing life and death cases.

⁷¹⁰ Alexander Milne, “Craniotomy and Cephalotripsy Contrasted; with Cases,” *Edinburgh Medical Journal* 13, no. 7 (1868): p. 636.

⁷¹¹ Churchill, *On the Theory and Practice of Midwifery*, p. 206.

⁷¹² Barnes, *Lectures on Obstetric Operations*, (1876), p. 395.

In saying this, there would have been a fine line between delaying and rushing in. Some doctors, no doubt, did rush in too early, while others waited too long. The crux of the first point of their argument, nevertheless, was that delay was pointless, and even dangerous to the mother, if craniotomy was inevitable. This attitude also confirmed that the principle that the mother's life was paramount was still firmly in place, but the foetus was, at least, considered. Yet, the disagreement continued as not all obstetric practitioners recognised this solution as morally right.

The second point that was argued was that delaying craniotomy jeopardised the woman's recovery. By waiting for the foetus to die naturally, continuous pressure from it could rupture the uterus, although the more usual result was ulceration of the uterus or the bladder leading to fistulous openings between the uterus and bladder or the vagina and bladder.⁷¹³ If these openings did not heal, the result was one that women feared: permanent urinary incontinence. This rendered the woman "a burden to herself and an object of compassion to her friends for the remainder of her life".⁷¹⁴ Enduring "lives of hopeless misery, to which" some doctors shockingly concluded "death alone afforded relief".⁷¹⁵ Hence, for many, there was nothing to be gained by waiting. Once it was obvious that craniotomy had to be performed, any delay only increased the dreadful and debilitating risks to the mother.

For these reasons, obstetrics still defended the place of craniotomy. Moreover, there does not seem to be any significant religious argument around the issue of morality of craniotomy for British obstetricians. One article, however, generated the one and only

⁷¹³ Graily Hewitt, "Clinical Conferences in Midwifery," *Lancet* 2 (1864): p. 231.

⁷¹⁴ Ramsbotham, *The Principles and Practice of Obstetric Medicine and Surgery*, (1847), p. 156.

⁷¹⁵ Thomas More Madden, *The Recent Progress of Obstetric and Gynaecological Medicine* (Dublin: Fannin, 1886), p. 12.

outspoken and emotional response from an obstetrician.⁷¹⁶ The article, titled “Obstetric Morality”, was published in the *Dublin Review* in March 1858.⁷¹⁷ According to the *Medical Times and Gazette*, the *Dublin Review* “was the leading Roman Catholic Review in the country”.⁷¹⁸ This article moved Fleetwood Churchill, Fellow of the College of Physicians and president of the Obstetric Society of Dublin, to make the salient point that the obstetrician did not make a choice about whose life to save. Both lives were worth saving, but when craniotomy was required either the child was already dead or it was impossible for the child to be born naturally. Churchill emphatically stressed, “*no one ever does make such a choice*”.⁷¹⁹ As Catholics were a minority in Britain, religion made little impact on the overall philosophy regarding craniotomy.⁷²⁰

Even so, it was not an easy decision for any obstetric practitioner to destroy the living child. Experience, nonetheless, guided him in his objective; to minimise the dangers to the mother, but it was an objective that was not without its emotional toll. Ramsbotham explained that every obstetric practitioner, at the conclusion of the procedure, was relieved to discover that the infant had died prior to it and that he had not been “the instruments of death”. This brought peace of mind and soothed “excited feelings”.⁷²¹ Craniotomy, as Milne made clear, was fatal to the infant, but when the infant was unjustifiably or

⁷¹⁶ *Smellie's Treatise on the Theory and Practice of Midwifery*, 1, p. 293.

⁷¹⁷ “Obstetric Morality,” *Dublin Review* 44, no. 87 (March, 1858): pp. 100–29.

⁷¹⁸ “Theological Midwifery,” *Medical Times and Gazette* 17 (1858): p. 195.

⁷¹⁹ Fleetwood Churchill, ““Obstetric Morality:” *Being a Reply to an Article in No. LXXXVII of “The Dublin Review.”*,” *Dublin Quarterly Journal of Medical Science* 26, no. 51 (August 1858): p. 10. Original italics.

⁷²⁰ As in Britain, there only seemed to be one religious pamphlet published on the morality of craniotomy in Australia, see, Thomas Joseph Carr, *The Morality of Medical Practice* (Melbourne: W. P. Linehan, 1900). This, however, was not the case in America where many more theological based articles were written, some for widely read medical journals. Religion, in America, often had a presence in the birthing room and was much more vocal in its condemnation of doctors who performed craniotomy that destroyed infant life. See Leavitt, “The Growth of Medical Authority: Technology and Morals in Turn-of-the-Century Obstetrics,” pp. 239–41; Ryan, “The Chapel and the Operating Room: The Struggle of Roman Catholic Clergy, Physicians, and Believers with the Dilemmas of Obstetric Surgery, 1800–1900,” pp. 461–94.

⁷²¹ Ramsbotham, *The Principles and Practice of Obstetric Medicine and Surgery*, (1847), p. 228.

recklessly killed, the procedure was bound to “haunt one both when asleep and awake”.⁷²²

These medical comments that disclose how unsettling it was to perform craniotomy were interesting because they revealed that by the latter half of the century many doctors were focusing, certainly in part, on the life of the child.

Conclusion

This chapter has demonstrated that the foetus was clearly visible during the nineteenth century and that craniotomy was part of this. New technologies such as the stethoscope and visual images from obstetric atlases added to the refocusing on the foetus, as these increasingly became part of the obstetric routine. For the law, the protection of the infant became crucial. This, in turn, presented a challenge for obstetricians, as craniotomy destroyed a life that was becoming increasingly more important to society and medicine.

It has also shown that a key element in the conflict regarding craniotomy was the issue of live infants and their deaths. In trying not to kill the foetus, many nineteenth-century obstetricians increasingly endorsed the foetus as the patient. Accordingly, they assured themselves they did not actually choose one life over another, rather which one could be saved. Significantly though, this anxiety further impacted upon the way in which the foetus was constructed. Even though the foetus was viewed as an entity, it was still seen as reliant on its mother. The idea of the foetus as a separate person did not materialise till the twentieth century. The foetus became more visible while the mother faded somewhat from view.

⁷²² Alexander Milne, “The Superior Value of Artificial Premature Labour and Turning, over the High Forceps Operation and Craniotomy, in Cases of Contracted Pelvis; with Cases,” *Edinburgh Medical Journal* 19, no. 8 (1874): p. 715. Early induction and turning that Milne advocated in this article are discussed in Chapter 7, pp. 270–284.

The debate over craniotomy was not only indicative of the new concern over foetal life but, it also became a force by which the traditional place of the mother and her foetus, that is the mother was paramount, was challenged. Even though such a shift in thinking regarding the place of the mother and foetus occurred, in a time when options were limited, there could be no total and wide-ranging shift in practice. Consequently, the medical community could not dismiss craniotomy, rather, it simply added to the complexities of the situation, but did not overshadow it. In the end, the mother/foetus dilemma was more often than not resolved on the basis of saving maternal life. In saying this, by the second half of the nineteenth century, the increased visibility of the foetus was confirmed by a renewed concern over foetal life and its inevitable death from craniotomy. There was a further obstetric outcome from this visibility. The foetus emerged as a being that could be read and interpreted. It became medicalised. Ultimately, craniotomy highlighted the unstable and contested nature of the maternal and foetal bodies, a feature that would continue to surface throughout the nineteenth century.

Chapter 6

Doubts, Dangers and Difficulties: Calling for the Abolition of Craniotomy

No surgical operation whatever is, abstractly considered, more revolting to human nature than that of craniotomy or embryulcio [*sic*]: it is, at the best, a dreadful expedient.⁷²³

On 2 February 1859, the obstetrician William Tyler Smith in front of the Obstetrical Society of London did not deliver one of his usual lectures on a specific aspect of obstetrics. Instead, at the crowded meeting, he stood up to present his landmark paper “On the Abolition of Craniotomy from Obstetric Practice”.⁷²⁴ Eager to hear Tyler Smith’s paper, a hushed silence enveloped the room, as the gathered members watched and waited. This address captured the audience’s attention, as new directions such as this were rare. It produced a mixed reaction as many members of the society greeted the proposal with uncertainty and confusion. Obstetricians, nonetheless, were becoming more and more committed to pushing forward medical boundaries.

Tyler Smith (1815–1873) was an obstetric-physician who attended the Bristol School of Medicine, then graduated with a MB from the University of London in 1840 and a MD in 1848. He was appointed to St Mary’s Hospital in 1851 working as a physician and obstetrician and subsequently was made a Fellow of the College of Physicians in 1859. For

⁷²³ *The Obstetric Memoirs and Contributions of James Y. Simpson*, ed. W. O. Priestley and Horatio R. Storer, 2 vols., vol. I (Edinburgh: Adam and Charles Black, 1855), p. 621.

⁷²⁴ This paper was evidently considered important as it was reported in several medical journals including, *Transactions of the Obstetrical Society of London* 1 (1859): pp. 21–50; *BMJ* 1, no. 112 (1859): pp. 154–155; *Lancet* 1 (1859): pp. 160–161, 188.

five years he was an examiner in obstetrics at the University of London. Along with setting up his practice in London, Tyler Smith embarked on a literary career with the *Lancet*. The journal published a set of his lectures, which then became a book titled *Parturition, and the Principles and Practice of Obstetrics*, in 1849. Further lectures, also published in the *Lancet*, made up his next text *The Manual of Obstetrics* in 1858. At the time of writing his second book, Tyler Smith had little practical experience, but his texts remained very popular and widely read. Much of his energy, nevertheless, was spent in raising the profile of obstetrics. Dismayed at the status of obstetrics within medicine, he was formative in founding the Obstetrical Society of London and participated in its discussions and debates on a regular basis. Due to his forthright personality, however, it seemed that during his career he upset a few of his contemporaries.⁷²⁵ Despite his blunt manner, he became a strong spokesman for obstetrics, which positioned him as contributing to the voice for change.

Accordingly, when Tyler Smith rose to address the audience of the London Obstetrical Society he was a well-known advocate for the field of obstetrics. His talk began with a commentary on the number of craniotomies performed annually: 1,800 cases in England and Wales alone, or one in every 340 deliveries. This, he decried, were as if “all the children produced during the year in such a county as Westmoreland were born dead”.⁷²⁶ On a new tack, he then addressed the underestimated problem of maternal deaths from craniotomy. He claimed that mortality amongst mothers undergoing craniotomies was an astounding one in five. “These figures”, argued Tyler Smith, “convey a just idea of the

⁷²⁵ W. W. Webb, “Smith, William Tyler,” rev. Ornella Moscucci, *ODNB*, www.oxforddnb.com/view/article/25941, accessed 2 January 2013; “Obituary: Dr. William Tyler Smith,” *Lancet* 1 (1873): pp. 825–27.

⁷²⁶ *Lancet* 1 (1859): p. 160.

importance of the subject under consideration”.⁷²⁷ For Tyler Smith the abolition of craniotomy was “one of the highest, and at the same time one of the most unsettled questions” in obstetrics. He continued, “It is especially important in this country, because the operation has long been accounted, by foreign authorities, the opprobrium of our national midwifery”.⁷²⁸ His steadfast commitment to improve the standing of obstetrics coupled with his determination to question accepted practices were, nevertheless, bound to incite comment.

By the mid-nineteenth century it was becoming evident that some doctors were questioning the acceptability of craniotomy. This chapter will explore the rising critique and anxiety that came to be associated with craniotomy. This led to the radical notion that craniotomy ought to be abolished from obstetric practice. It will start by considering how some sections of the medical profession articulated a new and increased concern over the unborn child. Through their participation in discussions about foetal life, foetal and infant mortality and infanticide, this chapter will show how tension was created between discourse and practice in obstetric thinking and procedures. This anxiety escalated when it became apparent that craniotomy was filled with risks to the mother. Subsequently, the chapter will reveal how differing attitudes and beliefs towards craniotomy were discussed and debated and as a result started to change as craniotomy came to be seen as a difficult and doubtful procedure.

⁷²⁷ W. Tyler Smith, “On the Abolition of Craniotomy from Obstetric Practice, in All Cases Where the Foetus is Living and Viable,” *Transaction of the Obstetrical Society of London* 1 (1859): p. 21.

⁷²⁸ *Ibid.*, p. 22.

The anxieties over foetal life

Embryology, that is the science that deals with the formation of the embryo and foetus, developed during the nineteenth century. The invention of the microscope together with the discovery of the ovum in 1827 and the formulation of the cell theory established it as a science. Doctors drew on their medical knowledge of embryology to support their contention that the destruction of the foetus at any stage of gestation was a destruction of human life.⁷²⁹ Consequently, during the century, obstetric medicine perceived the embryo, formed in the first eight weeks after conception, as possessing the human elements of a person.⁷³⁰ The embryo and foetus had become a potential human being and thus obstetricians were concerned with its wellbeing.⁷³¹ The foetus and its potential for human life now had a significant presence in obstetrics.

Myths and superstitions about foetal development, such as the foetal soul did not come into being until after forty days for boys and eighty days for girls, remained alive and well in working-class communities.⁷³² Increasingly though, middle and upper classes agreed that the foetus began its biological and spiritual existence from the moment of conception. Conception became an important marker of foetal life.⁷³³ This growing public acceptance aligned with the view amongst the medical establishment that the infant was a matter of concern throughout the entire pregnancy.

⁷²⁹ Lynette Finch, *The Classing Gaze: Sexuality, Class and Surveillance* (St Leonards: Allen & Unwin, 1993), p. 113.

⁷³⁰ *Ibid.*, pp. 113–14.

⁷³¹ As mentioned in Chapter 5, the term “foetus” in this thesis will encompass the whole or any part of the developmental period.

⁷³² Finch, *The Classing Gaze*, p. 115.

⁷³³ *Ibid.*, pp. 114–15.

With the growing belief that from the moment of conception the foetus possessed a human quality, doctors were becoming anxious over the way the foetus was treated clinically. In line with the concern over foetal life, some medical authorities saw any destruction of the foetus as a crime, even murder. John Gordon Smith, lecturer on state medicine, wrote in 1827 that the practice of abortion was “not only imprudent but highly criminal, inasmuch as it accomplishes the destruction of a human being”.⁷³⁴ Michael Ryan, physician, surgeon, consulting physician to the East London Midwifery Institution and lecturer on medical jurisprudence, agreed with Smith’s view on human life. Writing on medical ethics, he published *A Manual of Medical Jurisprudence and State Medicine* in 1836. He declared that the destruction of the foetus through abortion was a “heinous crime – as it is the murder of the foetus in the womb, or in other words, of a human being”.⁷³⁵ The London obstetric-surgeon, Charles Severn echoed Ryan’s sentiments. He acknowledged that although the foetus was not viable before quickening, it was nonetheless “living” and thus its destruction, at any stage of gestation, was a “brand of murder”.⁷³⁶ These sentiments essentially reiterated the human quality of the foetus, which accordingly had the potential to develop into adult life and reflected its new status in the law. Yet, they also placed those doctors who performed craniotomy in a difficult ethical and legal position.

Medical practitioners also stressed the hazards to the maternal body of attempted abortions. Highlighting the worst outcome, maternal death, Theodric Romeyn Beck, New York professor of the Institutes of Medicine and lecturer on medical jurisprudence, wrote of a case in which the abortion was procured by inserting pieces of wood into the uterus, which

⁷³⁴ John Gordon Smith, *The Principles of Forensic Medicine, Systematically Arranged, and Applied to British Practice*, 3rd ed. (London: T. and G. Underwood, 1827), p. 311.

⁷³⁵ Michael Ryan, *A Manual of Medical Jurisprudence, and State Medicine*, 2nd ed. (London: Sherwood, Gilbert, and Piper, 1836), p. 265.

⁷³⁶ Severn, *First Lines of the Practice of Midwifery*, p. 134.

“proved fatal to the lives of both *mother* and *child*”.⁷³⁷ Professor A. T. Thomson, one of London’s experts on legal medicine, concurred with Beck’s opinion adding that medicines and injuries such as kicks or blows to the abdomen, as well as instruments, endangered the life of the mother and child. He also attacked the abortionists, claiming that they “become involved in the charge of murder and are amenable to the law, as if they were the principals”.⁷³⁸ These views on abortion performed by non-experts reflected the medical view that not only was the woman’s safety a concern but also they prioritised the life of the growing infant. This was also important because it provided an insight into the conflict between maternal and foetal life that some doctors faced. They sometimes had to act against medical and legal constructions of the foetus.

Even though medical practitioners spoke out against destroying the foetus, they nonetheless sometimes performed abortion to save lives. Francis Ramsbotham, obstetric-physician to the London Hospital and former President of the Hunterian and Harveian societies, in his 1867 obstetric text stated that he was not opposed to inducing abortion if the mother’s life was in danger, or if her pelvis was so deformed that it would “save the mother from the dangers of the Caesarean section, on the one hand, or craniotomy on the other”.⁷³⁹ Thus, medical practitioners made the distinction between therapeutic and criminal abortion. The former, like craniotomy, was a matter of necessity whilst the later was a crime. Burns’ comments in his *Observations on Abortion* illustrated this medical division. After decrying the act of abortion Burns added a caveat that justified abortion in

⁷³⁷ Theodric Romeyn Beck, *Elements of Medical Jurisprudence*, 2nd ed. (London: John Anderson, 1825), p. 149. Original italics.

⁷³⁸ Thomson, “Lectures on Medical Jurisprudence,” p. 629.

⁷³⁹ Ramsbotham, *The Principles and Practice of Obstetric Medicine and Surgery*, (1867), p. 337.

cases when “the safety of the mother demands this interference”.⁷⁴⁰ This distinction was significant, as doctors not only saw themselves as providing safe abortions for medical reasons but also acting in the mother’s best interest.

Further to this, the courts were recognising the lawfulness of this division. In the case of *R. v. Wilhelm*, Auguste Wilhelm, “a chemist and druggist”, was charged at the Lancashire Assizes in 1858 of wilfully murdering Martha Bilborough by attempting an abortion. The chief medical witness testified that “In cases of malformation, on the part of the female, it is sometimes necessary and indeed customary, to perform operations for the purpose of procuring abortion in various stages of pregnancy”.⁷⁴¹ Unfortunately for Wilhelm no such deformity was evident and he was found guilty and sentenced to death. This testament reinforced the notion that any form of medical procedure, be it therapeutic abortion or craniotomy, which destroyed the foetus was lawful if it preserved the mother’s life. Consequently, doctors had nothing to fear, legally, if they acted in the interest of the patient. Importantly though, during the nineteenth century many in society increasingly viewed the foetus from conception as possessing life and its destruction abhorrent.

As part of the new criminal code there was a specific agreement that doctors who performed craniotomy were exempt from any crime. For the protection of doctors who destroy an unborn child, “no one shall be guilty of any offence who, by means employed in good faith, for the preservation of the life of the mother of the child ... causes the death of any child”.⁷⁴² They, nevertheless, had to sometimes defend themselves against allegations of murder. Churchill defended such allegations by claiming that killing the child during

⁷⁴⁰ John Burns, *Observations on Abortion* (London: Longman, Hurst, Rees, and Orme, 1806), p. 66.

⁷⁴¹ “Recent Trials,” *Medical Times and Gazette* 17 (Dec. 25, 1858): p. 658.

⁷⁴² “The New Criminal Code in Relation to Medical Evidence: Killing of Unborn Children: Abortion: Rape,” *BMJ* 2 no. 916 (1878): p. 106.

craniotomy did not make the obstetrician a murderer, for if it were murder, the criminal law would have penalised the practice.⁷⁴³ As the law had dealt with the accountability of the obstetrician around this particular crime, the allegation of murder was of doubtful validity. Clearly, the court and obstetricians did not consider craniotomy a form of murder.

It was clear from the medical literature that some doctors were prepared to sacrifice the life of the foetus in procedures such as therapeutic abortion and craniotomy. Nonetheless, doctors were naturally concerned at having their reputation tarnished, especially if the abortion ended fatally for the mother. Furthermore in performing such procedures, it became a concern that doctors would be perceived as having little or no regard for the life of the infant. Robert Rentoul a surgeon and a member of the London Obstetrical Society called for the medical profession to re-evaluate foetal life. He was concerned that:

For a considerable time there has been a strong feeling that many of the medical profession have not a due and proper regard for foetal life. It is to be feared that we do not sufficiently impress the fact of the sacredness of unborn life ... the wilful killing of any human being *at any stage of its existence* must be censured in the most downright and gravest manner.⁷⁴⁴

This perception, he felt, was not just a problem with abortion but also with craniotomy. By drawing up a code of practice on abortion, he believed, the code would highlight and reaffirm that the saving of human life was the medical profession's highest calling.⁷⁴⁵ While concern for their reputation might seem somewhat insensitive or even self-absorbing, it was nonetheless indicative of obstetricians' wider concerns and anxieties over their stance on foetal life that sometimes conflicted with their practice. These tensions

⁷⁴³ Churchill, "'Obstetric Morality: ' Being a Reply to an Article,'" pp. 3, 12.

⁷⁴⁴ Robert Reid Rentoul, *The Causes and Treatment of Abortion* (Edinburgh and London: Young J. Pentland, 1889), p. 16. Original italics.

⁷⁴⁵ *Ibid.*, pp. 250–251.

contributed to the need to bring change to the medical profession and public's concern over the destruction of life by craniotomy.

Foetal and infant mortality

With the growing perception and acceptance of the foetus as a potential human being, infant mortality became not just a social and political concern but also a medical worry. Britons were driven by a desire for a large and powerful nation. Empire building and wars required a healthy population.⁷⁴⁶ John Nicols in his sermon to encourage donations for the City of London's Lying-in Hospital argued that in view of the political economy "we want people, on account of the necessary demands for the security and improvement of our foreign acquisitions".⁷⁴⁷ Following his sermon, Nicols gave an account of the hospital, in which he again emphasised the national needs whereby it should "protect the tender lives of infants, who may hereafter be usefully employed in trade and manufacture, or supply the waste of war in our fleets and armies".⁷⁴⁸ This stance supported society's notion of Britain as a dominant empire-building nation and viewed infant life as essential to its success as a world power. Specifically, a strong nation therefore became linked to the ability to save infants' lives.

While infant mortality rates varied, Robert Wood and Nicola Shelton have shown that, in general, the rate in Victorian England was higher in urban areas and all urban areas had

⁷⁴⁶ Davin, "Imperialism and Motherhood," pp. 9–12.

⁷⁴⁷ John Nicols, *A Sermon Preached at the Parish Church of St Andrew, Holborn, on Thursday, March 26, 1767, before the President, Vice-President, Treasure, and Governors, of the City of London Lying-in Hospital for Married Women* (London: C. Say, 1767), p. 24.

⁷⁴⁸ John Nicols, "An Account of the City of London Lying-in Hospital for Married Women," in *A Sermon Preached at the Parish Church of St Andrew, Holborn, on Thursday, March 26, 1767, before the President, Vice-President, Treasure, and Governors, of the City of London Lying-in Hospital for Married Women* (London: C. Say, 1767), p. 5.

higher than average rates.⁷⁴⁹ Moreover, in the mid nineteenth century, the move from rural to urban areas caused an increase in infant mortality. The influx of people seeking work opportunities caused these urban areas to become crowded unhealthy slums. These unhygienic conditions created an environment that fostered poor nutrition and even malnutrition, disease and illness.⁷⁵⁰ Babies were most susceptible.⁷⁵¹ With public health initiatives such as better sanitation, clean water, slum clearance, emphasis on breast-feeding, and the smallpox vaccine, the mortality of children aged one to four years began to fall from the 1860s.⁷⁵² However, infant mortality among those less than one year of age remained disturbingly high throughout the century. It has been estimated that one out of every six babies born in England during the 1890s died before the age of one, an exceptionally poignant statistic.⁷⁵³

Many nineteenth-century mothers could realistically fear the death of their newborn infants. The Bills of Mortality, as Nicols noted in his hospital sermon, revealed “what an amazing number of infants are lost almost as soon as they appear”.⁷⁵⁴ All young children

⁷⁴⁹ Robert Woods and Nicola Shelton, *An Atlas of Victorian Mortality* (Liverpool: Liverpool University Press, 1997), pp. 51–52.

⁷⁵⁰ Andrew Hinde, *England's Population: A History since the Domesday Survey* (London: Hodder Arnold, 2003), pp. 202–03.

⁷⁵¹ *Ibid.*, p. 212.

⁷⁵² For an account of some of these public health initiatives see, Simon Szreter, “The Importance of Social Intervention in Britain’s Mortality Decline c. 1850–1914: A Re-Interpretation of the Role of Public Health,” *Social History of Medicine* 1, no. 1 (1988): pp. 1–37; Keir Waddington, *An Introduction to the Social History of Medicine: Europe since 1500* (London: Palgrave Macmillan, 2011), pp. 230–42; Roy Porter, *London: A Social History* (London: Hamish Hamilton, 1994), pp. 268–74; V. Fildes, “Neonatal Feeding Practices and Infant Mortality During the 18th Century,” *Journal of Biosocial Science* 12, no. 3 (1980): pp. 313–24; W. F. Bynum, *Science and the Practice of Medicine in the Nineteenth Century* (Cambridge: Cambridge University Press, 1994), pp. 20–21, 80–85.

⁷⁵³ Hinde, *England's Population*, p. 212. While population numbers and the health of infants were interrelated, it was difficult, nevertheless, to measure the exact number of nineteenth-century foetal deaths and stillbirths. This was because it was not until 1927 in England and Wales, 1939 in Scotland, 1961 in Northern Ireland and 1995 in the Republic of Ireland that registration of stillbirths was compulsory. Robert Woods, *Death before Birth: Fetal Health and Mortality in Historical Perspective* (Oxford: Oxford University Press, 2009), p. 69.

⁷⁵⁴ Nicols, *A Sermon Preached at the Parish Church of St Andrew, Holborn, on Thursday, March 26, 1767*, p. 24.

were susceptible to disease and death and a substantial proportion would have been infants who died in the first few hours or days of their life. Survival chances early on were affected by the state of the foetus *in utero*, prematurity, and complications and trauma during birth. In addition, poor maternal health, a lack of medical knowledge and destructive procedures such as craniotomy, would have certainly contributed to high foetal mortality in the nineteenth century.⁷⁵⁵

Throughout the century, medical attention on the infant intensified. By the mid century obstetricians wanted to show their skill at successfully saving the infant, as well as the mother. Such concern was evident as a number of them started to compile and publish statistics in medical journals, which included the number of stillbirths in their practice. For example, from the records of Robert Dunn's private practice from 1831 to 1850 he recorded that of the 4049 midwifery cases, 170 were stillborn, or 1 in 23. Moreover, he had employed craniotomy in ten cases, or once every 404 times, and in two of these the mother died.⁷⁵⁶ Dr R. Uvedale West in the *Lancet* in 1859 also published his statistical results of his twenty-five years in practice in Alford, Lincolnshire. Of the 2,998 children he delivered, 111 were stillborn, or 1 in 27. He noted that craniotomy was the second most common cause of these deaths, "putrid at birth" being the most common.⁷⁵⁷ Such results indicated to the medical community not only an awareness of how many infants died, but also that craniotomy was a major cause of foetal death.

⁷⁵⁵ Woods, *Death before Birth*, pp. 3–5.

⁷⁵⁶ Robert Dunn, "On the Statistics of Midwifery, From the Records of Private Practice," *Lancet* 2 (1859): p. 484.

⁷⁵⁷ R. Uvedale West, "A Statistical Study of the Causes and Relative Proportion of Still-Births in Private Country Practice," *Lancet* 2 (1859): p. 480.

Commenting on another statistical report delivered by Henry Cooper Rose to the May 1876 meeting of the London Obstetrical Society, William Playfair, Professor of Obstetric Medicine in King's College, thought that Rose's one in thirty stillbirths was "rather large". Therefore it was, he pleaded, "a matter of urgent necessity to diminish the excessive infant mortality". This "was a fault of modern midwifery" concluded Playfair "that sufficient attention was not paid to the life of the child".⁷⁵⁸ At the October meeting of the same year, the consulting physician to the City of London's Lying-in Hospital, Clement Godson documented a stillbirth rate of just over five per cent. Once again, Playfair returned to the issue of craniotomy, with its inevitable foetal death, versus forceps delivery. He advocated that by increasing the number of forceps operations it would decrease the number of craniotomies, thus "lessen the foetal deaths". Another member of the society, Dr Roper agreed that "foetal mortality might be diminished", although he was concerned that maternal mortality may not.⁷⁵⁹ Such new ideology reflected the concern for the life of the infant and a desire to find a safe way of delivering it. This recognition, perseverance and anxiety over infant life would continue throughout the rest of the nineteenth century.

A shifting paradigm: craniotomy was no longer safe

The developing interest and worry over the general welfare and health of the infant was accompanied by a changing medical commentary on craniotomy. By the mid nineteenth century, obstetricians were increasingly declaring craniotomy less than safe. Yet, the growing unease around craniotomy cannot be simply attributed to the general concerns for the infant, as the mother's safety was also a key issue.

⁷⁵⁸ "Medical Societies: Obstetrical Society of London," *Lancet* 1 (1876): p. 777

⁷⁵⁹ "Obstetrical Society of London," *Lancet* 2 (1876): p. 577.

The establishment of the Registrar-General in 1837 meant for the first time reliable statistics were available on maternal mortality. At this time all members of the medical profession were asked to supply certificates of death stating, if possible, the cause.⁷⁶⁰ It was reported that the First Annual Report of the Registrar-General for 1837–38 listed childbirth as one of the three major causes of death affecting females between fifteen and sixty-five years of age. The other leading causes were consumption and typhus fever.⁷⁶¹ “It is greatly to be regretted”, declared the medical statistician William Farr, “that in the present state of medical science 2,500 women die in childbirth every year in England and Wales”.⁷⁶² Furthermore, in his study on childbirth deaths, Loudon concluded that even though there were no national reports before 1838 a similar level of maternal mortality existed from the early nineteenth century.⁷⁶³ While maternal mortality rates from childbirth were only one of the many health issues that confronted the British public and government, how to reduce these deaths would nevertheless have been a source of great concern amongst obstetricians.

Aware that many of these deaths could have been prevented, some medical authors began to give coverage to the dangers of craniotomy. William Dewees, for example, a highly regarded American professor of midwifery, in his 1832 text, unreservedly disagreed with the eighteen-century authority on craniotomy, Osborn, who advocated its safety even in extreme cases of distortion of the pelvis. While the procedure itself was simple enough, he

⁷⁶⁰ William Gilliatt, "Maternal Mortality – Still-Birth and Neonatal Mortality," in *Historical Review of British Obstetrics and Gynaecology*, ed. J. M. Munro Kerr, R. W. Johnstone, and Miles H. Phillips (Edinburgh and London: E. & S. Livingstone, 1954), p. 257.

⁷⁶¹ “First Annual Report of the Registrar-General of Births, Deaths and Marriages in England, 1839,” *Morning Chronicle*, no. 21719, Thursday 4 July 1839.

⁷⁶² *First Annual Report of the Registrar-General of Births, Deaths, and Marriages in England: Appendix (P.)* Letter to the Registrar-General from William Farr, Esq., (London: HMSO, 1839): p. 74.

⁷⁶³ Irvine Loudon, "Deaths in Childbed from the Eighteenth Century to 1935," *Medical History* 30 (1986): p. 3.

stated, it was extracting the splintered bones that created the danger to the mother. From such effort and resulting lacerations he claimed to have “seen death follow the use of the crochet” even though “little injury was sustained by the soft parts”.⁷⁶⁴ He drew on Osborn’s well-known paradigm to suggest that Sherwood’s case and her outcome was not typical.⁷⁶⁵

Even though craniotomy was widely adopted in Britain during the nineteenth century, the reality of its outcome was gradually becoming evident. Unskilled practitioners, it seemed, often performed it resulting in loss of maternal life as well as many permanent injuries. The maternal dangers from these deliveries were slowly filtering into general discussion and debate. Fleetwood Churchill, the Dublin-based obstetrician, in his 1842 text listed the risks associated with craniotomy: the instruments could easily slip causing fatal tears; the excessive force needed could lacerate the perineum; the potential for fatal shock was more common than with any other procedure; and there was a greater risk of puerperal fever.⁷⁶⁶ Sometimes the risks were compounded. For instance, Alexander Russell Simpson, President of the Edinburgh Obstetrical Society, in his review of obstetrics in 1876 highlighted that in a difficult extraction, the crochet may have to be inserted “ten or twelve times” before the whole child was delivered.⁷⁶⁷ Aware of the risk of infection and tears from craniotomy, such an extraction would increase the chance not only of these but also the risk of the mother dying. This list of dangers was telling as doctors were starting to doubt their belief in their expertise and the safety of craniotomy.

⁷⁶⁴ William Dewees, *A Compendious System of Midwifery: Chiefly Designed to Facilitate the Inquiries of Those Who May Be Pursuing This Branch of Study* (Philadelphia: Carey and Lea, 1832), p. 561.

⁷⁶⁵ *Ibid.*, p. 560.

⁷⁶⁶ Churchill, *On the Theory and Practice of Midwifery*, p. 308.

⁷⁶⁷ Alexander Russell Simpson, *Obstetrics and Gynaecology One Hundred Years Ago* (London: Savill, Edwards, 1876), p. 11.

Churchill also collected data on the maternal mortality from craniotomy cases and tabulated that out of 251 craniotomies, fifty-two mothers, or about one in five, died as a result. Even he was surprised at the high mortality rate, as he stated that he expected these results from forceps deliveries, but the reverse seemed to be the case.⁷⁶⁸ In regard to craniotomy, he concluded, “The *dangers* to which the patient may be exposed in this operation, are more serious than when the forceps is used”.⁷⁶⁹ In addition, Murphy, obstetric-physician and Professor of Midwifery at University College London, published his findings from practices in London and Dublin during the first half of the century in his 1852 text *Lectures on Preternatural and Complex Parturition and Lactation*. His results revealed that from 191 craniotomy cases, twenty-nine mothers died, giving a maternal mortality ratio of about one in six, a similar rate to Churchill’s figure.⁷⁷⁰ This new approach to craniotomy was significant as it generated doubts about the safety and, thus, the value of craniotomy. In particular, it prompted discussion about its relative position within obstetrics. This was indeed a ground-breaking and transforming time for obstetrics.

This was the situation when Tyler Smith addressed the Obstetrical Society of London on 2 February 1859 with his landmark paper “On the Abolition of Craniotomy from Obstetric Practice”. The mere fact that Tyler Smith brought his paper before the society was significant because it indicated the concern and anxiety of obstetricians not just over the dangers to the mother from craniotomy but also over foetal life and death and the role they had in these young deaths.

⁷⁶⁸ Churchill, *On the Theory and Practice of Midwifery*, p. 300.

⁷⁶⁹ Ibid., p. 308. Original italics.

⁷⁷⁰ Murphy, *Lectures on Preternatural and Complex Parturition and Lactation*, p. 603.

At the meeting, Tyler Smith highlighted just how popular this “deadly operation” was in Britain compared to other European countries, and how every new medical idea was in “distinct opposition to craniotomy”.⁷⁷¹ He candidly claimed that in light of the disgrace it brought to British obstetrics, its abolition was one of the most important topics in the history of obstetrics. Some improvements, such as the stethoscope, chloroform and greater knowledge had, he argued, decreased the number of craniotomies and thus, he reasoned that it was possible to end craniotomy.⁷⁷² Just as obstetrics had established laws on when, how and why to intervene medically, so too Tyler Smith “laid down as a general rule, that craniotomy should not be performed in the case of a living foetus after the period of viability has been reached”.⁷⁷³ He did, therefore, distinguish between the live and dead infant. While it was craniotomy in general that he wanted abolished, above all he was targeting those performed on a live foetus, as obstetricians wanted to promote themselves and to be recognised as saving maternal as well as infant life.

In front of his audience, he reiterated the arguments in favour of other techniques such as forceps, inducing labour early and turning the baby *in utero* to explain how this abolition could be achieved.⁷⁷⁴ There was much to suggest that Tyler Smith was concerned for the life of both mother and child. He felt that “the treatment which most certainly assures the safety of the child, is also the safest for the mother”. Citing the dangers from craniotomy, he summed up his argument by claiming that “craniotomy cases are by far the most fatal”.⁷⁷⁵ While admiring Tyler Smith’s sentiment, some of his colleagues in the audience, however, were less than convinced, as he did not explain what to do in dire situations in

⁷⁷¹ Tyler Smith, “On the Abolition of Craniotomy from Obstetric Practice,” p. 22.

⁷⁷² *Ibid.*, p. 23.

⁷⁷³ *Lancet* 1 (1859): p. 160.

⁷⁷⁴ Inducing labour early and turning the baby are discussed in Chapter 7, pp. 270–84.

⁷⁷⁵ Tyler Smith, “On the Abolition of Craniotomy from Obstetric Practice,” p. 50.

which craniotomy was often employed. On balance, it appeared, at least for the vast majority of obstetricians at the meeting, that the mother's life was best saved with craniotomy.

Others have their say

With no time for comment, discussion or questions, a second meeting was held to give consideration to, what Rigby, the president of the Obstetrical Society called, "a paper of so much interest and importance".⁷⁷⁶ Rigby's ideas were in line with Tyler Smith's concerns over the dangers of craniotomy. He claimed that from statistical evidence the mortality to the mother was greater with craniotomy than forceps.⁷⁷⁷ As far as these two were concerned the traditional place of craniotomy needed to change, and they anticipated this reform. Yet, Tyler Smith's determination to question the accepted place and principles of craniotomy were not well received by all his fellow obstetricians. Conflict was inevitable.

With some time to consider Tyler Smith's views, other members of the audience voiced their concerns. Augustus Granville, physician to the Duke of Clarence and physician-obstetrician to the Westminster General Dispensary, was first to speak. Again, he referred to statistics, but this time he disagreed with Tyler Smith and Rigby's data. Instead, he maintained that the frequency and danger of craniotomy occurring in private practice was much less than stated.⁷⁷⁸ Agreeing that this paper was "so new, and contained material which was of so much importance" Murphy then addressed the meeting. To explain the practical difficulties of Tyler Smith's argument, Murphy introduced the concept of craniotomy being "the only resource". He equated the number of craniotomies with the

⁷⁷⁶ *Lancet* 1 (1859): p. 188.

⁷⁷⁷ *Ibid.*

⁷⁷⁸ *Ibid.*

undeliverable shape of the mother's pelvis, which Murphy noted, "gave rise to the apparent frequent necessity for craniotomy".⁷⁷⁹ Murphy reasoned, therefore, that such an operation was never performed unnecessarily. Further to this, Dr Rogers warned that the consequence of such a proposal as Tyler Smith's would be to "increase the use of the forceps to a mischievous extent".⁷⁸⁰

Following these comments and in no doubt, Tyler Smith explained, to the somewhat dubious audience, that procedures other than craniotomy were practicable in difficult cases. These would not only save the child but also the mother from the dangers of craniotomy.⁷⁸¹ While Tyler Smith had envisaged a practice where craniotomy was not a rule of practice, he acknowledged, nonetheless, that this concept would generate much discussion and probable disagreement within obstetrics.

Initially, it seemed that the paper attracted a lot of attention. Graily Hewitt, physician to the Samaritan and British Lying-in hospitals and lecturer and assistant physician at St Mary's Hospital, London remarked, "Dr. Tyler Smith was much laughed at in certain quarters for bringing such a sentence before the Society at all".⁷⁸² Moreover, Hewitt expressed his regret that "the dream, the justifiable and scientific dream, of Dr Tyler Smith, that craniotomy is on the point of abolition" was not "about to be realised".⁷⁸³ Clearly, for some, the discussion was somewhat pointless, even a fantasy.

⁷⁷⁹ Ibid.

⁷⁸⁰ Ibid.

⁷⁸¹ Ibid.

⁷⁸² "Reports of Societies: Obstetrical Society of London," *BMJ* 2, no. 968 (1879): p. 89.

⁷⁸³ Ibid., p. 92.

Even so, it reignited the conflict around forceps versus craniotomy.⁷⁸⁴ As previously discussed in Chapter Four (pages 163–64), the success rate of forceps deliveries in the first half of the nineteenth century was not high. Rather than risk damaging the mother and/or leaving her undelivered, many thought it better to simply perform craniotomy.⁷⁸⁵ Yet, with improvements in design especially during the latter half of the century, a number of obstetricians pointed to the considerable fall in foetal and maternal fatalities with forceps deliveries. They argued that in cases which had previously called for craniotomy in which the child certainly, and the mother sometimes were lost, newly-designed forceps and better training now could deliver live infants with little risk to the mother. They also shortened the labour. With these new instruments that favoured the mother and child, forceps deliveries were deemed not just “humane and beneficial” but also “safe and justifiable”.⁷⁸⁶ How to successfully deliver the infant was a common enough problem in obstructed labours. Increasingly though to perform craniotomy that seemingly added to this risk was not a decision that sat well with some obstetricians.

Tyler Smith’s address seemed to justify the use of forceps. The public’s image of the obstetrician and forceps had also improved, as Godson stated that when he first started in practice the public viewed forceps “in a very different light from what it was now”. Had he used forceps frequently then, “he would soon have had no midwifery practice at all”.⁷⁸⁷ What was less clear, however, was the extent to which forceps could replace craniotomy. In a letter to the editor of the *Lancet*, Henry Hancox from Wolverhampton, West Midlands,

⁷⁸⁴ During the latter part of the eighteenth and into the nineteenth centuries eminent obstetricians such as Osborn, Denman, Blundell, Lee, and Collins often saw forceps doing more harm than good to the mother. This school of thought believed that in obstructed labour craniotomy was generally safer for the mother.

⁷⁸⁵ Lee believed forceps to be a potentially dangerous instrument and so performed far less forceps deliveries than craniotomies. Lee, *Clinical Midwifery*, pp. 9–13.

⁷⁸⁶ “The Discussion on Forceps,” *BMJ* 2, no. 968 (1879): pp. 95–96.

⁷⁸⁷ *Lancet* 2 (1876): p. 577.

expressed an orthodox view in choosing between the procedures. He emphasised that forceps were not always dangerous, but nonetheless, maintained that there can be “no fixed rule” regarding the use of forceps or craniotomy. The doctor “must in every instance be guided by the condition of the patient and the capacity of the pelvic cavity as to which operation he shall have recourse to”. Each case required the practitioner to make a judgment call and thus, craniotomy and forceps “are both necessary in their proper places”.⁷⁸⁸ The decision over which procedure to perform was still controversial. Nevertheless, craniotomy continued to fulfil an essential role.

Referring directly to Tyler Smith’s paper, I. Harrison, a Fellow of the Obstetrical Society, summed up his and many of his colleagues’ position on the proposal:

A very laudable desire has been expressed by Dr. Tyler Smith, on the desirability of abolishing the operation of craniotomy. It would be well indeed could this be accomplished; but, bearing in mind that the difficulties usually arise in first children, where previously we have had no means of ascertaining the exact condition of things, it is more desirable than possible.⁷⁸⁹

Here was the central and crucial dilemma for obstetricians. While the sentiment of Tyler Smith was admirable, the difficulties of following such a concept were evident. Irrespective of the child being alive or dead, the life of the mother was paramount and so sometimes craniotomy was imperative. The persistence of this opinion amongst obstetricians continued well into the century. Ramsbotham exemplified this in his 1867 text *The Principles and Practice of Obstetric Medicine and Surgery, in Reference to the Process of Parturition*. He dismissed those who objected to craniotomy unless the infant

⁷⁸⁸ Henry Hancox, “Delivery by the Forceps *versus* Craniotomy,” *Lancet* 1 (1859): p. 526.

⁷⁸⁹ I. Harrison, “Original Communications: Statistics for One Thousand Cases in Obstetrics,” *BMJ* 2, no. 149 (1859): p. 889.

was proven dead, for it was never performed “without grave and deep consideration” and its ultimate purpose was to save life.⁷⁹⁰ Clearly, a number of obstetricians agonized about such situations, but were left helpless by their lack of alternative options.

Significantly, a medical awareness of the dangers and difficulties surrounding craniotomy brought a new risk that was pinpointed in performing the operation. This was the timing of the procedure. In 1876, in the third edition of his text, *Lectures on Obstetric Operations Including the Treatment of Haemorrhage, and Forming a Guide to the Management of Difficult Labour*, Barnes raised this difficulty. After listing the well-reported dangers of craniotomy, he concluded that a “serious evil” resulted from delaying the procedure for too long. In delaying the procedure, he predicted that exhaustion and shock was inevitable and the long continual dragging of the foetal head on the soft parts bruised them or even created a hole in them.⁷⁹¹ These could be fatal for the mother. Barnes offered little comment on how to manage the problem of delay other than exhaustion had to be balanced against the timing of the procedure.⁷⁹² This issue, however, had plagued obstetricians throughout the century. Exhaustion was a regular problem that faced many obstetricians. Delay was also the criticism of the practice of non-intervention in British practice that came to a head with the death of Princess Charlotte in 1817. Hence, on the issue of exhaustion caused by delaying craniotomy, the critics of craniotomy were merely reworking contested ground. Nevertheless, Barnes’ concerns regarding the detrimental effects of delaying craniotomy exemplified the worries surrounding this new awareness of the risks and the need to reassess craniotomy.

⁷⁹⁰ Ramsbotham, *The Principles and Practice of Obstetric Medicine and Surgery*, (1867), p. 306.

⁷⁹¹ Barnes, *Lectures on Obstetric Operations*, (1876), p. 415.

⁷⁹² Ibid.

Further misgivings over destroying life

There was also another shadow cast over craniotomy. Some unwanted infants were the victims of infanticide.⁷⁹³ Medical practitioners responded to the crime. Writing in the early nineteenth century on the signs of newborn murder, Christopher Johnson, a surgeon from Lancaster, believed that infanticide was frequent, although did acknowledge, nevertheless, that it was particularly difficult to determine if the child were born alive or stillborn.⁷⁹⁴ Others, such as the obstetric-surgeon Severn, believed that infanticide was “a crime in this country rarely committed”.⁷⁹⁵ He believed those most likely to commit infanticide were generally single and poor and were motivated by “ignorance, shame, or despair, or perhaps from suffering, solitude, faintness, and exhaustion”.⁷⁹⁶ On the other hand, articles in medical journals regarding infanticide claimed that it occurred frequently in Britain, and moreover, it was “on the increase”.⁷⁹⁷

⁷⁹³ There is a comprehensive amount of historical literature on infanticide. For some recent approaches see, Mark Jackson (ed.), *Infanticide: Historical Perspectives on Child Murder and Concealment, 1500–2000* (Ashgate: Aldershot, 2002); Anne-Marie Kilday, *A History of Infanticide In Britain c. 1600 to the Present* (Basingstoke, Palgrave Macmillan, 2013); Lynn Abrams, “From Demon to Victim: The Infanticidal Mother in Shetland, 1699–1899,” in *Twisted Sisters: Women, Crime and Deviance in Scotland since 1400*, ed. Yvonne Galloway Brown and Rona Ferguson (East Linton: Tuckwell, 2002), pp. 156–80; Hilary Marland, *Dangerous Motherhood: Insanity and Childbirth in Victorian Britain* (Basingstoke: Palgrave Macmillan, 2004), pp. 167–200; Mark Jackson, *New-Born Child Murder: Women, Illegitimacy and the Courts in Eighteenth-Century England* (Manchester: Manchester University Press, 1996); Josephine McDonagh, *Child Murder and British Culture, 1720–1900* (Cambridge: Cambridge University Press, 2003). See also, Maria W. Piers, *Infanticide: Past and Present* (New York: W. W. Norton, 1978); R. Sauer, “Infanticide and Abortion in Nineteenth-Century Britain,” *Population Studies* 32, no. 1 (1978): pp. 81–93; Karen Clarke, “Infanticide, Illegitimacy and the Medical Profession in Nineteenth Century England,” *Bulletin of the Society for the Social History of Medicine* 26 (1980): pp. 11–14; Peter C. Hoffer and N. E. H. Hull, *Murdering Mothers: Infanticide in England and New England 1558–1803* (New York: New York University Press, 1981); Lionel Rose, *The Massacre of the Innocents: Infanticide in Britain 1800–1939* (London: Routledge & Kegan Paul, 1986).

⁷⁹⁴ Christopher Johnson, “An Essay on the Signs of Murder in New Born Children,” *Edinburgh Medical and Surgical Journal* 10 (July 1814): p. 394.

⁷⁹⁵ Severn, *First Lines of the Practice of Midwifery*, p. 135.

⁷⁹⁶ *Ibid.*, p. 136.

⁷⁹⁷ John Barclay, “Original Communications: Case of Infanticide,” *BMJ* 1, no. 270 (1866): p. 222; “Infanticide and Illegitimacy,” *BMJ* 2, no. 355 (1867): p. 342.

Regardless of the uncertainty about the rate of infanticide, the growth of social consciousness led to greater public perception and familiarity with this crime. The public's awareness was partly informed and influenced by the press. Nicola Goc in her study of the press and its reporting on infanticide has suggested that newspapers such as the *Times* played a decisive role in the public's opinion on infanticide. Headlines such as "child murder", "unnatural act" or "inhuman atrocity", she argued, provided the nineteenth-century reader with a particular way to read the crime, as one of violence and cruelty.⁷⁹⁸ Accordingly, Goc claimed that the public, more often than not, was unsympathetic towards the accused. Yet, Mark Jackson has shown that there were high acquittal rates for infanticide. In addition, Hilary Marland has cited a number of cases in which the woman was acquitted, on grounds of insanity, by the testimony of doctors, midwives, neighbours, friends and bystanders.⁷⁹⁹ Goc's claim, therefore, of public condemnation does not hold up in light of the persistently high acquittal rate. No doubt, the public saw it as a horrid crime *per se* but it seemed that they were sympathetic towards the plight of the mother.

Additionally, the growth of the medical press helped to highlight this public problem, as accounts of infanticide cases received an even wider exposure.⁸⁰⁰ Medical journals reported cases that discussed the law, the medical proof required for a conviction, illegitimacy, the frequency of infanticide and the physical and economic circumstances of the woman. Unlike the headline grabbing *Times*, quite often medical reporting showed a compassion and pity for the woman's situation. Doctors' involvement and contribution to

⁷⁹⁸ Nicola Goc, *Women, Infanticide and the Press, 1822–1922: News Narratives in England and Australia* (Farnham, Surrey: Ashgate, 2013), pp. 28–44.

⁷⁹⁹ Mark Jackson, "The Trial of Harriet Vooght: Continuity and Change in the History of Infanticide," in *Infanticide: Historical Perspectives on Child Murder and Concealment, 1550–2000*, ed. Mark Jackson (Aldershot: Ashgate, 2002), pp. 1–4; Marland, *Dangerous Motherhood*, pp. 178–86.

⁸⁰⁰ There were 479 medical periodicals set up in nineteenth-century Britain, although many of these did not survive. See, Bynum and Wilson, "Periodical Knowledge: Medical Journals and Their Editors in Nineteenth-Century Britain," pp. 29–48.

this social problem took the form not only of medical reporting and medico-legal deposition but also an active role in fora on infanticide.

One of the leading medical persons to address the issue of infant mortality and infanticide was Tyler Smith. During the 1860s he, in his role as President of the Harveian Society, along with other medical men of the society, began to devote some time to investigating infanticide. The society by this time had embraced a humanitarian approach that, in turn, questioned the liability of women for the deaths of their newborns.⁸⁰¹ Hence, in 1865, the Harveian Society carried out a survey on the social circumstances of newborn murders.

On 17 May 1866 the Harveian Society resolved “to draw up a report on Infanticide” for the purpose of “checking the crime”, as well as reporting on its causes and its prevention, with the aim of suggesting a plan to care for illegitimate infants.⁸⁰² Tyler Smith delivered the report’s results to the Society in January 1867. The committee was appalled by its findings. Tyler Smith gave a sympathetic yet bleak account of the lives of the women who destroyed their newborns. A list of twenty recommendations were detailed including: all births especially stillbirths were to be registered; infanticide was no longer to carry the death penalty; workhouses were to accommodate pre and postnatal destitute women; and a system of registration for foster nurses who, under supervision, could care for illegitimate children.⁸⁰³ The thinking behind the four months postnatal care in the workhouses was that “nothing tends so much to develope [*sic*] the natural affection of the mother for her child

⁸⁰¹ Mark Jackson, "Developing Medical Expertise: Medical Practitioners and the Suspected Murders of New-Born Children," in *Medicine in the Enlightenment*, ed. Roy Porter (Amsterdam - Atlanta GA: Rodopi, 1995), pp. 156–57.

⁸⁰² W. Tyler Smith, “Address on Infanticide and Excessive Infant Mortality,” *BMJ* 1, no. 315 (1867): p. 21.

⁸⁰³ *Ibid.*, pp. 24–25; “Infanticide and Infant Mortality,” *BMJ* 1, no. 315 (1867): p. 33.

after this period has passed”.⁸⁰⁴ It was hoped that these proposals would decrease the number of women who destroyed their infants.

This committee and enquiry led by Tyler Smith was significant and revealing. Up until then medical practitioners had dealt with infant death and destruction within the confines of general statistics or discussion and debate within the medical community. The fact that Tyler Smith stepped up to head the enquiry indicated that a medical as well as a societal anxiety existed over these young deaths. Ironically, craniotomy was destroying the very lives that medical men such as Tyler Smith were trying to save.

While doctors publically professed a revulsion and concern over infanticide, the success of some of their own destructive techniques, especially craniotomy, was nevertheless, coming under scrutiny. Even though some medical men were at the forefront of such important social campaigns as the one taken up by the Harveian Society, obstetricians however, were not beyond interrogation. Given the interest in infant life and infanticide, the “positive” outcome of craniotomy was now becoming less than “positive” and, hence, less well accepted. Thus, some medical attitudes towards the life and destruction of the foetus were being questioned. It had become clear that craniotomy was under threat as an established technique in the obstetrician’s repertoire; the issue of destroying life was at the core.

Change is underway

In spite of the reservations about the practicalities of Tyler Smith’s proposition, during the latter part of the nineteenth century, the rhetoric around craniotomy intensified. One aspect that still dogged those who performed craniotomy was the tag of “murder”. Churchill in

⁸⁰⁴ Tyler Smith, “Address on Infanticide and Excessive Infant Mortality,” p. 24.

1842 drew the parallel between craniotomy and murder; however, he qualified this by adding that the practitioner was guilty of murder only if he had not considered other options for delivering the woman.⁸⁰⁵ Barnes agreed with Churchill's caveat, but by 1860 still found the possibility of fulfilling Tyler Smith's proposal unachievable "at present".⁸⁰⁶ In 1844, Thomas Radford (1793–1881), a physician from Manchester and a leading campaigner, called craniotomy a "murderous operation".⁸⁰⁷ By 1880, Radford, as a promoter of the unacceptable and often fatal Caesarean section, in his second edition of *Observations on the Caesarean Section, Craniotomy, and Other Obstetric Operations*, totally condemned craniotomy. It was, he claimed, "in fact, direct murder of a human being".⁸⁰⁸ James Simpson, the highly regarded Scottish obstetrician who had discovered the anaesthetic properties of chloroform, held similar views. Simpson criticised craniotomy in general, but in particular in the instance of live infants, as it "implies the direct and deliberate murder of a fellow-being by the hand of the accoucheur".⁸⁰⁹ Furthermore, craniotomy, he argued, created a greater risk for the mother and had "proved an infinitely more dangerous operation than the forceps".⁸¹⁰ The debate was definitely heating up.

Just as Churchill and Simpson had pointed out the dangers of craniotomy, Radford also indicated that the maternal risks from craniotomy were far from negligible.⁸¹¹ Other statistics were now published which added weight to the doubts around craniotomy. Presenting his paper to the Edinburgh Obstetrical Society, Alexander Milne detailed that

⁸⁰⁵ Churchill, *On the Theory and Practice of Midwifery*, p. 301.

⁸⁰⁶ Robert Barnes, "A Clinical Examination of the Value of the Operation of Turning in Labour Obstructed Through Contraction of the Pelvic Brim," *Lancet* 1 (1860): p. 291.

⁸⁰⁷ Thomas Radford, "Dr. Radford on the Operation of Craniotomy," *Provincial Medical and Surgical Journal* 8, no. 33 (1844): p. 510.

⁸⁰⁸ Radford, *Observations on the Caesarean Section*, p. 96.

⁸⁰⁹ *The Obstetric Memoirs and Contributions of James Y. Simpson*, I, p. 621.

⁸¹⁰ *Ibid.*, p. 623.

⁸¹¹ Radford, *Observations on the Caesarean Section*, pp. 56–57.

one in six mothers died from the operation, which he concluded, uncovered “grave objections” to craniotomy “as one, in short, injurious to the mother”.⁸¹² At the basis of this concern was the belief that craniotomy was fraught with many dangers to the mother and, hence, a shadow was being cast over its practice.

In view of the emerging dialogue, a growing campaign was mounting for the elimination of craniotomy. Conventional thinking dictated that the decision to perform craniotomy was made when other techniques were considered not an option and/or the situation became urgent. However, this was becoming less than straightforward. Many doctors were now concentrating on relieving emergency situations by opting for what they felt comfortable performing and the perceived risks of a particular procedure. A case involving a thirty-two year old woman clearly illustrated this. On 22 July 1860, after twenty-eight hours labour and three extremely painful attempts to deliver the woman with forceps had failed, her attending doctor sent for Lee. The note, hand-delivered by the husband, requested Lee to bring his “forceps, &c.”⁸¹³ Both doctors agreed that labour could not possibly continue any longer. Lee was not prepared to use forceps again, as he felt that they would not save the child and probably injure the mother. For him, craniotomy was the solution. The attending doctor, on the other hand, “had adopted the new opinion that craniotomy ought to be banished altogether from midwifery, would not agree to this”.⁸¹⁴ Subsequently, a third consulting doctor was called who recommended craniotomy. The doctors lost no time in carrying this out. Unfortunately, during the delivery the woman’s perinaeum was

⁸¹² Milne, “Craniotomy and Cephalotripsy Contrasted; with Cases,” p. 629.

⁸¹³ Lee, *Three Hundred Consultations in Midwifery*, p. 178.

⁸¹⁴ *Ibid.*, p. 179.

extensively torn, which Lee put down to the huge force needed to deliver the shoulders. The woman gradually recovered.⁸¹⁵

Lee was educated and worked at a time when craniotomy was the traditional choice in impossible labours. Craniotomy was, he understood, “performed by all British practitioners of reputation”.⁸¹⁶ So, in all probability, he published this case not only to censure his opponents but also to show the value of craniotomy and its significant place in obstetrics. The core of his argument focused on the preservation of maternal life. While for him craniotomy was a necessity and this had always justified its practice, others were starting to challenge its status. The anxieties created in this case were indicative of the growing division over craniotomy, as doctors were increasingly listening to, and being influenced by, the sentiments of those such as Tyler Smith.

Even though most medical opinion favoured craniotomy, more and more it was being justified on the basis that the life of the mother was considered more valuable than that of the infant. Defending craniotomy and the destruction of foetal life, Ramsbotham, wrote in 1867 that craniotomy was permissible as it saved maternal life for without it the mother died and “the foetus within her must perish likewise”.⁸¹⁷ This was the standard used and accepted by many obstetricians. Nonetheless, Ramsbotham, seemingly anxious about the procedure, had an overriding concern to justify his choice. Unlike those obstetricians in the early nineteenth century who were more interested in indications, methods and instruments for the procedure, practitioners by the mid-century had to defend its use.

⁸¹⁵ Ibid.

⁸¹⁶ Lee, *Clinical Midwifery*, p. 10.

⁸¹⁷ Ramsbotham, *The Principles and Practice of Obstetric Medicine and Surgery*, (1867), p. 306.

Meanwhile, many obstetricians were also beginning to view craniotomy with abhorrence. In spite of his rationalisation, even Ramsbotham described it as “this dire, this terrible, this destructive and heart-rending operation”, although he argued it was easy to perform and its purpose was to save a life.⁸¹⁸ Simpson considered it “revolting” and Redman, a Fellow of the British Gynaecological Society, regarded it as “disgusting” and “repulsive”.⁸¹⁹ The reaction of various obstetricians, however, was not as negative as Simpson and Redman. Milne summed up the attitude of many of them on the matter:

Death, suffering, sorrow, and woe, therefore, like the prophet’s roll, have marked craniotomy in the past; shall there be less of this in the future, or shall it be but a repetition, a reproduction, of the past? Time alone will be able to tell. One thing, however, will be freely conceded, viz., the desirableness of doing everything in our power to render an unavoidable operation as harmless as possible, of leaving no stone unturned whereby we may, while inevitably sacrificing one life, spare the other, on which a higher value is commonly set.⁸²⁰

Milne made it clear that anguish, distress and death marked craniotomy; yet, he was not one of those who could discard craniotomy. He, like others, thought it was potentially harmful but nonetheless had a place in obstetrics, although he did not oppose those who questioned it. Doubts, however, were emerging elsewhere.

Reducing the danger

The debate within the medical community about the dangers and difficulties of craniotomy also included the potential for damage to the birth canal from the instruments. One answer

⁸¹⁸ Ibid., p. 307.

⁸¹⁹ *The Obstetric Memoirs and Contributions of James Y. Simpson*, 1, p. 621; T. Redman, “Is Craniotomy Justifiable?” *Provincial Medical Journal* 7 (Mar 1888): p. 111.

⁸²⁰ Milne, “Craniotomy and Cephalotripsy Contrasted; with Cases,” p. 630.

to this problem was to redesign the instruments making them safer and easier to use. David Davis designed the very successful guarded crochet. The spoon shaped guard cosseted the teeth of the crochet and this protected it from lacerating the mother.⁸²¹ As well as emphasising the unacceptable maternal mortality from craniotomy, Simpson was also aware of the danger that the procedure may cause to the birth canal. To limit this, Simpson designed his own crushing instrument, by modifying the standard cephalotribe, making it lighter, shorter and with a slight pelvic curve. His design, he claimed, “rendered the operation of craniotomy easy and safe for the patient”.⁸²² Braxton Hicks, obstetric-physician at Guy’s Hospital, physician to the Royal Maternity Charity and examiner in midwifery at the University of London, declared that such redesigns were “very valuable both in doing away with the danger arising from spicula of bone, and from the crochet, etc., as well as tending to shorten the duration of the operation”.⁸²³ Many situations, they argued, were made less dangerous by the new designs in craniotomy instruments. In light of the growing criticism around craniotomy, obstetricians had to promote the latest designs while simultaneously having to defend and justify the procedure itself. They were, in essence, responding to developing tensions surrounding craniotomy.

Added to this complex situation, there were up and coming obstetricians advocating a more liberal use of forceps along with their earlier intervention to lessen the frequency of craniotomy. Hewitt and Barnes were among these. Hewitt acknowledged the difficulties and dangers of early forceps deliveries. He criticised those responsible for the large numbers of craniotomies and the associated loss of infant life, in particular Lee and his

⁸²¹ Davis, *The Principles and Practice of Obstetric Medicine*, 2, pp. 1155–56. An illustration of this guarded crochet appears in Chapter 4, p. 181.

⁸²² Sir James Y. Simpson, “On the Cephalotribe,” *BMJ* 2 no. 355 (1867): p. 337. Normally the foetal head was initially perforated with the crochet and then the cephalotribe was applied which crushed and extracted the head. This procedure was known as cephalotripsy.

⁸²³ Braxton Hicks, “The Cephalotribe,” p. 337.

rationale for performing craniotomy, stating there was nothing compared to it.⁸²⁴ He was also critical of the philosophy that believed:

there was nothing for it but to perforate. Now the long forceps will reach those cases, and thus prevent craniotomy, just as the more frequent use of the forceps saves the child when it is lower down ... craniotomy, as an alternative, will diminish more and more as we acquire more skill in the use of the forceps".⁸²⁵

According to Hewitt, forceps rather than craniotomy could deal with such difficult cases. Hence, he claimed that situations whereby previously the woman underwent craniotomy were probably preventable. Attitudes were evidently changing. They were moving away from the long-accepted craniotomy. Alongside this, Barnes agreed with Hewitt that forceps would reduce the need for craniotomy, adding that by using forceps he had saved many children "who had been otherwise doomed to perish by craniotomy".⁸²⁶ He remodelled Simpson's forceps, which made these deliveries safer for mother and child. So successful were these that they have, with modifications, endured in British practice for over a century.⁸²⁷ For this new generation of obstetricians, the success of forceps was one way to break the traditional approach to craniotomy. Their attitudes showed that a landmark shift in thinking was underway.

Appreciably though, craniotomy was so well established that it was still seen at the end of the nineteenth century as having considerable merit. At a meeting of the Obstetrical Society of London on 2 January 1889, Archibald Donald, surgeon to St Mary's Hospital

⁸²⁴ *BMJ* 2, no. 968 (1879): p. 92.

⁸²⁵ *Ibid.*

⁸²⁶ Robert Barnes, "The Obstetric Bag: A Description of the Instruments Used in Operative Midwifery," *Lancet* 2 (1862): p. 32.

⁸²⁷ Hibbard, *The Obstetrician's Armamentarium*, pp. 94–96.

for Women in Manchester, pointed out that it was important “to improve the methods of craniotomy, since there are certain cases in which the operation is indicated and will continue to be performed”.⁸²⁸ He then outlined the indications for craniotomy: when forceps had failed; when the child was dead; when the mother’s condition demanded it; and for foetal deformities. In discussion, Sir Francis Henry Champneys, a lecturer and obstetric-physician appointed to St George’s and General Lying-in hospitals and in 1891 to St Bartholomew’s Hospital, was surprised at the number of craniotomies that Donald performed: eleven in 1886 alone. Even so, once given the details, he found them “fully justified”.⁸²⁹ Rickets apparently was the cause of so many craniotomies, and both Champneys and Donald agreed, “craniotomy seemed to be the only resource”.⁸³⁰ Significantly, this acceptance of craniotomy was heavily dependent on the experience and rhetoric of obstetricians. While it was apparent that these discussions seemed to reinforce craniotomy’s accepted position, it does not necessarily follow that these doctors were not anxious about craniotomy and did not want change. But radical shifts encompassing attitudes, beliefs and practice take time.

Conclusion

The collective concern about the welfare of infants, generated through discussions on infant life, infant and foetal mortality and infanticide, placed an emphasis on the protection and life of the infant. This in turn produced an anxiety within the medical profession and nowhere was this more apparent than in the field of obstetrics. Taking this into

⁸²⁸ “Obstetrical Society of London,” *Lancet* 1 (1889): p. 78.

⁸²⁹ *Ibid.*, p. 79.

⁸³⁰ *Ibid.*, p. 80. As discussed in Chapter 3, pp. 131–39 of this thesis, cephalo-pelvic disproportion caused by rickets was the most common reason for performing craniotomy. Rickets was particularly prevalent in British industrial urban environments, such as Glasgow and Manchester, throughout the nineteenth century.

consideration, differing medical discourses around craniotomy emerged during the latter half of the nineteenth century.

Obstetrics had always been eager not only to improve its professional image but also to improve maternal and foetal outcomes. Through complex social and medical viewpoints, craniotomy's recognised position was slowly yet surely being questioned. Responding to the criticisms, obstetricians were quite sincere in their wish to eliminate the dangers and difficulties, even calling for its abolition, but it was not quite that simple. Oscillating between justification, abhorrence, new approaches and traditional acceptance, the ensuing discussion and thoughts on craniotomy marked a tipping point and a key paradigm change: the beginning of the rejection and end to the practice. This marked a significant development for obstetrics.

Furthermore, the criticism and ensuing discussion around the dangers and difficulties of craniotomy marked a shift in terms of the maternal and foetal relationship. No longer was the maternal body the only site of anxiety. Doctors were now just as anxious about foetal life. The ensuing discussion and debate, clearly designed to reduce maternal and infant mortality, also served to justify obstetric intervention, validate the growing power of obstetricians to analyse and medicalise, even more than before, the woman, her body and her infant.

In the end, addressing the issue of craniotomy was complex. Despite Tyler Smith's admirable goal and his plea to abolish it, obstetricians faced a considerable problem. There were women who were undeliverable by ordinary means and who required the less than popular craniotomy, for without this operation their life was in jeopardy. While this option may have been criticised, it nonetheless did save lives. Lawson Tait, President of the

British Gynaecological Society and one of Britain's leading surgeons, summed up the philosophy of many doctors towards this ground-breaking proposal. He doubted that craniotomy would "ever be completely banished from obstetric practice" because without prior knowledge of the mother's pelvis as in the case of first pregnancies, craniotomy was occasionally necessary.⁸³¹ Like Tait, obstetricians continued to confront situations where craniotomy was, sadly, essential. Ultimately, however, these situations were avoidable if only the right intervention could be found.

⁸³¹ "British Gynaecological Society," *BJM* 2, no. 1349 (1886): p. 864.

Chapter 7

Hope, Possibilities and Practices:

The Alternatives to Craniotomy

It is obviously a matter of exceeding interest to cultivate any operation that shall hold out a reasonable hope of safety to the child, without adding unduly to the danger of the mother.⁸³²

Change is integral to the story of craniotomy. The development that changed how doctors viewed craniotomy and reversed their attitudes about the successfulness of it began with Tyler Smith's address in 1859. The momentum his address generated spurred a re-evaluation of craniotomy. However, the concept of abolishing the procedure raised some serious problems for many obstetricians. How to deliver a mother in impossible labour that did not endanger both her and the infant? Many began to appreciate that something more precise than a willingness to abolish craniotomy was needed. Searching for an answer to this question increasingly occupied a number of obstetricians during the latter half of the nineteenth century.

This chapter will focus on how the doctors responded to the shifting ideology that called for the removal of craniotomy from obstetric practice. Searching for the solution to this involved finding practical alternatives that could replace craniotomy. This in turn added to the momentum to abolish craniotomy. In charting the clinical alternatives to craniotomy, this chapter will initially examine how business interests, the mother's anxiety and chloroform gave an incentive to replace craniotomy with other techniques. The chapter

⁸³² Barnes, *Lectures on Obstetric Operations*, (1876), p. 237.

will then examine a range of solutions that could potentially replace craniotomy such as forceps, version or turning, symphysiotomy and the induction of premature labour that aimed to save both mother and child. The change in attitude and practice regarding craniotomy was strengthened in large part by the expectation that these procedures could potentially replace craniotomy. Finally, their impact on the mother and child will be central to this discussion.

Professional interests: the business of obstetrics

The growth of a secular and consumer society provided a strong nineteenth-century medical market in which those who practiced obstetrics had to compete. Moreover, an economically viable practice was complicated by the oversupply of doctors during the first half of the nineteenth century.⁸³³ While remunerations were considerable for obstetricians, some, nonetheless, remained concerned about their business. Even with a successful practice, Robert Lee was anxious about his finances. His first wife, Matilda, upon her death, had left him an income and “this was enough to make the great difference which most professional men feel in London, namely having nothing but what they can earn, and having something which is enough to keep them during the doubtful period of their lives”.⁸³⁴

The precarious financial nature of obstetrics was revealed by the experiences of Edward Murphy (1802–1877). Born in Dublin, he became licentiate of the Royal College of Surgeons in Ireland in 1827, and by about 1830 was assistant-physician at the Rotunda Hospital, Dublin. After having moved to London in 1840, he was appointed Professor of

⁸³³ Loudon, *Medical Care and the General Practitioner*, p. 258.

⁸³⁴ Lee, “Notes on, and Extracts from his Father’s Diaries,” MS3225 Wellcome Library.

Midwifery at University College in 1841. He resigned this position in 1865, aged sixty-three. He completely retired from obstetrics in 1870 due to ill health.⁸³⁵ Ironically, for this well-known obstetrician, three years after retiring, he was in financial hardship and applied to the Royal Literary Fund for help. By this time, he had “exhausted all the efforts of his Friends and Colleagues to assist him” and was in “pitiable poverty”. He received a grant of £60 in 1873 and £40 in 1875 from the Fund and a government annuity of £52 a year.⁸³⁶ While obstetrics could offer a steady income to some, even for the well-appointed obstetricians it was a competitive and sometimes unprofitable business.

It was not only specialist obstetricians that attended women in childbirth but also general practitioners. In order to make a living, general practitioners turned their attention to the middle-class who increasingly engaged a doctor for their confinements. In attending these women, midwifery proved to be the “key to Victorian general practice” as it could potentially lead to further employment as the family doctor.⁸³⁷ While they thought of their practice as a profession, they also thought of it as a business, a means to support themselves and their families. Consequently, many obstetric specialists and practitioners worked hard to establish a reputation that would attract and keep patients. One way of attracting and keeping patients was to give women an optimistic level of hope for the safe delivery of a live child. Craniotomy gave no such assurances. Hence, finding alternatives to it received a boost from the business interests of the doctor.

⁸³⁵ “Edward William Murphy, M.D.,” *Lancet* 1 (1877): p. 111.

⁸³⁶ “Dr Edward William Murphy, Mrs Helena Murphy, his widow, and Misses Anna Maria Murphy and Helena A Murphy, his daughters,” 1873–1893, Loan 96 RLF 1/1908, British Library.

⁸³⁷ Digby, *Making a Medical Living*, p. 254.

The hope of obstetrics

Obstetrics in the nineteenth century occupied a complex space. No more was this evident than in the discussions and debates that emerged over craniotomy. As has been shown throughout this thesis, doctors tended to define craniotomy deliveries as “successful” even when the child was delivered dead or, more tragically, in pieces. Labelling these deliveries as successes in one way validated medical expertise while at the same time it contradicted the ultimate goal of obstetrics: saving mother and child.

Meanwhile, obstetricians anxious to justify their position and status argued that the woman’s body required constant monitoring. Increasingly, obstetricians offered treatments that favoured intervention. Their primary focus was the woman, but their presence often signified impending death especially of the infant. So, their attendance in the birthing room did not always win the woman’s confidence. With such anxiety surrounding the doctor’s presence, patients, her friends and family, at times, made decisions based on their beliefs and sometimes these were contrary to medical opinion. For example, in the autumn of 1829, Lee was called to Adam-and-Eve-Court, Oxford Street, where he found a woman three days in labour and with the arm of the foetus presenting. The woman would not allow Lee, or any medical practitioner, to help her by trying to turn the infant. She was so adamant that Lee should not assist her in any way that she declared she would rather “die undelivered”. Lee left, and was later informed that she was delivered by a midwife.⁸³⁸ She recovered, although no mention was made of the infant’s outcome. It seemed that women sometimes did feel confident to challenge medical expertise, while stressing their own

⁸³⁸ Lee, *Clinical Midwifery*, pp. 128–29.

wishes. Nonetheless, fear of the doctor and her related fear of craniotomy would have played a significant part in this woman's unwavering position.⁸³⁹

The problem for obstetrics was that the obstetrician's presence still undermined his claims of professional experience and skill and, hence, greater safety to women and their infants. Men-midwives had started to break the cycle associated with their presence, of fear, desperation, craniotomy and death, by delivering live infants in the eighteenth century.⁸⁴⁰ Still, nineteenth-century obstetricians needed to do more than that. They needed to set up an image whereby they clearly and consistently gave women an expectation for a positive outcome. This was essential for obstetricians, for without such an image craniotomy was threatening to potentially mar their claims of safety and expertise.

In the context of addressing the mother's anxiety, doctors became active participants in trying to achieve a positive outcome. One way of undermining any lingering concerns about the doctor's presence, regardless of the state of labour, was to act. Whether it was to draw off some blood, insert a catheter to empty the bladder, shorten labour by using forceps or administer a drug for pain relief, he was expected to do something to relieve the patient's symptoms. He could not appear to be uncaring, inefficient or inadequate.⁸⁴¹ Denman instructed his medical readers that they could not be "indolent spectators".⁸⁴² Walter Channing (1786–1876), Professor of Midwifery at Harvard Medical School, advised the doctor when called to a confinement that he "must do something. He cannot

⁸³⁹ This is distinct from the fear that women had of giving birth. See, Wilson, "The Perils of Early Modern Procreation: Childbirth with or Without Fear?" pp. 1–19; Howard, "Imagining the Pain and Peril of Seventeenth-Century Childbirth," pp. 367–82.

⁸⁴⁰ Wilson, *The Making of Man-Midwifery*, p. 97.

⁸⁴¹ Wertz and Wertz, *Lyng-In*, p. 64.

⁸⁴² Denman, *An Introduction to the Practice of Midwifery*, (1807), p. 399.

remain a spectator”.⁸⁴³ Further impetus for taking action was highlighted by the horrific account of Sir Richard Croft, whose inaction led to the heartrending death of Princess Charlotte in 1817. Dutifully attending and conscientiously supporting the woman’s progress was one way the obstetrician could raise his public status. As a consequence, it helped the woman establish a faith in him and his treatment outcomes.

However, their actions also became a vehicle with which obstetricians could strengthen their authority in the birthing room. The discourse around childbirth claimed it was a pathological state that required a systematic medical approach to overcome its problems. Men brought this new meaning to childbirth and as a result they had to act. Action implied taking control, which, in turn, consolidated their authority.⁸⁴⁴ Decisions about when to act were therefore, based on clinical assessment and medical information of the labouring woman. Doctors took control on their terms rather than listening to the woman. Being ready to act was one means by which he was able to secure his authority. But, it was complex. Sometimes the woman’s situation was so dire that he needed to act immediately. But more than that, his willingness to act presented the doctor as knowing what to do for the best birthing outcomes.

During the course of the nineteenth century the public and, most importantly, women’s confidence in the obstetrician grew. It had been quite some time since Laurence Sterne’s widely read satirical novel *The Life and Opinions of Tristram Shandy, Gentlemen* had been published. The novel’s comical figure of Dr Slop, reputed to be a caricature of Dr Burton of York, was anxious about his status. He insisted on the French title *accoucheur*,

⁸⁴³ Walter Channing, *A Treatise on Etherization in Childbirth.: Illustrated by Five Hundred and Eighty-One Cases* (Boston: W. D. Ticknor, 1848), p. 229.

⁸⁴⁴ Arney, *Power and the Profession of Obstetrics*, p. 21; Leavitt, "The Growth of Medical Authority: Technology and Morals in Turn-of-the-Century Obstetrics," pp. 230–55.

resolutely endorsed the “new invented forceps” and insisted that the midwife come downstairs to ask for his assistance in Tristram’s birth. During the forceps delivery however, he crushed the infant’s nose and was found in the kitchen “making a false bridge with a piece of cotton and a thin piece of whalebone out of *Susannah*’s stays, to raise it up”.⁸⁴⁵ Despite Sterne’s comical condemnation of Dr Slop and his forceps, by the middle of the nineteenth century, public attitudes were changing. As the public was becoming more accepting of forceps deliveries, they were increasingly putting their faith in their obstetric practitioner.

This new confidence was evident in the following event. On Monday morning 7 September 1857, Ophelia Powell, wife of the Unitarian minister of Colyton near Exeter, went into labour with her first child. She sent for the nurse, Mrs Mitchell and her good friend, Mrs Batstone who had promised to be with her during her confinement. It was however, the doctor’s arrival that eased her fears. In her diary she recalled:

Oh how thankful I felt when I heard his wheels stop at our door – After 12 hours of extreme pain and suffering, and Mr. Gillett’s judicious use of instruments at 25 minutes after four o’clock on Tuesday morning Sept-8-1857 Mr. G announced the birth of a perfect little boy Mr. Gillett remained with us till the middle of the day.⁸⁴⁶

Ophelia clearly acknowledged the doctor as the expert, she was not afraid of the instruments or the doctor’s decision to use them. She was thankful to him and the way he managed the birth. Furthermore, she trusted the doctor. By the mid nineteenth century obstetricians were re-evaluated as the public’s confidence grew in their treatment

⁸⁴⁵ Sterne, *The Life and Opinions of Tristram Shandy, Gentleman*, p. 193. Original italics.

⁸⁴⁶ Quoted in Huff, "Chronicles of Confinement: Reactions to Childbirth in British Women's Diaries," p. 65.

outcomes. One implication of the public's increasing hope and faith in obstetricians was that they were seen as having the skills to produce a positive outcome.

The new image of hope was not just a battle over status and livelihood, or gaining control, but also over transforming the fear and anxiety that the woman faced with the doctor's presence. Hence, this new image of hope involved delivering more and more live infants. The tragic, yet inevitable loss of the infant only increased the apprehension around performing craniotomy. The doctor's distress over fatal outcomes placed him at odds with the possibility of what he could achieve. But one thing was sure, craniotomy had little place in this new confidence. Importantly and as a consequence, the message of hope and assurance that the doctors provided to mothers offered a stimulus to finding alternatives to craniotomy.

Managing pain

The incentive to finding alternatives for craniotomy derived a further impetus from the advent of anaesthesia, in particular chloroform. Childbirth pain affected not just women but also doctors. Nineteenth-century practitioners noted the horrors of childbirth pain. Tyler Smith observed, "No human suffering, perhaps, exceeds in intensity the piercing agonies of child-bearing" while he described the final stage of labour as "the mingled agony and exhaustion of which obstetricians have exhausted their descriptive powers".⁸⁴⁷ Meanwhile, the growth in medical science enabled obstetricians to question the premise that women had to suffer in childbirth. Here the key figure was Sir James Simpson (1811–1870), an obstetric-physician at the City Lying-in Hospital, Edinburgh and Professor of

⁸⁴⁷ William Tyler Smith, "A Lecture on the Utility and Safety of the Inhalation of Ether in Obstetric Practice," *Lancet* 1 (1847): p. 321.

Midwifery at Edinburgh University. When he discovered the anaesthetic properties of chloroform in 1847, he had no doubts that it could benefit women in childbirth.⁸⁴⁸

However, the Victorian notion that pain in childbirth was God's will, as it was seen as a punishment for Eve's disobedience in the Garden of Eden, was so entrenched that the adoption of anaesthetic during labour was slow.⁸⁴⁹ Simpson especially was most outspoken in his attack on the Biblical directive.⁸⁵⁰ Its acceptance, nonetheless, was helped along by the new views of men such as Jeremy Bentham, Charles Darwin, Robert Hooker and Charles Dickens, whose enlightened beliefs regarding compassion, benevolence and the worth of the individual helped to promote the idea that human suffering was neither a necessity nor a blessing.⁸⁵¹

Even though not all doctors shared Simpson's enthusiasm about the safety of chloroform, more and more clinical papers and texts began to contain observations on the safety of administering chloroform to labouring women. These gradually changed the opinions of the early critics. Charting the advantages and disadvantages of chloroform in deliveries, John Denham, physician to the Dublin Lying-in Hospital, stressed in 1849 in his report on the use of chloroform, "I have never met with a single untoward circumstance affecting the health or life of either mother or child, that would in the slightest degree deter me from

⁸⁴⁸ For a full account of Simpson's discovery see, J. Y. Simpson, *Account of a New Anaesthetic Agent as a Substitute for Sulphuric Ether in Surgery and Midwifery* (Edinburgh: Sutherland and Knox, 1847), pp. 8–9; "The Jubilee of Anaesthesia," *BMJ* 2, no. 1868 (1896): p. 1141; Jane H. Matthews Duncan, "The Jubilee of Anaesthesia" *ibid.*, no. 1871: p. 1413; D. J. Wilkinson, "A Strange Little Book," *Anaesthesia* 58, no. 1 (2003): pp. 36–41; Stephanie Snow, *Blessed Days of Anaesthesia: How Anaesthetics Changed the World* (Oxford: Oxford University Press, 2008), pp. 44–46.

⁸⁴⁹ Donald Caton, *What a Blessing She Had Chloroform: The Medical and Social Response to the Pain of Childbirth from 1800 to the Present* (New Haven: Yale University Press, 1999), p. 103.

⁸⁵⁰ James Young Simpson, *Answer to the Religious Objections Advanced against the Employment of Anaesthetic Agents in Midwifery and Surgery* (London: Sutherland and Knox, 1847). For the well documented battle between Simpson and the religious objections to chloroform in childbirth see, Caton, *What a Blessing She Had Chloroform*, pp. 103–07.

⁸⁵¹ Snow, *Blessed Days of Anaesthesia*, pp. 78–83.

giving it where I thought it desirable or necessary".⁸⁵² Thus, a number of doctors had adjusted their thinking. They increasingly turned to relieving the woman's labour pain rather than accepting the pain of childbirth.⁸⁵³

In particular, the relaxing effect of chloroform enabled instruments to be introduced with little resistance, as the woman felt no pain. Denham praised chloroform citing several cases in which it had been most effective. One case involved Bridget Kelly whose "very violent" pains became "less severe" once chloroform was given. Forceps were then introduced and the child delivered successfully.⁸⁵⁴ Such results must have given a huge boost to the public's confidence in the doctor as well as their willingness to accept medical management of the birth. In craniotomy cases, the advantages were not so obvious. Denham observed that the procedure itself caused little pain to the woman, although he felt that chloroform lessened the risk of shock and the patient was less distressed.⁸⁵⁵ Catherine Lalaway in her third craniotomy complained of pain from the excessive force needed to bring the infant's head into the pelvis. Denham ordered a dose of chloroform, "with the happiest effect, as it not only relieved the sufferings of the patient, but relaxed the soft parts, and facilitated the delivery to an extent that could not have been anticipated".⁸⁵⁶ Even in craniotomy cases, its relaxing effect was seen as an advantage, making operational obstetrics not just tolerable but acceptable. This went some way to confirm the obstetrician's claim that he not only had the best means to help women in childbirth but also the authority to determine a delivery strategy.

⁸⁵² John Denham, *A Report Upon the Use of Chloroform in Fifty-Six Cases of Labour Occurring in the Dublin Lying-in Hospital* (Dublin: Hodges and Smith, 1849), p. 16.

⁸⁵³ Scholten, "'On the Importance of the Obstetric Art': Changing Customs of Childbirth in America, 1760 to 1825," p. 439.

⁸⁵⁴ Denham, *A Report Upon the Use of Chloroform*, p. 26.

⁸⁵⁵ *Ibid.*, pp. 24–25.

⁸⁵⁶ *Ibid.*, p. 22.

On the other hand, some scholars have seen the advent of chloroform in another light. Part of Poovey's analysis over the use of chloroform argued that while chloroform took away the sensation of pain, it ensured that the woman was perceived as a passive object. This "passivity" had far reaching consequences. Poovey claimed that instead of being embarrassed by what was happening, chloroform made the woman unconscious of her actions. When administered some were reported to be flirtatious and even obscene. Furthermore, it silenced the patient. The woman put herself in the hands of the practitioner, which enabled doctors to access knowledge about the woman's body. He then became an expert in interpreting it. The use of chloroform therefore, shaped the doctor as an authoritative and knowledgeable figure. Over time, she argued, this positioned him as holding more knowledge than the woman herself.⁸⁵⁷

While it can be argued that chloroform reduced women as agents in birth, nonetheless, it was reported that women called for chloroform as they recognised its value as pain relief. It was stated that Queen Victoria loathed the prospect of childbirth. Having already endured seven confinements, she was eager to try chloroform for her next labour. She praised its use during the birth of her eighth child in 1853. So delighted was Victoria with it that four years later she was given it again for her ninth and last delivery. For her, the benefits far outweighed any negative effects.⁸⁵⁸ Such royal support set a precedent for British women in labour.⁸⁵⁹ While there is merit in Poovey's argument, the doctor certainly did take control of the maternal body, chloroform, nevertheless, could serve the interests of women, making their labour relatively pain-free, shorter and arguably safer.

⁸⁵⁷ Poovey, *Uneven Developments*, pp. 28–29.

⁸⁵⁸ Stephanie Snow, *Operations without Pain: The Practice and Science of Anaesthesia in Victorian Britain* (Basingstoke: Palgrave Macmillan, 2006), pp. 121–22.

⁸⁵⁹ Howard W. Haggard, *Devils, Drugs, and Doctors: The Story of the Science of Healing from Medicine-Man to Doctor* (London: William Heinemann, 1929), p. 117.

Notwithstanding, by the mid century chloroform in childbirth dramatically changed the experiences of women in labour. It was immensely important in obstetric operations as it eased the fear and pain of the mother undergoing such procedures. Moreover, it increased the doctor's confidence to try new techniques including those that could possibly replace craniotomy. Hence, chloroform helped to spur on those seeking alternatives to craniotomy

Searching for alternatives

The noise level rose and an air of anticipation grew as those attending the Annual Meeting of the British Medical Association held at Brighton in August 1886 waited for the discussion on obstetric medicine to begin. As the first speaker rose to address this expectant crowd, the audience wondered, would this presentation change their minds or merely confirm their accepted views on such a long-standing issue. Standing before them was the eminent obstetrician Robert Barnes who presented his paper titled "What are the Alternatives to Craniotomy".

Though sharing common ground with another renowned London obstetrician, Tyler Smith, who had brought this same question before the Obstetrical Society in 1859, Barnes presented the question very much as a sign of "the progress of obstetrics".⁸⁶⁰ Tyler Smith in his paper claimed that one in every 340 labours ended in craniotomy and with an annual birth rate of 600,000 in England and Wales, this amounted to about 1800 craniotomy cases every year.⁸⁶¹ Barnes called this period the "epoch of craniotomy", although he was delighted to announce that he believed the tide was turning. "This happy reform" was, he believed, mainly due to improvements in the design of forceps. However, these new

⁸⁶⁰ Robert Barnes, "The Alternatives to Craniotomy," *BMJ* 2, no.1344 (1886): p. 622.

⁸⁶¹ "Reports of Societies," *BMJ* 1, no. 112 (1859): p. 154.

forceps, he acknowledged, could not safely reach the infant's head if it were above or impacted in the mother's pelvis.⁸⁶² Craniotomy, he assured the meeting, was a part of obstetrics, but to search for other options was a "noble" pursuit, and "cannot fail to bear good fruit".⁸⁶³ Barnes made clear his conviction that seeking other methods was the surest way by which craniotomy could be lessened, if not abolished.

Barnes (1817–1907) was a successful London-based obstetric-physician. His experience at some of London's major hospitals, the Royal Maternity Hospital, the Chelsea Hospital for Women, and St George's, as well as in his private practice was fairly similar to that of other obstetric practitioners who performed craniotomy in the course of their work. As a leading teacher of obstetrics and gynaecology, he published his collected *Lectures on Obstetric Operations, Including the Treatment of Haemorrhage, and Forming a Guide to the Management of Difficult Labour* (1870). This was later translated into French.⁸⁶⁴ In "grappling with the actual problem" of alternatives for craniotomy, his review included forceps, turning the child *in utero*, induction of premature labour and Caesarean section. Barnes declared in his address that the option depended on the skill of the practitioner as well as what technique he usually performed and thus, perfected. A lack of aptitude and unfamiliarity with a specific technique commonly resulted in choosing the more familiar craniotomy over the alternative. This, he explained, helped keep craniotomy at the forefront of obstetric practice.⁸⁶⁵ However, he pointed out that there were "men who believe the abolition of craniotomy is actually in our power". This, he claimed, would

⁸⁶² Barnes, "The Alternatives to Craniotomy," p. 623.

⁸⁶³ *Ibid.*, p. 622.

⁸⁶⁴ Ornella Moscucci, "Barnes, Robert," *ODNB*, online ed. Jan. 2013, www.oxforddnb.com/view/article/30606, accessed 7 August 2013.

⁸⁶⁵ Barnes, "The Alternatives to Craniotomy," pp. 622–23.

bring “perfection in obstetric practice”.⁸⁶⁶ Barnes’ address, “What are the Alternatives to Craniotomy”, encapsulated all the methods that were used and had been used that could potentially replace craniotomy.

Hopeful practices, pushing boundaries

Finding a replacement that rid obstetric practice of craniotomy was a challenging task. Faced with the reality of the quest, it appeared that many discrepancies about the best replacement emerged. Of the possible alternatives to craniotomy, only four offered any real possibility of saving mother and child: turning known as version, induction of premature labour, forceps, along with the much less favoured symphysiotomy. Caesarean section had an appalling maternal mortality rate for most of the nineteenth century due to the lack of aseptic technique, inefficient methods of stopping bleeding, little knowledge about shock, inexperienced surgical skill, no anaesthetics until the mid century, and the exhausted state of the woman by the time of the operation.⁸⁶⁷ Consequently, for much of the nineteenth century it was exceedingly risky and rarely performed. Advances in British design and construction of forceps during the nineteenth century made them easier to use and less dangerous for mother and child. Thus they became increasingly popular during this period and provided an alternative to craniotomy but only in cases of mild pelvic deformity.⁸⁶⁸ There was however, considerable tension and negotiation around the other alternatives.

Prior to the nineteenth century, both female and male midwives recognised that unusual presentations caused potential problems in delivery and often resulted in the death to the

⁸⁶⁶ *Ibid.*, p. 622.

⁸⁶⁷ Young, *Caesarean Section*, pp. 87–88.

⁸⁶⁸ Hibbard, *The Obstetrician's Armamentarium*, pp. 79–97.

child. Some early obstetricians in recognising the difficulties of malpresentation, worked on refining manual techniques to aid the delivery of live infants. Ambroise Paré (1510–1590), a highly regarded sixteenth-century French surgeon-*accoucheur*, reintroduced the technique of podalic version that had been first described by the physician Soranus of Ephesus, whereby the child was turned and delivered feet first. This offered a solution when the pelvis was normal, the uterus was contracting but the child did not present headfirst.⁸⁶⁹ This was one method that provided a chance to extract a living child in certain situations where craniotomy would have traditionally been employed.

The most common malpresentation during birth is a breech presentation, but others include shoulder, arm, face and brow presentations. The term preternatural labour became synonymous with these situations in the eighteenth and nineteenth centuries. Smellie first divided labour into three categories depending on presentation and effectiveness: normal, laborious and preternatural.⁸⁷⁰ William Dease (c.1752–1798), a surgeon at the United Hospitals of St Nicholas and St Catherine's in Dublin, the first Professor of Surgery of the new College of Surgeons in 1785 warned young practitioners not to mistake preternatural labour for tedious labour, as women in labour for the first time may exhibit the same signs of prolonged labour. The differentiating factors were the presentation of the foetus and size of the pelvis and these, he advised, should be checked at once.⁸⁷¹ The concern was that without adequate knowledge, inept doctors would desperately try to turn a baby completely unaware that it did not need turning, while the woman suffered in pain.

⁸⁶⁹ Duffin, *History of Medicine*, p. 248–49.

⁸⁷⁰ *Smellie's Treatise on the Theory and Practice of Midwifery*, 1, p. 196.

⁸⁷¹ William Dease, *Observations in Midwifery Particularly on the Different Methods of Assisting Women in Tedious and Difficult Labours* (Dublin: Williams, White, Wilson, Byrne and Cash, 1783), pp. 34–35.

External version, as distinct from Paré's internal version, became a popular option during the mid nineteenth century. The infant was turned by external manipulation so that the head now presented. Known as cephalic version, it too had a history dating back to Soranus. But, it was not until John Braxton Hicks (1823–1897), obstetric-physician at Guy's Hospital, developed a more effective method that it became a standard in obstetric practice.⁸⁷² "Dr. Simpson claims for turning a superiority over both craniotomy and the use of the long forceps. Dr. Radford hails with delight the prospect of any measure which promises to lessen the number of perforations".⁸⁷³ Such were the sentiments expressed by those who saw turning as a possible replacement for craniotomy.

While turning was capable of "effecting so great a saving of human life", it was nonetheless a "difficult and hazardous operation".⁸⁷⁴ Denham estimated the risks to the mother came from an inexperienced practitioner and a hurried procedure. In addition, version was a painful procedure for the mother. Therefore, Denham raised the possibility of chloroform to "lighten the difficulties and lessen the dangers" of version in preternatural labours. For example, in Catherine Whelan's labour Denham administered chloroform to lessen her "suffering from the labour pains" and from "the operation" of turning.⁸⁷⁵ Even though many obstetricians agreed on the rationale of turning, it was, nevertheless, painful and distressing for the mother.

It was clear that obstetricians felt an obligation to take active steps to improve the chances of saving the life of the infant. It was also apparent that turning was not quite the simple

⁸⁷² Graham, *Eternal Eve: The History of Gynecology and Obstetrics*, p. 549.

⁸⁷³ Charles Clay, *The British Record of Obstetric Medicine and Surgery for 1848: Consisting of the Original Papers on Midwifery, and the Diseases of Women and Children, by the Most Living Practical Obstetricians*, vol. 1 (Manchester, London: William Irwin, 1848), p. 306.

⁸⁷⁴ Alfred Meadows, *A Manual of Midwifery* (London: Henry Renshaw, 1876), p. 239; Denham, *A Report Upon the Use of Chloroform*, p. 17.

⁸⁷⁵ *Ibid.*, pp. 19–20.

solution that they hoped for. As long as the membranes were intact and thus, the foetus could move freely, cephalic version was easy. If the membranes had just ruptured, version was possible, however, there was a risk of damaging the uterus. The longer the time since rupture, the greater the risk of damage, till it became “unjustifiable”.⁸⁷⁶ With podalic version there was always the danger of internal injury to the mother. Moreover, unhygienic conditions in the home, and especially in the hospitals, meant an increased risk of infection to the mother. Both types of version required a skilled operator who could detect foetal presentation and its size in relation to the maternal pelvic outlet. For there was little point in turning the child only to find that it did not fit in the mother’s pelvis.⁸⁷⁷ Ultimately, if version failed to deliver a child, craniotomy was accepted. It was even argued that turning lessened the dangers of craniotomy by making it “less difficult, prolonged, and extensive”.⁸⁷⁸ It seemed that version could not be advised in all cases and, therefore, many doctors still regarded craniotomy as a useful technique.

Barnes in the 1876 edition of his text, precisely summed up the realistic possibility of version:

The operation, then, is justified in cases of contraction that admit of the passage of a living child. It is further justified in cases of contraction to a certain, though small, degree of contraction beyond this, which admits of the passage of a dead child. We have here, perhaps, carried the experiment to the verge of what is justifiable. Beyond this, there being no possibility of getting a child by this means, live or dead, through the pelvis.⁸⁷⁹

⁸⁷⁶ Playfair, *A Treatise on the Science and Practice of Midwifery*, 2, p.164.

⁸⁷⁷ Edward P. Davis, "Version," in *The Practice of Obstetrics by American Authors*, ed. Charles Jewett (London: Henry Kimpton, 1899), p. 681.

⁸⁷⁸ Andrew Inglis, “On the Advantages of a More Extended Use of Version in Cases of Disproportion,” *Edinburgh Medical Journal* 10, no. 6 (1864): p. 505.

⁸⁷⁹ Barnes, *Lectures on Obstetric Operations*, (1876), p. 242.

Hence, in women whose pelves were small, flat or constricted, such deliveries were extremely difficult. Moreover, Simpson emphatically stated that in cases where the pelvis is more than slightly contracted “any attempt at delivery by turning is utterly contra-indicated and forbidden, and will fail”.⁸⁸⁰ In these circumstances the only chance of a safe birth for the mother was to perform a craniotomy.

Obstetricians were not simply employing the technique of version; they were also concerned about how effective it was in terms of living infants. Churchill tabulated the maternal and infant outcomes from version across Britain and the Continent. He estimated that maternal mortality was 1 in 15 and infant mortality was about 1 in 3. While he did not identify the cause of maternal or infant death, he felt that his figures were a true reflection of the mortality from the procedure.⁸⁸¹ One major problem with podalic version for the infant was the quick delivery of the head.⁸⁸² As Edward Davis made clear, turning exposed the infant “to considerable danger”.⁸⁸³ One student attending John Haighton and William Lowder’s midwifery lectures recorded in his notebook under the subject of turning, “if the head cannot be extracted very soon after the body, the child dies; and the object of the operation is defeated”.⁸⁸⁴ It was becoming clear that turning presented a problem regarding the safe delivery of the infant. So on closer inspection, it was evident that no guarantees could be given for the safe delivery of mother and her child by this method.

⁸⁸⁰ J. Y. Simpson, “Clinical Lectures on the Diseases of Women. Lecture XXXI.—Cranioclasm—*continued*,” *Medical Times and Gazette* 1 (1860): p. 491.

⁸⁸¹ Churchill, *On the Theory and Practice of Midwifery*, pp. 245–46.

⁸⁸² In contrast to a cephalic delivery in which the infant’s head gradually moulded, the sudden delivery of the head, subjecting it to rapid decompression, which could cause intracranial bleeding. There was also the increased risk of cord compression, trauma to the viscera, and entrapment of the head, which may lead to asphyxia, brain damage or death. E. Malcolm Symonds and Ian M. Symonds, *Essential Obstetrics and Gynaecology*, 4th ed. (Edinburgh: Churchill Livingstone, 2004), pp. 181–82.

⁸⁸³ Davis, “Version,” p. 680.

⁸⁸⁴ MS notes, in *A Syllabus of the Lectures on Midwifery*, GRC 1175.k.45, British Library.

While these misgivings over the success of version focused on the interests of the child, turning, nonetheless, put the doctor in a quandary. What was possible to do for the infant and what must be done in the interests of the mother? Even though obstetricians, such as Barnes, favoured the mother, such thoughts were indicative of the changes occurring around the traditional paradigm, from survival first and foremost of the mother to survival of mother and infant. However, as the success of turning was variable, there was still the unsettled question of what could replace craniotomy.

Not all practices were as hopeful as turning. Symphysiotomy was one such alternative. The procedure involved dividing the cartilaginous band of the symphysis pubis (the front midline junction of the pelvic bones) with a knife or saw in an attempt to increase the pelvic diameters and thus facilitate delivery.⁸⁸⁵ The French surgeon-*accoucheur* Jean René Sigault first performed it in Paris in 1777, but it was never implemented in Britain. According to Churchill, the operation was performed “for the first and last time” in Britain by Mr Welchman of Kington in Warwickshire in 1782.⁸⁸⁶ Forcing the symphysis pubis apart often caused permanent disability, commonly to the bladder, sacroiliac joints and sciatic nerves. Moreover, symphysiotomy was extremely painful. There was also “quite a definite maternal death-rate” mainly from infection, as well as foetal mortality from the “too strenuous efforts to extract the child with forceps”.⁸⁸⁷ But even survival was not without its risks. Many women were rendered incontinent or permanently and painfully damaged by the unskilled slip of the knife.⁸⁸⁸

⁸⁸⁵ Hibbard, *The Obstetrician's Armamentarium*, p. 260.

⁸⁸⁶ Churchill, *On the Theory and Practice of Midwifery*, p. 326. An alternative procedure was pubiotomy, or hebotomy, in which the pubic bone itself was divided.

⁸⁸⁷ Chisholm, “Symphysiotomy, Craniotomy, and Caesarean Section,” p. 276.

⁸⁸⁸ Hibbard, *The Obstetrician's Armamentarium*, p. 260.

Significantly though, symphysiotomy created very little extra space and in cases of contracted pelves from rickets did not increase the affected pelvic diameter.⁸⁸⁹ Osborn, Denman, Hamilton, Burns, Merriman, Churchill and many other prominent obstetricians opposed it. Hamilton descried it as “precarious and hazardous”.⁸⁹⁰ In his edited text, *Outlines of Midwifery*, Conquest dismissed the procedure in Britain with these few lines:

It is scarcely necessary to say anything on this third method of relief, which was proposed by Monsieur Sigault in the year 1767 [*sic*], because the result of about *fifty* recorded cases was so disastrous that the operation was for a long time abandoned; but attempts have recently been made on the Continent to revive it.⁸⁹¹

So, in spite of the renewed interest in Europe, there was very little interest in symphysiotomy in nineteenth-century Britain. With such poor prospects it was not a feasible alternative to craniotomy.

A more hopeful alternative

In pursuit of a living child, obstetricians pushed the boundaries even further than version and symphysiotomy. Of all the different possibilities, the one practice that directly addressed the problem of severe cephalo-pelvic disproportion was the induction of premature labour. The basic idea was to induce labour before full term, so that the smaller, but hopefully viable infant would be able to be delivered through the narrow pelvis. It was first performed by Macauley, physician to the British Lying-in Hospital, in 1756 on the

⁸⁸⁹ Ibid.

⁸⁹⁰ Hamilton, *Outlines of the Theory and Practice of Midwifery*, (1796), p. 324.

⁸⁹¹ James M. Winn, *Dr. Conquest's Outlines of Midwifery; Intended as a Text-Book for Students, and a Book of Reference for Junior Practitioners*, new ed. (London: Longman, Brown, Green, and Longmans, 1854), p. 182. Original italics.

wife of a linen draper in the Strand and “proved very successful”.⁸⁹² Subsequently, Denman promoted it.⁸⁹³ It was also recommended in cases where the mother faced life-threatening complications such as tumours, or where pregnancy exacerbated vomiting, jaundice, ante-partum haemorrhage, lung and heart disease, and puerperal convulsions.⁸⁹⁴

Induction of premature labour became a predominantly British practice. Those on the Continent, in particular the French, dismissed it as immoral, dangerous and difficult.⁸⁹⁵ Regardless of this opposition, for nineteenth-century British obstetricians, this relatively recent practice offered the possibility of achieving their ultimate medical aim: to save both lives. David Davis considered the induction of premature labour as “unquestionably a capital improvement in the obstetric art; inasmuch as it furnishes the means of saving the lives of many children” while at the same time reducing “the chance of danger to the lives of the mothers”.⁸⁹⁶ The obstetrician Edward Rigby, believed that induction of premature labour was “perhaps the greatest improvement in operative midwifery since the invention and gradual improvement of the forceps”.⁸⁹⁷ Clement Godson (1845–1913), physician-*accoucheur* at St Bartholomew’s Hospital, even congratulated and praised British obstetric practitioners on its introduction and acceptance into general practice.⁸⁹⁸ British obstetricians therefore, argued that their experiences in inducing premature labour made its practice worthwhile. The paradigm shift towards survival of mother as well as the child was becoming more prominent.

⁸⁹² Davis, *The Principles and Practice of Obstetric Medicine*, 2, p. 1149.

⁸⁹³ Denman, *An Introduction to the Practice of Midwifery*, 2, pp. 213–20.

⁸⁹⁴ Clement Godson, “The Induction of Premature Labour,” Reprinted from St Bartholomew’s Hospital Reports, Vol. XL (1875) Pam. Vol. W6: 2, Wellcome Library, p. 31.

⁸⁹⁵ Churchill, *On the Theory and Practice of Midwifery*, p. 230.

⁸⁹⁶ Davis, *The Principles and Practice of Obstetric Medicine*, 2, p. 1151.

⁸⁹⁷ Rigby, *A System of Midwifery*, p. 250.

⁸⁹⁸ Godson, “The Induction of Premature Labour,” p. 29.

Godson, in his address to the Abernethian Society on 25 February 1875, listed twelve methods of inducing premature labour. Some of these, such as Galvanism, stimulation of the breasts by cupping-glasses, and injection of hot and/or cold water, atmospheric air or carbonic acid into the uterus were short-lived. Ergot of rye, from the fungus grown on rotten grain, was used to stimulate uterine contractions but, lost favour when it was realised it had a detrimental effect upon the foetus *in utero*.⁸⁹⁹ The most popular method was to perforate the membranes using a fingernail, quill or catheter. Lee even devised his own specific membrane perforator.⁹⁰⁰ While perforation always induced labour, there was no certainty as to exactly how long this would take.

A more pressing concern involved an increased risk to the foetus. With the loss of the amniotic fluid came an increase in pressure on the foetus, which could injure the “frail and immature” infant.⁹⁰¹ One way to remedy this was to separate, but not puncture, the membranes around the lower part of the uterus. This, however, was not nearly as effective as complete rupture.⁹⁰²

Premature labour was sometimes initiated by dilating the cervix by means of tents made from sea-tangle (sea-weed) or compressed sponge. Once inserted into the *os uteri* the tent swelled and stretched it. This was repeated, each successive tent getting progressively larger, until the cervix was fully dilated. At this point the membranes often ruptured spontaneously, otherwise the practitioner ruptured them with a pointed catheter. There

⁸⁹⁹ Ibid., p. 33.

⁹⁰⁰ Hibbard, *The Obstetrician's Armamentarium*, p. 214.

⁹⁰¹ Playfair, *A Treatise on the Science and Practice of Midwifery*, 2, p. 155.

⁹⁰² Munro-Kerr, Johnstone, and Phillips (eds.), *Historical Review of British Obstetrics and Gynaecology*, p. 34.

was, of course, some risk of infection from these tents, especially when left in for a long period of time. Removing them too early though, reduced their effectiveness.⁹⁰³

Barnes having initially used the standard tents to induce labour developed his own method. Rather than piercing the membrane, he placed an elastic bougie or flexible catheter between the uterine wall and the membranes to initiate labour and left it *in situ* overnight. Following this, Barnes introduced a medium or large fiddle-shaped bag, as seen in Figure 7.1. The middle of the bag was in line with the cervix, the top portion in the uterus, the lower portion in the vagina. He inflated it with air or water until the cervix dilated after which he ruptured the membranes. Barnes described this as “the most safe, convenient, and efficient” method of inducing premature labour.⁹⁰⁴ If necessary, he turned the infant or used forceps, or “in cases where the passage of a live child is hopeless” he delivered by craniotomy.⁹⁰⁵

⁹⁰³ Joseph Griffiths Swayne, “On the Induction of Premature Labour,” *BMJ* 2, no. 710 (1874): p. 167.

⁹⁰⁴ Barnes, *Lectures on Obstetric Operations*, (1876), p. 454.

⁹⁰⁵ *Ibid.*, p. 455.

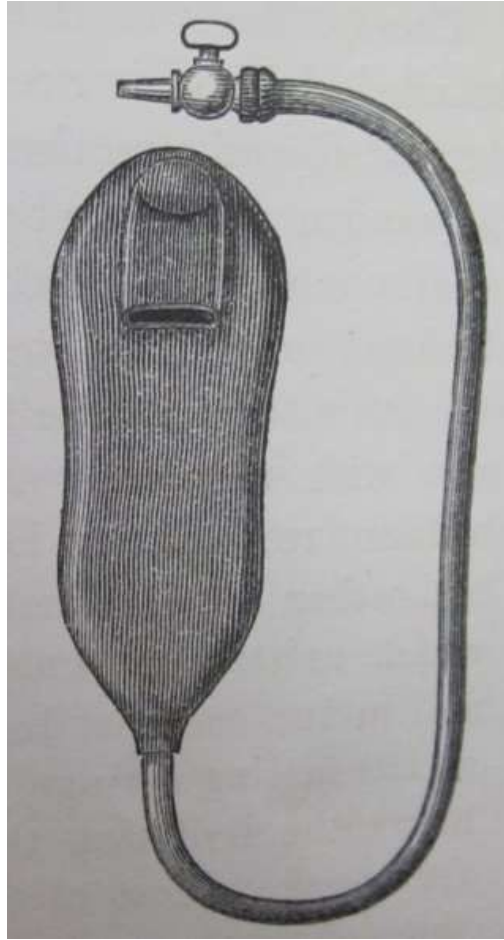


Figure 7.1. Barnes' Fiddle-Shaped Dilating Bag.⁹⁰⁶

There were however, some restrictions applied to inducing labour early. The main one being that it should not be performed on a first-time mother. Burns categorically stated that in making the decision to induce labour early, the practitioner must know that the mother cannot deliver a living child and the only means of knowing this was from previous craniotomies. Once it was:

ascertained beyond a doubt, that the head, at the full time, must be perforated, it is no longer a matter of choice, whether, in succeeding pregnancies, premature labour ought to be induced. It is certainly easier for the mother, than the application of the crochet, and no man can say that it is

⁹⁰⁶ Source: Playfair, *A Treatise on the Science and Practice of Midwifery*, 2, p. 639.

worse for the child. All the principles of morality, as well as of science, justify the operation; they do more, they demand the operation.⁹⁰⁷

Even if it were clear that the first-time mother could not deliver a living child, the problem was that with little antenatal care, these mothers generally presented when in labour and so there was no chance of determining the degree of pelvic contraction prior to full-term.⁹⁰⁸ Moreover, it was up to the mother to accept the doctor's recommendation and present herself for early induction. Some women did make their own choices when deciding on this type of delivery as time and again Lee stated that the woman, despite his recommendation of premature induction, did not call him till she was full-term and in labour.⁹⁰⁹ It seemed that sometimes women were able to exert a considerable degree of agency in the decision making process. In this case, the doctor had no choice but to pay heed to the wishes of the mother. Consequently and sadly, craniotomy was frequently the only option left. All the same, there was little doubt that induction of premature labour saved some infants and, in doing so, saved the mother and her family from the devastating experience of craniotomy. Equally important, it provided an impetus for the shift in thinking and practice around craniotomy.

In Britain, induction of premature labour was not the only strategy being explored to lessen the dangers from severe pelvic deformity or large full-term infants. To limit the size of the baby, some advised a restricted diet throughout pregnancy. James Lucas, surgeon at the General Infirmary at Leeds, proposed "temperance in diet", exercise, "occasional loss of a few ounces of blood, and the moderate use of cooling aperients". If the problem was a large foetus then the woman need only follow the diet in the last month or two of the

⁹⁰⁷ Burns, *The Principles of Midwifery*, (1837), p. 506.

⁹⁰⁸ Barnes, *Lectures on Obstetric Operations*, (1876), p. 458.

⁹⁰⁹ Lee, *Clinical Midwifery*, pp. 82–119.

pregnancy, but if the pelvis was contracted, the diet should be commenced early and “adhered to with the strictest attention”.⁹¹⁰ This practice, nevertheless, was viewed with suspicion. Samuel Merriman (1771–1852), physician-*accoucheur* to the Westminster and Middlesex lying-in hospitals, described the debilitating effect of a restricted diet on a woman who lost her appetite while pregnant and lived only on vegetables. At term she delivered a “very fine healthy child”, although she nearly died herself. During her subsequent pregnancy she followed no such diet and delivered a smaller infant than before.⁹¹¹ Merriman concluded, “that very slender diet is not always to be depended upon for preventing the growth of the *foetus*”.⁹¹² John Hall Davis reached the same conclusion.⁹¹³ Hence, it was induction of premature labour that became and remained a favoured practice amongst nineteenth-century British obstetric practitioners. Given the anguish that craniotomy entailed, the discussion about induction of premature labour with its relative good chance of success indicted that a move away from craniotomy was very much evident in the thoughts of many doctors.

A chance for life

Obstetricians, in addition to deciding on the possibility of inducing premature labour, also began to concern themselves with the viability of the infant. The nineteenth-century obstetric practitioner had the expectations of the public to secure the life of the mother, as well as doing something when presented with a living but immature child. Henry Maunsell, Professor of Midwifery at the Royal College of Surgeons in Dublin, listed seven

⁹¹⁰ James Lucas, “Hints on the Management of Women in Certain Cases of Pregnancy,” *Memoirs of the Medical Society of London* Vol. 2 (1789): pp. 414–15.

⁹¹¹ Merriman, *A Synopsis of the Various Kinds of Difficult Parturition*, (1826), p. 320.

⁹¹² *Ibid.*, p. 321. Original italics.

⁹¹³ Davis, *Illustrations of Difficult Parturition*, pp. 59–60.

rules, which afforded the best outcome from induction of premature labour and thus gave the child the best chance of life. They were: never induce labour before seven months; never perform it until experience has shown the woman cannot deliver a full term infant; the woman should be healthy; preternatural presentations are often unsuitable for early induction; guard against puerperal fever; a wet nurse should be ready for the child; and always consult with another practitioner before deciding on the procedure.⁹¹⁴

Even though the spotlight remained on the mother, obstetricians were present at the birth of these infants. As a result, various medical authors published figures for the number of times that they performed premature induction and the resulting number of infants born alive or dead, which have been compiled in Table 7.1.⁹¹⁵ On the whole, it appeared that by inducing labour early gave many infants a chance of life that may not have otherwise been given.

⁹¹⁴ Henry Maunsell, *The Dublin Practice of Midwifery* (London: Longman, Brown, Green, Longmans, & Roberts, 1856), pp. 150–51.

⁹¹⁵ Compiled from, Godson, "The Induction of Premature Labour," p. 39; *BMJ* 2, no. 710 (1874): p. 167; Merriman, *A Synopsis of the Various Kinds of Difficult Parturition*, (1826), p. 180; James Hamilton, *Practical Observations on Various Subjects Relating to Midwifery*, 2 vols., vol. 2 (Edinburgh: Bell & Bradfute, 1836), p. 180; Churchill, *On the Theory and Practice of Midwifery*, pp. 231–32; "Royal Medical and Chirurgical Society," *Lancet* 2 (1846): p. 617.

Table 7.1. Foetal Viability with Induction of Premature Labour

Medical Author	Number of Procedures	Infants Born Alive/Dead
Samuel Merriman	46	21/26
James Hamilton	45	41/4
James Barlow	17	11/6
Francis Ramsbotham	62	33/29
Robert Lee	31	12/19
John Moir	12	9/3
Clement Godson	7	3/4
Joseph Swayne	20	7/13
Henry Davies	30	18/12

On the surface, it seemed from Table 7.1 that the procedure was successful as a number of infants survived it. The actual survival rate, nevertheless, was not quite as promising as first appeared. Of Merriman's twenty-one born alive, five were "incapable of living more than a few hours".⁹¹⁶ Twenty-three of Ramsbotham's thirty-three born alive "lived a considerable time" but did die.⁹¹⁷ Lee detailed the case of Mrs Ryan whose very distorted pelvis and multiple pregnancies led Lee to perform craniotomy on her first delivery and subsequently prematurely induced her fourteen times. Only three of the labours produced live children, one lived sixteen days and "died in convulsions", the other two died shortly

⁹¹⁶ Merriman, *A Synopsis of the Various Kinds of Difficult Parturition*, (1826), p. 180.

⁹¹⁷ Churchill, *On the Theory and Practice of Midwifery*, p. 232.

after birth.⁹¹⁸ Moreover, out of Lee's thirty-one cases, he lost three mothers.⁹¹⁹ However, as James Barlow (1767–1839) obstetric-surgeon in the country town of Blackburn in Lancashire declared, premature children should not be abandoned and resuscitation given if necessary. He advised the “infant should be kept in a room constantly warmed by means of a stove, and laying it in a bed of wool, or wrapping it in fleecy hosiery; it should be fed with good milk sweetened with brown sugar”.⁹²⁰ The fate, nonetheless, of infants born prematurely remained uncertain. Those with respiratory problems often died quite quickly, while many died in a few days from hypothermia, infection or weight loss.⁹²¹ Yet, without premature induction, most, if not all babies born alive, would have succumbed to the fated practice of craniotomy.

Playfair clearly summed up the problem of immaturity and the chance for life in his text *A Treatise on the Science and Practice of Midwifery*. He declared that the “prolonged vitality of the foetus is largely dependent upon the period of gestation which is chosen for the operation: the later the delivery, the better is the prospect of ultimate safety”.⁹²² While the focus remained on the mother, the shift towards possibly saving mother and child by inducing labour early was evident. This suggested that the infant was increasingly emerging as a body worthy of medical interest. This was crucial in terms of obstetrics fulfilling its ultimate goal of saving two lives.

⁹¹⁸ Lee, *Clinical Midwifery*, pp. 89–91.

⁹¹⁹ Churchill, *On the Theory and Practice of Midwifery*, p. 233.

⁹²⁰ James Barlow, *Essays on Surgery and Midwifery; with Practical Observations, and Select Cases* (London: Baldwin, Cradock and Joy, 1822), p. 323.

⁹²¹ To over come hypothermia, chambers heated by water bottles in which the infant slept, were introduced initially into hospitals in Paris during the 1870s. Jeffrey P. Baker, "The Incubator and the Medical Discovery of the Premature Infant," *Journal of Perinatology* 5 (2000): p. 322.

⁹²² W. S. Playfair, *A Treatise on the Science and Practice of Midwifery*, 4th American from 5th English ed. (Philadelphia: Lea Brothers, 1885), p. 456.

Conclusion

The increased focus on the alternatives to craniotomy was central to the move away from the entrenched practice of craniotomy. However, breaking this long-established practice was not easy. Essential to this was finding practical solutions that could displace craniotomy. While this search justified and legitimised their role, obstetricians, nonetheless, sought to avert risk to the mother and foetus by managing the birthing process through a series of procedures: forceps, version, symphysiotomy and induction of premature labour. The commitment invested in these practices by many obstetricians gave a new confidence to the mother and the birthing outcome. By finding new safer alternatives for craniotomy various doctors were questioning its long-accepted place in the obstetrician's repertoire. Ultimately, what was at stake here was that many were trying to abolish the procedure. The change in thinking and in practice was well underway.

Seeking alternatives was also a narrative of transforming relationships. It directly addressed the issue of foetal life, and what could be done to safeguard it. Consequently, as this chapter has shown, a shift in the paradigm of survival of the mother to survival of both mother and child gained authority. This chapter, however, does not propose that the safety and life of the foetus became the key issue, while the mother's life was no longer paramount. Instead, it suggests that the increased interest in finding alternatives to craniotomy forced doctors to rethink the place of the foetus. This was crucial in terms of the concerns over craniotomy as it brought new possibilities, some of which were very much more acceptable than craniotomy. The acceptance of, or at least the searching for, alternatives for craniotomy was an important development for obstetrics.

For all Barnes's "happy reform", which he revered at the Annual Meeting of the British Medical Association, the various replacements may have somewhat lessened the practice of craniotomy, but with little that could confidently be done for the foetus, these, in reality, did not overwhelmingly alter its accepted place in obstetrics. That bringing of "perfection to obstetric practice" that Barnes espoused and yearned for in his address at the meeting did not begin to take place until another alternative was found.

Chapter 8

Hopes are Made Possible: The Rise of the Caesarean Section

The time is speedily approaching when this operation [Caesarean section] will take the place of craniotomy where the child is alive.⁹²³

On the morning of 25 January 1847, Sarah Bartlett was carefully placed on the operating table at St Bartholomew's Hospital London, where she underwent what was described at the time as a "formidable operation".⁹²⁴ Sarah had undergone a Caesarean section. The thirty-eight-year-old dressmaker was only four feet one inch with a severely deformed pelvis.⁹²⁵ Once her "calamitous situation" was realised she was admitted to hospital and several doctors were called in for consultation. All agreed, "no resource remained but the Caesarean section".⁹²⁶ Frederic Skey, assistant surgeon at St Bartholomew's Hospital, agreed to perform the operation. Waiting for her in theatre were at least twelve doctors. In addition, news about the impending operation had spread. Consequently, crowded into the gallery above were "several hundred spectators", all eagerly awaiting the first incision. Having never seen it performed, the spellbound observers leaned forward to see every step of this risky operation.⁹²⁷

⁹²³ Cameron, "Remarks on Caesarean Section, with Notes of a Second Successful Case," p. 585.

⁹²⁴ "Hospital Reports: St Bartholomew's Hospital. The Late Case of Caesarean Section Performed by Mr. Skey," *Lancet* 1 (1847): p. 139.

⁹²⁵ Ibid.

⁹²⁶ Ibid.

⁹²⁷ "Medical Societies: Royal Medical and Chirurgical Society. Tuesday, Jan. 28, 1851," *Lancet* 1 (1851): p. 155.

Just after half past seven Sarah was given ether, with the doctors and audience attentive, Skey made a nine-inch incision. He opened the uterus and delivered the child. By this time the intestines were “attempting to escape but they were retained with great skill by Mr. Haig”, the house surgeon. The uterus too was pressed “back into the abdomen”, although it was still oozing blood. Once the abdominal contents were back in place, Skey swiftly stitched the incision. The operation lasted almost an hour.⁹²⁸ However, at four o’clock the next day she “gradually sank with considerable pain, and died at eight P.M., thirty-six hours after the operation”.⁹²⁹ The outcome did not surprise the doctors.⁹³⁰ Her child survived and was sent to the Foundling Hospital, but sadly, died there.⁹³¹

Even the most skilled and experienced obstetricians had to be content with an extremely high maternal mortality rate from Caesarean sections. Cases of severely deformed pelves presented terrible dilemmas for nineteenth-century medical practitioners: death to the infant from craniotomy or death to the mother from Caesarean section. With success measured in terms of maternal mortality, many doctors viewed Caesarean section as tantamount to murder.⁹³²

The historiography of Caesarean section has been limited, often looking through a lens of medical progress.⁹³³ The gynaecologist J. H. Young’s detailed history of the Caesarean section from earliest times was uncritical of the operation. He described it, as “one of the

⁹²⁸ *Lancet* 1 (1847): p. 139.

⁹²⁹ *Ibid.*, p. 140.

⁹³⁰ During this time Caesarean sections were usually fatal. “Remarks on the Late Case of Caesarean Operation, Performed at St Bartholomew’s,” *Lancet* 1 (1847): p. 395.

⁹³¹ *Lancet* 1 (1851): p. 155.

⁹³² Trolle, *The History of Caesarean Section*, pp. 45–46.

⁹³³ See, for example, Young, *Caesarean Section*; Thoms, *Our Obstetric Heritage*, pp. 79–86; Elliot Philipp, *Caesareans: An Explanation and Preparation* (London: Sidgwick & Jackson, 1988); Trolle, *The History of Caesarean Section*; Odent, *The Caesarean*.

oldest in the history of medicine, and without doubt the greatest”.⁹³⁴ Following this, in 1960, it was described as “the greatest operation”.⁹³⁵ In general, articles written from a medical perspective narrate the history of Caesarean section as a story of progress for the benefit of patients and mankind. Recently, however, scholars have moved beyond this paradigm embracing the wider social as well as the medical world.⁹³⁶ Even though these scholars have referred to its history, their focus has been the end of the nineteenth and twentieth centuries.

This chapter will demonstrate that the increasing possibility of a successful Caesarean section occurred during the nineteenth century and this marked the crucial point in the transformation of ideas, attitudes and practice regarding craniotomy. Initially, the chapter will explore traditional attitudes and clinical considerations towards Caesarean section. It will then trace the development and debate around Caesarean section throughout the century including the deliberations of the doctors in this changing narrative. This chapter will reveal that the Caesarean section represented a more sustained medical interest in the child than seen previously. It will also demonstrate that the operation became a vehicle through which obstetricians became a trusted voice of knowledge regarding the female body.

⁹³⁴ Young, *Caesarean Section*, p. 2.

⁹³⁵ Thoms, *Our Obstetric Heritage*, p. 79.

⁹³⁶ Featherstone. “Breeding and Feeding: A Social History of Mothers and Medicine in Australia, 1880–1925,” pp. 133–170; Caroline de Costa “‘Ript From the Womb’: The Medical, Social and Political History of Caesarean Section” (Ph.D., Thesis, University of Sydney, 2009); Churchill, *Caesarean Birth: Experience, Practice and History*; Mander, *Caesarean: Just Another Way of Birth?*.

Early controversies

Caesarean section, like craniotomy, is one of the oldest operations in the history of medicine. Until the eighteenth century it was normally a post-mortem procedure in order to save the child.⁹³⁷ Even so, as doctors increasingly dominated childbirth in the nineteenth century more Caesarean sections were attempted on living women. Some were successful.⁹³⁸ Throughout much of this period the technique was crude, the uterus was not sutured and the external incision often just bandaged. There were no anaesthetics or aseptic technique. Maternal mortality from haemorrhage, shock, infection, poor operative technique or a combination of these was extremely high.⁹³⁹ Moreover, by the time it was decided to operate, the woman was often exhausted and beyond help.⁹⁴⁰ Thus, craniotomy was widely accepted as the best method of delivery. Performing Caesarean section on living women remained highly controversial.

One of the earliest advocates of Caesarean section in Britain was John Hull (1761–1843) physician-*accoucheur* at Manchester and Salford Lying-in Hospital. He performed the operation twice. The first time in 1794, he saved the child but not the mother, Isabel Redman. The second time in 1798 when both Ann Lee and her baby died.⁹⁴¹ Having “occasion to use the perforator and crochet very frequently” in his twenty years of practice, he decided that Caesarean section offered Ann Lee “a better chance of life than any other

⁹³⁷ Thoms, *Our Obstetric Heritage*, pp. 79–80. The origin of the term “Caesarean” is unclear. It was once thought to originate from the manner of Julius Caesar’s birth, but as his mother was still alive many years after his birth, he could not have been delivered by this method. Another suggestion was that it came from the Latin word *caedere* meaning to cut. Another possibility was that it derived from the Roman law, *Lex Caesarea*, which forbade pregnant women to be buried without first removing the child. *Dorland’s Illustrated Medical Dictionary*, 31st ed. (Philadelphia: Elsevier Saunders, 2007), p. 339 gives the derivation of the term from the Latin *caedere*, to cut. For a recent discussion on the etymology of “Caesarean section” see Mander, *Caesarean: Just Another Way of Birth?*, pp. 5–7.

⁹³⁸ Churchill, *Caesarean Birth: Experience, Practice and History*, p. 7.

⁹³⁹ *Ibid.*, p. 4.

⁹⁴⁰ Trolle, *The History of Caesarean Section*, p. 41.

⁹⁴¹ Hull, *A Defence of the Caesarean Operation*, p. 67.

means”.⁹⁴² Hull argued that this was “much preferable to suffering the poor woman to die undelivered”.⁹⁴³ Meanwhile, William Simmons, also at Manchester and Salford Lying-in Hospital, and an enthusiast for the crochet, criticised Hull’s course of action.⁹⁴⁴

Hull responded to Simmons and published *A Defence of the Caesarean Operation, with Observations on Embryulcia, and a Section on the Symphysis Pubis*. In this book Hull argued against Simmons’ belief that Caesarean section was always fatal to the mother and “must be abandoned”.⁹⁴⁵ He accused Simmons of overlooking the difference between the patient “dying *from an operation*, and *after an operation*”.⁹⁴⁶

Matters came to a head in 1799 when details of a case involving Elizabeth Thompson were published. After Simmons decided that he could not deliver Thompson, he sent her to Manchester Hospital, nine miles over rough roads in a cart.⁹⁴⁷ Clearly against Caesarean section, he was quoted as saying that this was “*one of Dr. Osborn’s crochet-cases*”.⁹⁴⁸ In consultation with several surgeons, the senior surgeon at the hospital, William Wood, decided to perform a Caesarean section. Three days after the operation, her “symptoms were becoming so extremely unfavourable, as to preclude all hopes of her recovery”.⁹⁴⁹ At the post-mortem, Wood concluded that Thompson’s death “was not occasioned by the operation, but by the gangrene that had taken place in the *cervix uteri*”.⁹⁵⁰ Wood, in line with Hull’s argument, had differentiated death from the operation *per se* and death caused

⁹⁴² Ibid., 165–66.

⁹⁴³ Ibid., p. 168.

⁹⁴⁴ Young, *Caesarean Section*, pp. 58–60.

⁹⁴⁵ Hull, *A Defence of the Caesarean Operation*, p. 7.

⁹⁴⁶ Ibid., p. 8. Original italics.

⁹⁴⁷ W. Wood, Appendix. Article XLII: “A Case of Caesarean Section,” *Memoirs of the Medical Society of London* 5 (1799): p. 464.

⁹⁴⁸ John Hull, *Observations on Mr. Simmons’s Detection, etc. etc. With a Defence of the Caesarean Operation* (Manchester: R. and W. Dean, 1799), p. 109. Original italics.

⁹⁴⁹ Wood, Appendix. Article XLII: “A Case of Caesarean Section,” p. 470.

⁹⁵⁰ Ibid., p. 473.

by delay. This distinction was important as it demonstrated that the theory of the operation was sound. It was the execution that was the problem.

Nevertheless, apparently Simmons responded to this case with his usual charge, that to operate on a living woman was tantamount to murder.⁹⁵¹ The consulting doctors in Thompson's case came out against Simmons and supported Wood's views. Many women, they stated, had died because Caesarean section was either not performed, or delayed. For them, the child's life was as valuable as the mother's.⁹⁵² This was indeed a new argument at this time.

These heated and public exchanges of opinions divided the medical establishment into two camps: those supporting Hull and those following Simmons. However, with the appalling maternal figures the majority were against the operation. For "the mother" Osborn claimed "must be doomed to inevitable destruction, by the Caesarean operation".⁹⁵³ Despite this, the opinions of Hull probably kept Caesarean section at the forefront of obstetricians' thoughts and dialogues as a procedure that could potentially manage contracted pelves. This debate was, therefore, significant for the practice of craniotomy.

Traditional British views

At the beginning of the nineteenth century British obstetricians often described their opposition to Caesarean section in their case reports. Alexander Hamilton, Professor of Midwifery at Edinburgh University, detailed several cases of obstructed labour in his *Outlines of the Theory and Practice of Midwifery* (1806). One case involved Mrs Scott who was so deformed that she was unable to stand and had to support herself "on her

⁹⁵¹ Young, *Caesarean Section*, p. 62.

⁹⁵² *Ibid.*, p. 63.

⁹⁵³ Osborn, *An Essay on Laborious Parturition*, p. 30.

hands as she moves along”.⁹⁵⁴ On 22 March 1793 she was admitted to Edinburgh General Lying-in Hospital. Her pelvis was so narrow that craniotomy was impossible. Her condition deteriorated dramatically until her uterus ruptured. After many days of suffering “she cried out, that she felt herself growing blind; and, in two or three minutes, expired”.⁹⁵⁵ Despite this agonising death, Hamilton stated that:

In Great Britain, the operation [Caesarean section] has never yet proved successful in saving the life of the mother ... the histories of the operation, hitherto on record, do not appear to me to contain the ample information which would be required by one compelled to perform it.⁹⁵⁶

This attitude was not surprising, for it was well recognised that mortality rates were extremely high from Caesarean section. As indicated from this case, many British obstetricians were reluctant to perform it. Craniotomy was therefore the operation of choice.

Moreover, from nineteenth-century case reports it was evident that when performed Caesarean section was viewed as a last resort procedure. Henry Oldham, obstetric-physician and lecturer in midwifery at Guy’s Hospital, reported one such case involving a twenty-three year old woman named Sarah who was seven months pregnant. Noting her “rickety” appearance, Oldham admitted her to Guy’s Hospital on 23 September 1850. He decided that the best course of action was to induce labour. He later conceded, however, “the pelvic brim was so contracted that it was soon obvious, that any hope of delivery in this way must be abandoned”.⁹⁵⁷ Craniotomy was then performed but was also

⁹⁵⁴ Alexander Hamilton, *Outlines of the Theory and Practice of Midwifery*, 5th ed. (Edinburgh: John Murray, W. Creech, Peter Hill, and Archibald Constable, 1806), p. 274.

⁹⁵⁵ *Ibid.*, p. 280–81.

⁹⁵⁶ *Ibid.*, p. 293.

⁹⁵⁷ Dr Oldham, “A Case of Caesarean Section,” *Edinburgh Medical and Surgical Journal* 77 (1852): p. 408.

abandoned.⁹⁵⁸ As all other efforts had failed, Oldham decided on a Caesarean section. Guided only by candlelight, Mr Poland, assistant-surgeon, operated on her. Two days later she died.⁹⁵⁹ As this case indicated, craniotomy was well entrenched in the obstetrician's repertoire. Caesarean section was generally performed only in the most desperate of cases.

A prime factor in not choosing Caesarean section in Britain was the concern for the mother's life over the life of the infant. The obstetric-physician, Francis Ramsbotham, wrote in 1867 that the mother had "social, moral, and religious ties" to the community, while the infant had "no affections; no dependants".⁹⁶⁰ Others eminent obstetricians expressed similar views. Robert Barnes emphasised in his 1876 text "our first and paramount duty is to preserve the mother, even if it involve [*sic*] the sacrifice of the child".⁹⁶¹ Significantly, by the beginning of the nineteenth century, only two mothers and seven children had survived from nineteen Caesarean operations.⁹⁶² Even though by the mid century a few successful operations had been performed, the mortality rate was stated as anything between 75% and 87.5% and even as high as 93%.⁹⁶³ So, the operation was still condemned in Britain. With the death of the mother viewed as an "irreparable loss" to the family and society, craniotomy remained the preferred choice.⁹⁶⁴

⁹⁵⁸ Ibid., p. 409.

⁹⁵⁹ Ibid., pp. 409, 412.

⁹⁶⁰ Ramsbotham, *The Principles and Practice of Obstetric Medicine and Surgery*, (1867), pp. 306–307.

⁹⁶¹ Barnes, *Lectures on Obstetric*, (1876), p. 393.

⁹⁶² Young, *Caesarean Section*, p. 63.

⁹⁶³ R. W. Sannemann, "A Case of Distortion of the Pelvis," *Lancet* 2 (1850): p. 50; "Medical Societies," *Lancet* 1 (1851): p. 152; Lee, *Clinical Midwifery*, p. 11.

⁹⁶⁴ Osborn, *An Essay on Laborious Parturition*, p. 47. This notion that the mother's life was more valuable than the infant's is discussed in detail in chapter four.

Barriers to Caesarean section

In addition, there were medical barriers to the success of Caesarean section during the first half of the nineteenth century. The risks of opening the human body were considerable. In an era before anaesthetics and antiseptics, successful surgery was fraught with difficulties. Most ended fatally. To minimise the potential fatal consequences of shock, surgery was performed quickly. Experienced surgeons performed amputations in a matter of seconds!⁹⁶⁵ While surgeons had studied anatomy and practiced on corpses, in practical terms, few dared to cut into the abdomen of a living patient.⁹⁶⁶

Before James Simpson discovered the anaesthetic properties of chloroform in 1847, surgical patients were often given laudanum or other opiates and/or alcohol. Such substances had limited effect as surgeons reported much patient suffering. James Miller, Professor of Surgery at Edinburgh University and senior surgeon to the Royal Infirmary, explained that the surgeon dreaded his work. He was “compelled to inflict pain, and witness the infliction of it,” which for the surgeon was “the hardest portion of his professional lot”. Students and surgeons “grew pale, and sickened, and even fell, in witnessing operations” not because of “the mere sight of blood, or of wound; but from the manifestation of pain and agony emitted by the patient”⁹⁶⁷ Obstetric surgeons also faced similar situations when performing Caesarean sections.

Yet, some doctors felt pain relief in labour contravened God’s will. They believed in the literal translation of God’s words to Eve as she left the Garden of Eden “in sorrow thou

⁹⁶⁵ Ann Dally, *Women under the Knife: A History of Surgery* (Edison, NJ: Castle Books, 2006), p. 1; Atul Gawande, “Two Hundred Years of Surgery,” *New England Journal of Medicine* 366, no. 18 (2012): p. 1717.

⁹⁶⁶ Dally, *Women under the Knife*, pp. 1–4.

⁹⁶⁷ James Miller, *Surgical Experience of Chloroform* (Edinburgh: Sutherland and Knox, 1848), pp. 29–30.

shall bring forth children".⁹⁶⁸ Other doctors expressed their doubts about the merits of chloroform in childbirth.⁹⁶⁹ They believed it prolonged labour, caused convulsions, peritonitis and even insanity.⁹⁷⁰ Taken together, there was considerable opposition to pain relief in labour and this, in turn, limited the number of Caesarean births.

Pain relief was not the only barrier to Caesarean section. The need for antiseptic and aseptic precautions before, during and after surgery to minimise infection was not understood. Operating in septic environments, therefore, was standard practice and the subsequent septicaemia and mortality from abdominal surgery was high.⁹⁷¹ Surgeons operated in ordinary clothes, frequently blood stained from previous operations, with suturing material often threaded through their buttonholes. Their instruments were not sterilised, their hands and bandages not washed, and unmasked they breathed or coughed into the open incisions.⁹⁷² In 1867 Joseph Lister published a method of antiseptis, using a solution of carbolic acid to disinfect the wound, the instruments, the dressings and the surgeon's hands.⁹⁷³ However, until this was widely adopted, death from Caesarean section remained high.

In addition, the actual technique used for Caesarean section was problematic. By the nineteenth century, obstetric-surgeons understood the necessity of suturing the abdominal wall, however, they did not believe in stitching the uterine wall. It was generally believed that the uterus by contracting after delivery would prevent haemorrhage and also facilitate the union of the uterine wall. Thus, stitches were unnecessary.⁹⁷⁴ Indicative of this belief,

⁹⁶⁸ Caton, *What a Blessing She Had Chloroform*, p. 103.

⁹⁶⁹ Youngson, *The Scientific Revolution in Victorian Medicine*, pp. 90–124.

⁹⁷⁰ *Ibid.*, p. 109.

⁹⁷¹ Gawande, "Two Hundred Years of Surgery," p. 1719.

⁹⁷² Paul Hastings, *Medicine: An International History* (New York: Praeger 1974), p. 90.

⁹⁷³ Gawande, "Two Hundred Years of Surgery," p. 1719.

⁹⁷⁴ Young, *Caesarean Section*, pp. 123–28.

the eminent British obstetrician Fleetwood Churchill remarked, “No sutures are required in the uterus; as it contracts, the wound will be reduced to about 1½ to 2 inches in length, and the lips will come into apposition”.⁹⁷⁵ This was not the case. In current practice the uterus is sutured to close the incision and prevent bleeding. Consequently, those women who did undergo Caesarean section risked dying post-operatively from uncontrollable haemorrhage.

Ultimately, these medical barriers contributed to limiting the number of Caesarean sections, as well as the number of doctors who performed such procedures in the first half of the nineteenth century. This, therefore, kept craniotomy as the preferred option for impossible births.

The patient

Like craniotomy, the indication for Caesarean section was a deformed pelvis. As discussed in chapter three, this was generally the result of rickets, a condition that was recognised as a consequence of living in poor, overcrowded, working-class urban areas.⁹⁷⁶ The occupation of those who underwent a Caesarean section was seldom mentioned, but some published cases in the *Lancet* recorded a few including: washerwoman, weaver, bobbin-winder, domestic duties, farm servant, charwoman and dressmaker. Most Caesarean sections were performed in hospitals.⁹⁷⁷ The hospital patient was not only in need of help but also generally poor.⁹⁷⁸ The 1858–1859 Annual Report of the Glasgow Maternity Hospital confirmed this when it described its patients as “of the most destitute class”.⁹⁷⁹

⁹⁷⁵ Churchill, *On the Theory and Practice of Midwifery*, p. 322.

⁹⁷⁶ John Bishop, “On the Causes, Pathology, and Treatment of Deformities in the Human Body,” *Lancet* 1 (1848): pp. 387–389.

⁹⁷⁷ I examined the *Lancet* from 1827 to 1900.

⁹⁷⁸ Ivan Waddington, “The Role of the Hospital in the Development of Modern Medicine: A Sociological Analysis,” *Journal of the British Sociological Association* 7 (1973): p. 215; John Woodward, *To Do the Sick No Harm: A Study of the British Voluntary Hospital System to 1875* (London: Routledge & Kegan Paul, 1974), pp. 45–46.

⁹⁷⁹ “The Twenty-fifth Annual Report,” HB45/3/1, NHSGGCA, p. 6. .

Women who faced Caesarean section were, thus, more likely to be transferred to the hospital, and were poor, undernourished and worn out. Class, therefore, also had a bearing on those who underwent the operation.

Caesarean section was also a particularly daunting choice for women. Discussion of this surgical procedure frequently instilled fear into them. To contemplate a Caesarean section without anaesthesia at a time when the mortality rate was extremely high would have been terrifying for the birthing woman. Janet McCalman in her history of the Royal Women's Hospital Melbourne, described one woman, operated on by the Melbourne gynaecologist Walter Balls-Headley in 1888, as too "frightened to speak". She and the child survived and recovered well. She must have been delighted with the outcome of the operation as she named her daughter Porrina Balls-Headley.⁹⁸⁰ Despite their fear, it seemed that many without another option and clinging to the slim prospect of survival, gave their consent.

Throughout the gruelling Caesarean delivery, some women were recorded as "courageously" submitting to the operation. Doctors often commented on how stoically they bore the pain.⁹⁸¹ Recorded in the *Lancet*, for example, one woman endured the procedure "with great firmness, and complained only of slight pain".⁹⁸² Another "evinced great courage during the operation".⁹⁸³ Such reporting of the "courage" of the women during the procedure, therefore, suggested that despite the risks, the operation was justified in the circumstances. Moreover, it presented the woman as willing and in agreement with

⁹⁸⁰ Janet McCalman, *Sex and Suffering: Women's Health and a Woman's Hospital* (Melbourne: Melbourne University Press, 1998), pp. 103–04. The type of Caesarean section performed was the Porro operation and, no doubt, the baby, Porrina, was named after it. The Porro operation is discussed later in this chapter.

⁹⁸¹ "Caesarean Operation Successfully Performed Twice on the Same Person, by Dr. G. Schenk, of Siegen," *Lancet* 1 (1827/28): p. 10.

⁹⁸² "Caesarean Operation," *Lancet* 2 (1829/30): p. 545.

⁹⁸³ "Caesarean Section Performed Twice on the Same Woman," *Lancet* 2 (1829/30): p. 27.

the doctor's proposal of Caesarean section. While many cases in the medical journals indicated that the patient gave her consent, it was more probable that she gave her permission once she knew that this was in reality the only choice proposed by the doctor.⁹⁸⁴ Such a picture of "consenting" women could also be used to improve the perception of the practise.

Furthermore, doctors were aware of the dangerous and controversial nature of Caesarean section. Obstetricians called in colleagues for advice and to shoulder the responsibility if things went wrong.⁹⁸⁵ This was seen as essential as the outcome was often fatal. The promotion of these seemingly willing and brave patients presented obstetricians as experts whom women could trust. Why women initially sought medical advice was not always obvious. However, those women who were experiencing difficult births were apparently willing to follow the doctor's opinion. Basically, it appeared that women in giving their consent for this operation were in dire circumstances and, thus, were guided by their faith in the doctor.

A defining moment in the shift away from craniotomy

On Tuesday 28 January 1851 Charles West (1816–1898), physician-*accoucheur* and lecturer in midwifery at St Bartholomew's Hospital, rose to address a meeting of the Royal Medical and Chirurgical Society in London. West opened the discussion on the controversial Caesarean section. He reported a fatal Caesarean case in order to address the

⁹⁸⁴ Kathleen Reynolds, "Mother and Child Were Saved: Justifying the Caesarean Section in Nineteenth-Century England," *Past Tense: Graduate Review of History* 2, no. 1 (2014): pp. 36–37.

⁹⁸⁵ Sally Wilde, "Truth, Trust, and Confidence in Surgery, 1890–1910," *Bulletin of the History of Medicine* 83, no. 2 (2009): pp. 320–25.

meeting on the causes of the failure of Caesarean section and whether it was possible to improve its extremely high maternal mortality rate.⁹⁸⁶

West's medical speciality also included children's diseases. In 1848, three years prior to his address, he published *Lectures on the Diseases of Infancy and Childhood*. This text detailed 600 cases and was based on 14,000 children he had treated. In 1852 he bought 49 Great Ormond Street. Here he established the world-renowned Great Ormond Street Hospital for Sick Children.⁹⁸⁷ Motivated, in part, by children's health, it was not surprising that West drew his colleagues' attention to Caesarean section by which infants' lives could be saved. West hoped that it was possible to improve the maternal mortality rate and thus, Caesarean section could be a life-saving option for mother and child. West represented a challenge to the orthodox view that prioritised the mother.

Robert Lee who reflected the feelings of many at the meeting when he stood and vehemently opposed the suggestion. He declared that he had "never met with a case of distortion, however great" in which he "had not succeeded in completing the delivery with the perforator and crochet". He agreed with Mauriceau who had denounced Caesarean section as "a most horrible operation".⁹⁸⁸ In cases of great pelvic distortion, Lee argued Caesarean section should be completely disregarded, as craniotomy was performed "with neither difficulty nor danger".⁹⁸⁹ Lee continued to say that as a result of Caesarean cases and in light of the discussion he could not remain "a silent witness of such abominations". He added that the Caesarean operation was perverting and corrupting "the sound and

⁹⁸⁶ *Lancet* 1 (1851): p. 152. Maternal mortality rates varied depending on the source; nevertheless, it was accepted as extremely high.

⁹⁸⁷ Elizabeth Burton, *The Early Victorians at Home 1837–1861* (Trowbridge: Redwood Press, 1972), pp. 190–92.

⁹⁸⁸ *Lancet* 1 (1851): p. 153.

⁹⁸⁹ *Ibid.*, p. 154.

fundamental doctrines of English midwifery”. Obviously the audience agreed, as Lee sat down “amidst the enthusiastic cheers of the Society”.⁹⁹⁰

The debate continued on 11 February. On this day the society experienced one of its most crowded and eagerly anticipated meetings, “in consequence of the adjourned debate of Dr West’s case of Caesarean section”.⁹⁹¹ Feelings ran high, cases were discussed and exchanges were heated. Edward Murphy, physician and Professor of Midwifery at University College London had to call for calm. Lee, once again, was resolute in his opposition to Caesarean section. He claimed that there was not one well-authenticated case in which the mother survived after the operation. Samuel Ashwell, obstetric-physician at Guy’s Hospital, also insisted that despite the gruesome nature of craniotomy, it was far more preferable than Caesarean section.⁹⁹² Lee, unswerving in his position, went on to claim that irrespective of the degree of pelvic deformity, “I have succeeded in accomplishing delivery safely with the perforator and crochet”.⁹⁹³

Murphy was not so easily persuaded by Lee’s stance. Unconvinced, he responded “when we were so uncertain of saving the mother’s life by craniotomy, in such cases we are bound to consider the life of the child, and to give it the chance of being saved by the Caesarean section”.⁹⁹⁴ Murphy concluded the meeting by entreating the society “to examine with Dr. West into the causes of failure in this operation, and to ascertain whether it is possible, by an improved knowledge, to render it more secure to the mother.”⁹⁹⁵ Such

⁹⁹⁰ Ibid., p. 155.

⁹⁹¹ “Medical Societies: Royal Medical and Chirurgical Society. Tuesday, Feb. 11, 1851,” *Lancet* 1 (1851): p. 204.

⁹⁹² Ibid., p. 207.

⁹⁹³ Ibid., p. 209.

⁹⁹⁴ Ibid., p. 207.

⁹⁹⁵ “Royal Medical and Chirurgical Society. Tuesday, Feb. 11, 1851,” *Provincial Medical & Surgical Journal* 15, no. 5 (1851): p. 134.

intense feelings fuelled further heated discussion. This was an important debate as it set the climate for change for both Caesarean section and craniotomy.

It hinged on maternal mortality

The anxiety created by maternal deaths was apparent in the Registrar-General's report for the last quarter of 1848. This report concluded that maternal mortality "is high and deserves grave consideration".⁹⁹⁶ As a result, maternal mortality became a matter of public and medical concern. Moreover, maternal mortality data was the yardstick for assessing obstetric outcomes and obstetricians in Britain and Europe thoroughly examined these figures.⁹⁹⁷ Hence, many obstetricians became motivated by the need to reduce it.

Most obstetricians were aware of the high maternal deaths from Caesarean section. They were also mindful of their duty to save the woman's life before the child's. The general opinion, therefore, amongst the British obstetric community was that Caesarean section was not warranted if the child could be delivered by craniotomy. In Barnes' collection of hand-written notes, he forcefully put the argument:

The only sound plea for displacing Craniotomy by Cas. S. [Caesarean section] would be the comparatively greater improvement of the C. S. and greater expectancy of safety in modern times. But these conditions belong to the Craniotomy operation. Hence the proposal is illogical, full of danger, and a sin against scientific midwifery.⁹⁹⁸

⁹⁹⁶ *Eleventh Annual Report of the Registrar-General of Births, Deaths, and Marriages in England*, (London, HMSO, 1852), p. xxvi.

⁹⁹⁷ Loudon, *Death in Childbirth*, p. 11.

⁹⁹⁸ Barnes, Craniotomy, S61/A/9, RCOG.

Clearly, Barnes was one of those who strongly opposed Caesarean section viewing it as “Sacrificial Midwifery”. “It may be necessary”, Barnes accepted, “after Craniotomy has failed”.⁹⁹⁹ The majority of doctors preferred craniotomy to Caesarean section, as the latter was considered too dangerous to both mother and child.

A plethora of statistics was published supporting such views, reflecting the increasing faith given to such figures in the nineteenth century. Statistics were thought to be scientifically accurate and reliable.¹⁰⁰⁰ By employing them, doctors imbued obstetrics with a science that measured and then validated a particular position. Churchill attempted to prove statistically that at least as many lives were lost by Caesarean section as by craniotomy. Looking at the figures he concluded that the maternal mortality was one in thirty-one for craniotomy. Whereas for the same number of Caesareans sections it could range between sixteen and twenty-seven and save only sixteen children. Thus, “out of 31 cases, or 62 lives, you save 30, which is exactly the number of lives that would be saved by craniotomy”.¹⁰⁰¹ Seen as an objective and scientific measurement, his statistics were a serious bid to prove his claims scientifically. It seemed that Churchill was arguing that anyone who performed Caesarean section sacrificed more mothers than children saved. In his opinion, this did not justify the operation.¹⁰⁰²

⁹⁹⁹ Barnes, Caesarean Section, S61/A/46, RCOG.

¹⁰⁰⁰ Lawrence Goldman, “Victorian Social Science: From Singular to Plural,” in *The Organisation of Knowledge in Victorian Britain*, ed. Martin Daunt (Oxford: Oxford University Press, 2005), 100–01. During the Victorian period mortality statistics were made available to embarrass authorities into improving social conditions and to verify medical research. See, Edward Higgs, “A Cuckoo in the Nest? The Origins of Civil Registration and State Medical Statistics in England and Wales,” *Continuity and Change* 11, no. 1 (1996): pp. 124–28; “The Rise of the Information State: The Development of Central State Surveillance of the Citizen in England, 1500–2000,” *Journal of Historical Sociology* 14, no. 2 (2001): pp. 180–81.

¹⁰⁰¹ Churchill, ““Obstetric Morality:” being a Reply to an Article,” p. 17.

¹⁰⁰² Churchill, *On the Theory and Practice of Midwifery*, p. 320.

In the craniotomy versus Caesarean debate, figures were presented that argued the value of Caesarean section. The easiest way to show the trends in mortality was by presenting the total number of mothers who died and those saved from Caesarean section. So, cases were collected, published and discussed throughout Britain and Europe. Table 8.1 shows some of those who collected and published such cases, the number of cases collected and the maternal survival rate in Britain and in Europe from Caesarean section.¹⁰⁰³ Kayser from Copenhagen and Dufeillay from France collected European figures, Merriman and Radford collected British figures while Churchill collected both.

Table 8.1. Maternal Survival Rates from Caesarean Section

Period	Doctors that published figures for C sections	Britain		Continent	
		No.	Survival %	No.	Survival %
1750-1839	Kayser			339	38%
1750-1855	Churchill			321	46%
1845-1861	Dufeillay			88	56%
1750-1856	Churchill	63	29%		
to 1856	Merriman	26	8%		
to 1865	Radford	77	14%		
to 1879	Radford	131	18%		

The results were remarkable. Even taking into consideration that some cases could be represented more than once and perhaps not all the failures from Caesarean operations

¹⁰⁰³ Compiled from, W. Tyler Smith, "Lecture XLVI: The Caesarean Section," *Lancet*, 2 (1856) p. 639; Young, *Caesarean Section*, pp. 86–89.

were included, there was a striking difference in outcomes between Britain and the Continent. From the European cases, on average 44% of mothers survived, compared to 18% of British mothers. Not surprisingly, British obstetricians questioned the accuracy of these statistics, although West claimed the mortality in British cases was at least 83.6%.¹⁰⁰⁴ Regardless, these published figures clearly indicated Caesarean section was not only performed more often on mainland Europe than in Britain, but also was significantly safer for the mother.¹⁰⁰⁵ This distinction was important because it triggered some British doctors to investigate why there was a difference.

European and British practices

In deciding between craniotomy and Caesarean section, European practitioners considered the life of the child as well as the dangers to the mother. The French obstetrician Jean Louis Baudelocque (1764–1810) was critical of craniotomy. While he admitted there were risks from Caesarean section, he also stressed, that if it was not performed, the outcome for the mother was horrific.¹⁰⁰⁶ Conversely, the British criticised the European decision to perform Caesarean section. One medical writer of the day commented, “We have repeatedly condemned the unjustifiable disregard of maternal life in various countries on the Continent, as exhibited in the readiness with which the medical men perform the frightful operation of the Caesarian [*sic*] section”.¹⁰⁰⁷ The writer articulated the connection between the rejection of the operation and the value of the mother. For the British, this was the key validation for craniotomy.

¹⁰⁰⁴ Tyler Smith, “Lecture XLVI: The Caesarean Section,” p. 639.

¹⁰⁰⁵ Using different sources from Churchill, I have reached the same conclusion as Churchill. See Churchill, *Caesarean Birth: Experience, Practice and History*, p. 16.

¹⁰⁰⁶ Young, *Caesarean Section*, pp. 66–67.

¹⁰⁰⁷ “Cases of Caesarean Operation,” *Medico-Chirurgical Review* no. 66 (no. 26 of a Decennial series), (October 1, 1840): p. 522.

Nonetheless, those obstetricians in Britain kept a keen eye on their European counterparts. Barnes' notebook detailed Caesarean cases from, among others, Pajot and Dubois from France, Winckel and Ender from Germany, Rizzoli and Ferratini from Italy.¹⁰⁰⁸ The evidence was clear, the success rate on the Continent was far better than in Britain. And this was the point of West's address. He wanted British obstetricians to address the failures and thus improve the outcome. Clearly, good success rates were achievable.

A fundamental difference in criteria was that French obstetricians used a broader pelvic criterion for performing Caesarean section than British doctors. The French recommended Caesarean delivery if the pelvic diameter was two to three inches, whilst the British judged a pelvic diameter of 1½ inch or slightly less quite acceptable for craniotomy. The French obstetrician, Velpeau, in 1829 commented that when the pelvis measured just over two inches the decision must be made whether to follow the English and destroy the child or give the child a chance, even though the mother may lose her life.¹⁰⁰⁹ Even though craniotomy was performed by Continental doctors, they were, however, more reluctant than their British colleagues to opt for it.¹⁰¹⁰ What set them apart was that they recognised the dangers from craniotomy, which ultimately affected their Caesarean successes.

The greater influence of the Church in Roman Catholic countries would have also affected the difference in numbers between British and European Caesarean sections. According to the Catholic religion the body of the unborn infant was united to its soul. When born the child had the stain of original sin. Baptism was essential to remove this. For Catholics, the

¹⁰⁰⁸ Barnes, Caesarean Section, S61/A/46, RCOG.

¹⁰⁰⁹ Young, *Caesarean Section*, p. 74.

¹⁰¹⁰ Churchill, *Caesarean Birth: Experience, Practice and History*, p. 19.

child that had not been baptised could not gain eternal life.¹⁰¹¹ As a Caesarean operation delivered a live child, the mother's life could be sacrificed as she had already been baptised.¹⁰¹² This prompted some Catholic obstetricians to opt for Caesarean section over craniotomy.¹⁰¹³

Many British obstetricians defended their appalling mortality rate by questioning the propriety of performing many more Caesarean sections on the basis of religion. Tyler Smith argued that French obstetricians more readily resorted to Caesarean section because, driven by the Catholic doctrine, the life of the child was more important "than that of the mother".¹⁰¹⁴ Saving the soul of the child was, in Tyler Smith's opinion, the primary aim of his Continental colleagues. By comparison, Tyler Smith stated that British doctors gave "a decided preference to the mother".¹⁰¹⁵ Critical of their European colleagues, it was unacceptable to risk the mother's life. "A law of humanity hallowed by every creed, and obeyed by every school" explained Barnes, was to save the mother.¹⁰¹⁶ Thus, to save the mother, most British obstetricians performed craniotomy for cases in which a number of European practitioners would have resorted to a Caesarean delivery.

Underneath these national and sectarian views there seemed to be a sense of professional jealousy. With more Caesarean sections being performed in mainland Europe, the technical

¹⁰¹¹ "Obstetric Morality," (March 1858): p. 102.

¹⁰¹² Philipp, *Caesareans: An Explanation and Preparation*, p. xxii.

¹⁰¹³ In the same way, the Catholic religion informed a similar debate in America. See, Ryan, "The Chapel and the Operating Room: The Struggle of Roman Catholic Clergy, Physicians, and Believers with the Dilemmas of Obstetric Surgery, 1800–1900," pp. 461–94; Leavitt, "The Growth of Medical Authority: Technology and Morals in Turn-of-the-Century Obstetrics," pp. 239–43. Religion also influenced the performance of post-mortem Caesarean sections, for if the child could be delivered alive it could be baptised. See, Daniel Schafer, "Medical Practice and the Law in the Conflict between Traditional Belief and Empirical Evidence: Post-Mortem Caesarean Section in the Nineteenth Century," *Medical History* 43, no. 4 (1999): pp. 485–501.

¹⁰¹⁴ William Tyler Smith, "Introductory Lecture to a Course of Lectures on Obstetricy," *Lancet*, 2 (1847): pp. 371–72.

¹⁰¹⁵ *Ibid.*, p. 372.

¹⁰¹⁶ Barnes, *Lectures on Obstetric Operations*, (1876), p. 393.

skill of those on the Continent improved. This, no doubt, increased their success rate. Aware of their terrible results, British obstetricians were outspokenly appalled at their French colleagues' willingness to risk the life of the mother. Conversely, French obstetricians argued that the mother was in greater danger if the Caesarean operation was delayed, and craniotomy was difficult.¹⁰¹⁷ Trying to explain Britain's preference for craniotomy, Tyler Smith divided France and Britain on religious grounds with regard to women. Those who valued women, he argued, were British and Protestant while those that valued foetal lives were French and Catholic.¹⁰¹⁸ A Glasgow doctor, David Smith put the argument more forcefully:

In our own Protestant land the intelligence of the people enables them to believe that in "things medical" medical men are better judges of what is right and wrong than the clergy: and the propriety of performing every operation is left entirely to a consultation of surgeons.¹⁰¹⁹

Smith felt that the British people were prudent in not being influenced by religious faith as those pregnant women and their families were in Catholic countries. This stance reflected well on them. It was, he claimed, far better for the doctor to decide on medical practice without the dictates of the clergy. Smith appeared pleased that he and not his faith decided on medical procedure. However, beneath this comment perhaps there was a sense of professional envy and resentment. He envied those on the Continent who in some cases had performed the operation successfully and saved both mother and child. He resented that it was his European counterparts and not his British colleagues that were achieving such successes. Nevertheless, with their reputation seemingly undermined by their poor

¹⁰¹⁷ Moscucci, *The Science of Woman*, pp. 141–43.

¹⁰¹⁸ Tyler Smith, "Introductory Lecture," p. 372.

¹⁰¹⁹ David Smith, "Certain Operations in Obstructed Labour, with New Instruments," 3 May 1842, 250 2/1/30/10, Royal College of Physicians and Surgeons Glasgow (hereafter RCPSG), p. 8.

results, the British used the religious argument to justify their course of action and discredit their European counterparts.

However, case reports of European obstetricians indicated that their readiness to perform Caesarean section was not as dependent on religion as Tyler Smith suggested. Barnes recorded in his notebook, for example, a French case performed in 1843 where religion did not dictate the choice of procedures. Craniotomy was the first choice in this case and only after it had failed and in consultation did the French doctors decide upon Caesarean section as it “offered the sole chance of safety” for the mother.¹⁰²⁰ Even though she died the following evening, the child was not the main consideration. Safety and not a religious dictate determined the operation. As well, the Italians Belluzzi and Ferratini advocated Caesarean section only if the mother was in jeopardy.¹⁰²¹ Therefore, the safe resolution of difficult births for the mother and infant was more complex than simply dependent on a religious conviction.

Shifting positions

With obstetricians still unable to agree on craniotomy or Caesarean section, the debate continued throughout the 1850s. “No point”, claimed Tyler Smith in 1856, “has been more keenly debated” in the history of obstetrics.¹⁰²² Nevertheless, within the ensuing discussions there emerged a changing emphasis relating to the risks for the mother. While never wavering from preserving maternal life at all costs, some started to advocate the Caesarean section.

¹⁰²⁰ Barnes, Caesarean Section, S61/A/46, RCOG.

¹⁰²¹ Ibid.

¹⁰²² Tyler Smith, “Lecture XLVI,” p. 640.

Presenting the case of Sarah Bate, G. B. Knowles, Professor of Midwifery at Queens College and surgeon at Queen's Hospital Birmingham, who performed a successful Caesarean section on her, questioned the safety of craniotomy. In reference to this operation he declared:

*it is one thing to extract, and another to extract with safety. My experience, in fact, leads me to believe that craniotomy has often been attempted, and perhaps effected, when the Caesarean section might have offered the patient an equally good, nay, perhaps a better prospect of recovery.*¹⁰²³

He added that while obliged to consider the safety of the patient, the practitioner was “perfectly justified in having recourse to the Caesarean section”.¹⁰²⁴ This was important as it reflected a new optimism over Caesarean section and hence an interest in the mother and her child.

Knowles and Charles West pinpointed a key problem. This was that Lee and his supporters had discounted the Caesarean statistics from their European colleagues. According to West, all the latest evidence did not back Lee's assertion that there were no well-authenticated cases in which the mother had survived.¹⁰²⁵ Furthermore, Knowles argued that the success rate of 66% and 76% from France and Belgium respectively, reflected, “recovery after this operation is by no means so hopeless as Dr. Lee would wish to make it appear”.¹⁰²⁶ While acknowledging that French and Belgian obstetricians performed surgery more frequently and used a broader criterion of pelvic measurement for eligibility than the English, Knowles maintained that these figures needed to be considered. He went on to accuse Lee of being blinded by angry prejudice

¹⁰²³ G. B. Knowles, “Observations on the Caesarean Section,” *Provincial Medical and Surgical Journal* 15, no. 10, (1851): p. 257. Original italics.

¹⁰²⁴ *Ibid.*, p. 258.

¹⁰²⁵ *Lancet* 1 (1851): p. 210.

¹⁰²⁶ Knowles, “Observations on the Caesarean Section,” p. 258.

in his aversion to Caesarean section, and questioned Lee's principle "of effecting delivery by cephalotomy [craniotomy] ... with safety to the patient".¹⁰²⁷ As Caesarean section appeared to be more successful on the Continent than in Britain, perhaps, Lee purposely withheld these figures to bolster his argument. Nonetheless, the tide was beginning to turn.

A problem: delaying Caesarean section

During the 1850s and 1860s there were few British supporters of Caesarean section. There were, nevertheless, a small number who defended it. Thomas Radford (1793–1881) was the most vocal. Radford was born in Manchester and after studying at Guy's and St Thomas's hospitals was elected surgeon to Manchester and Salford Lying-in Hospital in 1818.¹⁰²⁸ Radford in his text *Observations on the Caesarean Section, Craniotomy, and Other Obstetric Operations*, first published in 1865, pointed to the woman's poor physical state as a contributing factor to the high number of maternal deaths. To lessen these deaths, he recommended that Caesarean section should be performed early. He stated that the danger from the operation increased with the duration of labour. In addition, he pointed out that the risk to the infant also increased the longer the labour.¹⁰²⁹ While Radford did not deny that the mortality rate of Caesarean section was high, he indicated that when the pelvis is extremely deformed, craniotomy was nearly as dangerous and so the "best chance of saving both mother and child is to perform Caesarean section as soon as labour sets in".¹⁰³⁰ In suggesting this Radford was stepping outside the accepted idea of his time.

¹⁰²⁷ Ibid., p. 257.

¹⁰²⁸ C. W. Sutton, "Radford, Thomas," rev. Ornella Moscucci, *ODNB*, www.oxforddnb.com/view/article/22999, accessed 6 January 2014.

¹⁰²⁹ Radford, *Observations on the Caesarean Section*, pp. 13–15.

¹⁰³⁰ Ibid., p. 88.

To give weight to his argument, Radford highlighted the cruel and brutal character of craniotomy by documenting several horrific cases. One documented case involved a breech birth. Craniotomy was performed but the mother's pelvis was so distorted that the infant could not be delivered. The infant then burst through the ruptured uterus into the abdomen, and, in what must have been an agonising state, she died.¹⁰³¹ Others started to collect similar cases. In another horrific case, recorded by Robert Greenhalgh, obstetrician to St Bartholomew's Hospital and lecturer in midwifery, craniotomy was attempted, however, at some stage, the body of the infant separated from the head. As craniotomy had failed, a Caesarean section was performed. Shockingly, the foetal head was discovered under the diaphragm.¹⁰³² Just as tragic, occasionally women were left undelivered because craniotomy had failed and so prejudiced were many obstetricians against Caesarean section that it was never performed.¹⁰³³ Such documented cases in which the mother was left to die in agony with the mutilated child undelivered only strengthened the argument of those critical of craniotomy.

Concerned British obstetricians analysed and hoped to explain the anomaly in success rates between Britain and the rest of Europe. One explanation attributed the poor British results to the beer drinking habits of the working class.¹⁰³⁴ Tyler Smith suggested a more likely reason:

the operation is commonly resorted to only after labour has continued for some time, and after other means of delivery have failed, while abroad the

¹⁰³¹ Ibid., pp. 55–56.

¹⁰³² Robert Greenhalgh, "Case of Extreme Distortion of the Pelvis; Craniotomy; Cephalotripsy; Caesarean Section," *Transactions of the Obstetrical Society of London* 7 (1865): pp. 220–223.

¹⁰³³ Radford, *Observations on the Caesarean Section*, pp. 55–56.

¹⁰³⁴ R. J. Kinkead, *Craniotomy and Its Alternatives: Caesarean Section, Laparo-Elytrotomy, and Porro's Operation* (Dublin: John Falconer, 1880), p. 20.

operation has been performed on healthy women, the subjects of deformity, at the commencement of labour.¹⁰³⁵

Other eminent doctors agreed that delaying the operation was a problem. In 1858, Murphy presented the case of Mrs N to the Medical Society “to prove the evil consequences of delay and hesitation”.¹⁰³⁶ She was two days in labour before Drs Fraser, Murphy and West decided on a Caesarean section. She died from exhaustion. Murphy concluded, “the operation failed because [it was] performed too late”.¹⁰³⁷ Greenhalgh attributed Britain’s lack of success to the loss of valuable time in trying other methods first.¹⁰³⁸ Difficult deliveries, including Caesarean section, according to the Fifty-eighth Annual Report of Glasgow Maternity Hospital stood a better chance of success if brought to the hospital “with as little delay as possible, without the patient being operated on beforehand”.¹⁰³⁹ Wanting to achieve better outcomes, some in Britain were now questioning the wisdom of delaying the procedure. It seemed that delay led to failure. This was important as doctors were seeing birthing outcomes not only in terms of the mother but also for the child.

The debate was complex

The debate for choosing between craniotomy and Caesarean section was in part a struggle between the comparative merits of old school tradition and new progressive science. Those hostile to Caesarean section, such as Lee, were educated early in the century when the outcome of abdominal surgery was uncertain. These obstetricians made their decisions

¹⁰³⁵ Tyler Smith, *A Manual of Obstetrics*, p. 606.

¹⁰³⁶ “Reports of Societies: Medical Society of London. Monday, Dec. 6th, 1858,” *BMJ* 1, no. 105 (1859): pp. 13–14.

¹⁰³⁷ *Ibid.*, p. 14.

¹⁰³⁸ “Medical Societies: Obstetrical Society of London. Wednesday, April 1st, 1863” *Lancet* 1 (1863): p. 606.

¹⁰³⁹ “The Fifty-eighth Annual Report of the Glasgow Maternity Hospital and Dispensary,” 1891–1892, HB45/3/3, NHSGGCA, p. 7.

against their background of experience and practice and set against their limits of knowledge. Caesarean section was not a part of their repertoire. Without the experience, existing attitudes prevailed. Lee claimed that he had “never seen the operation performed on the living body”.¹⁰⁴⁰ Under the influence of past experience, the individual’s knowledge and existing attitudes seemed to prevent Lee and his followers from stepping outside their comfort zone. For in doing so, they risked status, income, and the hard realisation that they were behind the times. For them, there was no value in change.

It was not just the procedure itself that met with resistance. The adoption of aseptic and antiseptic techniques, which lessened any risks, was also met with opposition. Having accepted Louis Pasteur’s germ theory, Joseph Lister introduced a way to minimise infection with a combination of carbolic acid and dressings, sprays, and sutures. Published in 1867, this eventually revolutionised surgery.¹⁰⁴¹ Contemporaries, nonetheless, had some doubts. Yet, in Glasgow where Lister taught his technique, it was adopted more quickly than in the rest of Britain. For example, Murdoch Cameron was one of Lister’s surgical dressers between 1867 and 1869 and seeing Lister’s results; Cameron willingly implemented these methods in his own practice.¹⁰⁴² Such techniques, along with operating before the woman became exhausted, were paving the way for craniotomy to be replaced by Caesarean section.

Development of technique

Radically improving the maternal outcome was a considerable challenge for those critical of craniotomy and supportive of Caesarean section. Without this, craniotomy would remain

¹⁰⁴⁰ Robert Lee, *Lectures on the Theory and Practice of Midwifery* (Philadelphia: Ed. Barrington & Geo. D. Haswell, 1844), p. 311.

¹⁰⁴¹ Youngson, *The Scientific Revolution in Victorian Medicine*, pp. 143–55.

¹⁰⁴² “The Lister Centenary Celebrations in Glasgow,” *BMJ* 1, no. 3457 (1927): p. 686.

the operation of choice. Meanwhile, discussions continued on ways to improve the technique and the maternal outcome from Caesarean section. Thomas Spence Wells, renowned for his work in abdominal surgery, suggested at an obstetric meeting in 1863 that suturing the uterus might be the best way to prevent fatal haemorrhage and peritonitis.¹⁰⁴³ At the same meeting, Oldham recommended that the incision be made as low as possible to make closure easier. Furthermore, Oldham expressed hope that Caesarean section be performed more often than in the past.¹⁰⁴⁴ Others suggested operating early. These suggestions signified a move away from viewing the operation as unsuccessful to one of survival for mother and child. Attitudes were changing.

Five years later, again at a meeting of the Obstetrical Society of London, a fatal Caesarean case was reported. John Braxton Hicks had performed the surgery. He did not suture the uterine wall. Consequently, with the exertion of vomiting post-operatively, blood and uterine discharges started to gush through the abdominal incision. Not surprisingly, the woman “sank about ninety-six hours after the operation”. At the post-mortem two holes were found in the uterus. Braxton Hicks wondered if “the wound had been closed in this case, the serious complications would not have occurred”.¹⁰⁴⁵ Also at this meeting was Wells who, after Braxton Hicks’ presentation, said:

when he first suggested the use of sutures to close the opening made in the uterine walls, at a meeting of the Society in 1863, as a means of preventing the escape of blood or other fluid into the peritoneal cavity, and thereby lessening mortality after Caesarean section, he had not tried the plan ... But

¹⁰⁴³ *Lancet* 1 (1863): p. 606.

¹⁰⁴⁴ *Ibid.*, p. 607.

¹⁰⁴⁵ “Medical Societies: Obstetrical Society of London. Wednesday, March 4th, 1868,” *Lancet* 1 (1868): p. 409.

in 1865 he had put the plan into practice ... and he had recently seen the woman quite well.¹⁰⁴⁶

Even so, given the suggested surgical innovations, proponents of Caesarean section remained unsure as to the best means to successfully perform the operation. Despite these technical improvements, obstetricians still struggled with the operation. In reality, it remained an alternative only for the most skilled obstetric surgeon. But with the gathering momentum to rid obstetric practice of craniotomy, there was a driving force of research and discussion to prove Caesarean section a suitable replacement.

In 1876, the Italian Professor Eduardo Porro from the University of Pavia in Padua recognised that one of the greatest risks to the mother's recovery was from haemorrhage. Bleeding from the uterine incision was at times uncontrollable. In addition, blood escaping into the abdominal cavity and infection tracking through the incision increased the danger from peritonitis. He, therefore, advised complete removal of the uterus after Caesarean section to lessen these dangers. Known as the Porro operation, the ovaries and Fallopian tubes were also removed, which essentially sterilised the woman.¹⁰⁴⁷ He first performed this operation on 21 May 1876. While the mother and child survived, other results varied, but, nonetheless, were encouraging.¹⁰⁴⁸ It attracted international attention with Robert Harris from Philadelphia reviewing fifty results world wide in 1881. He ascertained a maternal mortality of 58% and foetal survival of 86%.¹⁰⁴⁹ First performed in Britain in 1881; the first successful one was in 1884.¹⁰⁵⁰ The relative success rate from this operation was clear.

¹⁰⁴⁶ Ibid.

¹⁰⁴⁷ Young, *Caesarean Section*, pp. 93–95.

¹⁰⁴⁸ Churchill, *Caesarean Birth: Experience, Practice and History*, p. 34.

¹⁰⁴⁹ Donald Todman, "A History of Caesarean Section: From Ancient World to the Modern Era," *Australian and New Zealand Journal of Obstetrics and Gynaecology* 47, no. 5 (2007): p. 359.

¹⁰⁵⁰ Young, *Caesarean Section*, p. 97.

Accordingly, it provided the possibility of saving both the mother and child. This was a scenario previously thought unattainable in Britain.

As expected, controversy arose over the sterilising nature of the procedure.¹⁰⁵¹ The idea of removing the ovaries with the Porro method played into the idea of “unsexing” the woman. Ornella Moscucci has identified a similar situation in reference to performing ovariectomy (removal of one or two ovaries or ovarian tumour). The social and medical construction of a woman confined her to a reproductive and domestic role, and as such the ovaries were paramount to her being. Removing her ovaries, therefore, threatened her femininity.¹⁰⁵² Hence, many regarded the Porro operation as stripping the woman of her femininity and purpose.

Conversely, some saw it as relief for women who were continually subjected to obstructed labours and craniotomies. Professor of Obstetrics at Queen’s College Galway and examiner in obstetrics, Richard Kinkead argued that, unlike craniotomy, it gave the mother a chance of a living child while “preventing all future risk”. “For her” Kinkead asked, “would not a living child once and future barrenness be an inestimable blessing?”¹⁰⁵³ Whether or not women agreed with Kinkead was not recorded in the accounts. Some women may have been pleased not to go through a series of problematic births. Hence, she may have been relieved to be sterilised. Others may have held out hope for another live child. Whatever the justification, this operation may have overridden the woman’s choices and left the obstetrician determining the woman’s reproductive life.

¹⁰⁵¹ Ibid., p. 104.

¹⁰⁵² Moscucci, *The Science of Woman*, pp. 134–64.

¹⁰⁵³ Kinkead, *Craniotomy and Its Alternatives*, p. 34.

A new technique was introduced which gave an added boost to those advocating Caesarean section. In 1882 a German surgeon from Leipzig, Max Sänger, used multiple layers of silver sutures to close the uterine wall. Through this “system of deep (muscular) and superficial (peritoneal) sutures” haemorrhage and infection were prevented from entering the abdominal cavity.¹⁰⁵⁴ In 1891, the Hunterian Society reported that the percentage of maternal deaths from the methods of Porro and Sänger to the end of 1889 was 58% and 23% respectively.¹⁰⁵⁵ Furthermore, Sänger’s method allowed for future pregnancies. Its maternal mortality rate was about the same as craniotomy and numerous children survived. This was a momentous development for obstetrics. It not only replaced the Porro operation, but also was capable of abolishing craniotomy. There was no doubt about it, those in favour of craniotomy such as Lee, were being pushed further and further aside.

The triumph of Caesarean section

The collective medical opinion had come to a point in the shift that once Sänger’s results were published, the frequency of Caesarean section increased. From the mid 1880s a number of operations from Britain, the Continent, America and Australia, were published in medical journals.¹⁰⁵⁶ In the *BMJ*, Murdoch Cameron (1847–1930), as a newly appointed obstetric-physician at Glasgow Maternity Hospital, reported the first successful Caesarean

¹⁰⁵⁴ “Hunterian Society,” *Lancet* 1 (1891): p. 885.

¹⁰⁵⁵ Ibid. The number of successful cases was reported only in percentages, not in number of cases.

¹⁰⁵⁶ Thomas Hillas performed the first unplanned Australian Caesarean section in 1870. Mary McCarthy was operated on for an ovarian cyst but only when the abdomen was opened did the doctors realise she was pregnant. John Cooke performed the first planned operation in 1885 at the Alfred Hospital, Melbourne. Both mother and child survived. Walter Balls-Headley’s achievement of performing the first Porro operation in 1886 was soon surpassed by Sänger’s method, first performed, and successfully, by Michael O’Sullivan in 1889. See Frank M. C. Forster, “Caesarean Section and Its Early Australian History,” *Medical Journal of Australia* 2, no. 1 (July 4, 1970): pp. 33–38.

section in Glasgow in April 1888. In consultation with others he used Sanger’s method.¹⁰⁵⁷ Having never even seen the operation, it did not begin well with a broken bottle of ether catching alight and “the room was ablaze, the flames reaching the ceiling ... the room had, at any rate, been thoroughly sterilised”.¹⁰⁵⁸ Seven silk sutures closed the uterine wall, which “immediately checked the bleeding”.¹⁰⁵⁹ The child, a boy, was christened Caesar Cameron.¹⁰⁶⁰ Cameron was convinced that “the simple Caesarean section gives the best chance both to the mother and child”.¹⁰⁶¹ A year later Cameron operated and again was successful. A few months later, he repeated this accomplishment. So, in just over a year he had three successful cases.¹⁰⁶²

All three cases had severely deformed pelves. It was highly probable that Cameron chose these particular women because other than deformed pelves none had any debilitating conditions. Hence, they offered the best chance of survival. The problem was that in these desperate situations there were not many who had experience in performing a Caesarean section. Perhaps not overtly experimenting on these women, these doctors, nonetheless, were practising on them, as the Professor of Midwifery, William Leishman exclaimed of Cameron’s three successes “Very lucky Cameron!”¹⁰⁶³ However, there was no evidence to suggest he mistreated the women. Rather he concentrated in relieving their suffering. Nonetheless, as a result of these cases, he did gain experience and authority.

¹⁰⁵⁷ Murdoch Cameron, “The Caesarean Section: With Notes of a Successful Case,” *BMJ* 1, no. 1465 (1889): pp. 180–83.

¹⁰⁵⁸ Murdoch Cameron, “Remarks on Fifty Cases of Caesarean Section,” *BMJ* 2, no. 2180 (1902): p. 1126.

¹⁰⁵⁹ Cameron, “The Caesarean Section,” p. 180.

¹⁰⁶⁰ E. M. Hillan, “Caesarean Section: Historical Background,” *Scottish Medical Journal* 36 (1991): p. 153.

¹⁰⁶¹ Cameron, “The Caesarean Section,” p. 181.

¹⁰⁶² Hillan, “Caesarean Section,” p. 153.

¹⁰⁶³ Cameron, “Remarks on Fifty Cases of Caesarean Section,” p. 1126.

When Cameron proposed Caesarean section it was in consultation with other obstetricians. Together they shared and endorsed the decision. The first operation was collectively justified as being “the only practicable procedure”.¹⁰⁶⁴ In doing so they established themselves as authoritative voices in determining the “correct” treatment for the mother’s body. Nonetheless, practitioners were aware that the woman had to agree to the procedure. The only consent recorded was in the first case. Exactly what she consented to was not recorded. In two out of three of these cases, Cameron tied the Fallopian tubes. In all probability there was no discussion that enabled the women to make informed decisions about their sterilisation. Ostensibly, Cameron’s medical control had replaced the patients’ autonomy. His medical control could possibly have extended even further. On hearing that his third patient had been living with the father of her child and that she wished to be “lawfully married” to him, Cameron stepped in and arranged this before she left hospital. The other two Caesarean patients acted as bridesmaids. This photo was taken on this occasion in 1889 (Figure 8.1).¹⁰⁶⁵ Perhaps she did make a rational choice to be married, however, Cameron’s authority may have also allowed him to prioritise the woman’s life. By this time the obstetrician’s knowledge held considerable authority and she might have been reluctant to go against his advice.

¹⁰⁶⁴ Cameron, “The Caesarean Section,” p. 180.

¹⁰⁶⁵ Murdoch Cameron, *On the Relief of Labour with Impaction by Abdominal Section, as a Substitute for the Performance of Craniotomy* (London: British Medical Association, 1891), p. 14.



Figure 8.1. Cameron's First Three Successful Caesarean Cases.¹⁰⁶⁶

In part, the craniotomy versus Caesarean debate was also bound up with self-interest and status. The success of the Caesarean sections conferred a professional status and established Cameron as an expert in women's bodies. In Cameron's report on his first success in 1888, for example, the patient had no choice in the procedure.¹⁰⁶⁷ Rather than involving her in the decision, the patient and her father "consented to any operation that might be thought advisable".¹⁰⁶⁸ Even though they consented to the operation, it was Drs Sloan, Reid, Oliphant and Black together with Cameron who opted for Caesarean section after dismissing craniotomy. As "experts", they decided. Having survived, she was later "presented" to the Annual Meeting of the British Medical Association in Glasgow in

¹⁰⁶⁶ Source: Dow, *The Rottenrow*, p. 69.

¹⁰⁶⁷ Cameron, "The Caesarean Section," p. 180.

¹⁰⁶⁸ Ibid.

August 1888.¹⁰⁶⁹ Accordingly, she was made the centre of medical interest and the crux of obstetric achievement. Her rickety body represented the “care and skill” that obstetricians espoused.¹⁰⁷⁰

In some ways, her presence in front of the medical audience would have also consolidated and strengthened the dominant discourse that childbirth was abnormal and full of dangers.¹⁰⁷¹ Medical treatment was seen as the key in dealing with the problems of childbirth. Doctors were therefore, increasingly prepared to try “new” techniques such as Caesarean section. This promotion of the “problem” birth was also crucial to the wider construction of the maternal body. During this time the notion that middle-class women were delicate and ailing and many of them were ill was prevalent. As a vulnerable or unstable female she was considered weak, sentimental and childlike and thus dependent on her doctor.¹⁰⁷² Radford, in advocating Caesarean section stated that a woman was not only dependent on her obstetrician but also “naturally is mild, kind, and humane ... and has a great love for children”.¹⁰⁷³ Clearly, he regarded women as helpless, frail and maternal. Moreover, doctors often used phrases such as “fragile”, “nervous” and “excitable” to describe their patients. Considering the mortality from the operation it was little wonder that women felt this way. But what this did was to re-emphasise female fragility and unreliability, both physically and emotionally. This inherent fragility was exemplified in a case from Middlesex Hospital reported in the *Lancet* in 1865. Prior to the Caesarean section, the patient, E. B. appeared pale, frightened, susceptible to fainting and weak.¹⁰⁷⁴

¹⁰⁶⁹ Ibid.

¹⁰⁷⁰ Ibid., p. 181.

¹⁰⁷¹ Marland, *Dangerous Motherhood*, p. 28.

¹⁰⁷² Dally, *Women under the Knife*, p. 86.

¹⁰⁷³ Radford, *Observations on the Caesarean Section*, p. 67.

¹⁰⁷⁴ “A Mirror of the Practice of Medicine and Surgery in the Hospitals of London: Middlesex Hospital,” *Lancet* 2 (1865): p. 700.

Two days after the operation “She was suddenly seized with faintness, and sank in a few moments”.¹⁰⁷⁵ Moreover, descriptions of women “sinking” to their deaths after the operation were frequent and corresponded with the belief in the passivity of women, so central to the Victorian constructions of gender.¹⁰⁷⁶ The Caesarean body confirmed this passivity and in doing so added to the construction of the maternal body as essentially fragile and unstable.

The goal, nonetheless, of Caesarean section was survival and Cameron did succeed. In the end, he performed ten operations between 1888 and 1891, saving all mothers and children.¹⁰⁷⁷ With complete recovery Cameron demonstrated to his colleagues that Caesarean section was a feasible option. “The time has come” Cameron announced, “when the lives of the mother and child may alike be saved”.¹⁰⁷⁸ This was momentous for obstetrics as it spelt the death knell for craniotomy.

Other British obstetricians were also claiming similar success. Francis Champneys, obstetric-physician to St George’s Hospital London, had performed the first successful Säger’s technique in March 1888.¹⁰⁷⁹ New techniques, together with better knowledge concerning haemorrhage, infection and delay gave a new confidence to practitioners, during the last decade of the nineteenth century. Cameron summed up the view of many at this time regarding Caesarean section and craniotomy:

¹⁰⁷⁵ Ibid., p. 723.

¹⁰⁷⁶ Ehrenreich and English, *Complaints and Disorders*, pp. 11–30; Martin, “The Egg and the Sperm: How Science Has Constructed a Romance Based on Stereotypical Male-Female Roles,” pp. 485–501.

¹⁰⁷⁷ Cameron, *On the Relief of Labour with Impaction by Abdominal Section*, p. 10. Unfortunately, one infant had died several hours before the operation.

¹⁰⁷⁸ Ibid., p. 3.

¹⁰⁷⁹ Young, *Caesarean Section*, p. 143.

the time is speedily approaching when this operation [Caesarean section] will take the place of craniotomy where the child is alive, and that it only remains for each one who has occasion to perform it ... to sweep from out practice an operation which is antagonistic to our own feelings, and which demands the life of the child whilst it imperils that of the mother.¹⁰⁸⁰

By this time the percentage of maternal deaths had reduced drastically to between 9% and 14.8%.¹⁰⁸¹ Hence, confidence was growing. Attitudes towards mother and child were changing. Both were repositioned as the centre of the birth. Practical and attitudinal changes were achieving the ultimate goal of obstetrics, to save both mother and child.

While medical practitioners were still divided over craniotomy versus Caesarean section, medical opposition to Caesarean section had started to wane. Even though cases presented to the Obstetrical Society of London in 1874 and 1876 showed no Caesarean sections, the cases presented showed a marked decline in craniotomies, from fourteen in 1874 (6.5%) to four (0.3%) in 1876.¹⁰⁸² This offered a striking insight into the increased interest in the infant as a human being. So, perhaps the most obvious reason for this change was the growing prejudice against the inhumanity of what was once seen as the life-saving craniotomy.

It seemed, nevertheless, that Caesarean section was accepted by the turn of the century. G. E. Herman, obstetric-physician to London Hospital, confessed in 1900 that for most of the century everything was against Caesarean section. But, he had reason to believe that now the “once almost certainly fatal Caesarean section is the simplest of all abdominal operations”.¹⁰⁸³ By performing surgery within a few hours of labour commencing, using

¹⁰⁸⁰ Murdoch Cameron, “Remarks on Caesarean Section,” p. 585.

¹⁰⁸¹ “Medical Societies: Obstetrical Society of London. President’s Address,” *Lancet* 1 (1889): p. 580.

¹⁰⁸² “Obstetrical Society of London, Wednesday, May 6th, 1874,” *Lancet* 1 (1874): p. 767; “Obstetrical Society of London, Wednesday, May 27th, 1876,” *Lancet* 1 (1876): p. 777. These percentages were calculated based on the cases presented at the meetings.

¹⁰⁸³ G. E. Herman, “Midwifery and Gynaecology in 1800,” *BMJ* 2, no. 2087 (1900): p. 1856.

antiseptic techniques, as well as anaesthesia for pain, obstetricians were able to reduce the maternal mortality to around 5% by 1900, and foetal mortality to less than 1%. These were extraordinary results.¹⁰⁸⁴ The increase in the number performed led to greater experience and surgical competence, which also improved the success rate. Consequently, by the end of the nineteenth century Caesarean section was a realistic option to replace craniotomy.

At this time a triumphant mood embraced obstetrics which is captured in Herman's report on obstetrics: "The dream of obstetricians for years has been the abolition of craniotomy ... There is now good ground for believing that in the near future a perfected method of Caesarean section may relegate craniotomy ... to the past".¹⁰⁸⁵ This was indeed a momentous turning point for obstetrics, obstetricians and the two lives that could now be saved.

Conclusion

The debate had been heated and intense. Craniotomy was argued as a safer and more conservative option than Caesarean section. By the end of the century, however, craniotomy was held in disrepute. The operation was condemned at the meeting of the Academy of Medicine in Ireland in November 1885, when the President, Thomas More Madden, analysed maternal mortality in childbirth. In reviewing the procedure he concluded that previously craniotomy was "unhesitatingly, and too often recklessly, resorted to" but with a reduction in this procedure he felt confident that the very object of

¹⁰⁸⁴ De Costa, "'Ript from the Womb': The medical, social and political history of caesarean section," p. 34. Loudon argued that the dramatic reduction in maternal mortality in general, came with the introduction of sulphonamides, antibiotics, blood transfusions, better clinical care, better medical education and improved nutritional and living standards. Loudon, *Death in Childbirth*, p. 255.

¹⁰⁸⁵ Herman, "Midwifery and Gynaecology in 1800," p. 1856.

obstetric medicine, the preservation of maternal and foetal life, would be fulfilled.¹⁰⁸⁶ The acceptance of this brought to an end a long period in which practitioners were seen to favour the “safer” craniotomy.

Successful Caesarean deliveries such as those of Cameron were pivotal not just for Cameron but also for the history of craniotomy and obstetrics as a whole. Rejecting craniotomy, as “a sad necessity”, conferred an equal value on the mother and infant.¹⁰⁸⁷ There was an increased emphasis given to saving the infant, and the repositioning of the mother. Technical developments and those willing to change their views, however, were still under negotiation. Nonetheless, in ideological and practical terms Caesarean section was a feasible replacement for craniotomy. Caesarean section finally stemmed the tide, which had been set for centuries in favour of craniotomy.

Furthermore, the debate over craniotomy versus Caesarean section formed part of a need to convince others of their skill, superiority and place of obstetrics within the medical profession. It also provided the vehicle for the affirmation of the authoritative voice of the obstetrician. It was, consequently, significant in securing the obstetrician’s authority over childbirth and the maternal body.

Ultimately, by the dawn of the twentieth century, obstetrics had finally replaced craniotomy. For the first time, obstetricians could deliver mother and child without any horrific maternal or foetal mortality. No longer was there the agonising decision between the two lives.

¹⁰⁸⁶ “Academy of Medicine in Ireland. Nov. 27th, 1885,” *Lancet* 1 (1886): p. 19.

¹⁰⁸⁷ Churchill, “Obstetric Morality,” p. 319.

Conclusion

Changes and Continuities

Death, suffering, sorrow, and woe, therefore, like the prophet's roll, have marked craniotomy in the past.¹⁰⁸⁸

This thesis has shown that craniotomy in the nineteenth century was a key element in the development of contemporary obstetric thinking and practice. During this period, the dialogue over the propriety of craniotomy was highly contested amongst obstetricians. The notion that this life-saving procedure might not actually bring the best outcome was boldly being questioned. The medical literature brimmed over with positional papers as craniotomy was revisited, rethought and re-evaluated. In general, those who saw in this procedure something that was indeed “a shocking spectacle” were winning the war concerning the precise nature of craniotomy.¹⁰⁸⁹ The conflicts over changes in thought and procedure echoed the obstetricians' essential undertaking to deliver healthy, living babies and successful outcomes for the mother.

Through debates over craniotomy, the obstetric aspiration of improving the outcomes for baby and mother was confirmed. But it was more than that. Even though the concern over craniotomy took up the issue of childbirth mortality, a number of obstetricians used it to demonstrate the scientific prowess of a medical field essentially outside the medical establishment. Through the various discussions, debates and subsequent shift around craniotomy, obstetricians were making claims about the importance of their work and the

¹⁰⁸⁸ Milne, “Craniotomy and Cephalotripsy Contrasted; with Cases,” p. 630.

¹⁰⁸⁹ Hooper, “Midwifery Lectures,” MS0104/2/2, RCS, p. 618.

extent of their expertise. It pronounced obstetricians' work as vital to medicine, raised their status and justified their specialisation. Consequently, the discussion and demise of craniotomy validated the role of the obstetrician and consolidated his thinking and aspirations moving forward to the twentieth century.

Additionally and importantly, this thesis has also exposed craniotomy as a force for change. During the nineteenth century British obstetricians traditionally performed craniotomy to save a woman's life more often than not in cases of pelvic deformity. However, there was a growing concern within society that was shared by the obstetric community over the high rates of maternal and foetal mortality. The diagnosis and assessment of the problems of childbirth and the choices available that brought about a successful birth outcome were therefore urgently and often discussed. There was no doubt that doctors "detested the idea of doing craniotomy", as it always resulted in at least one death.¹⁰⁹⁰ As a result, obstetricians were becoming increasingly anxious about delivering both mother and child safely. At the centre of this anxiety was craniotomy. Hence, craniotomy led a desperate search for better outcomes. In doing so, it broke new ground and, in part, forced a new direction for obstetrics.

Furthermore, the concern over craniotomy's poor birthing outcomes initiated a significant rethinking in medical thought. It became a vehicle that dramatically changed attitudes and beliefs in the philosophy behind a successful birth. Ultimately, the apprehension over craniotomy moved the definition of a successful outcome from saving one life to saving two. With this came a change in practice. In tracing this development it becomes evident that this change in thinking and practice was not driven purely by technical innovations.

¹⁰⁹⁰ "Royal Society of Medicine," *BMJ* 1, no. 2618 (1911): p. 556.

While the shift was slow and the results were often less than encouraging, the doctor's attitude to a particular procedure was influenced by their pre-existing ideas, resistance to change, experience and skill, reports of successful cases, technical developments and the severity of the case. Moreover, the obstetrician's philosophy regarding craniotomy was influenced by its stressful and fatal outcome, its dangers, its inability to resolve the problem for future pregnancies, the frustrations at other alternatives, and the distress it caused the mothers. It was these concerns that drove a shift in attitudes and practice towards a better outcome. Craniotomy was, therefore, an important force for change in nineteenth-century obstetrics.

One implication from this study on craniotomy can be understood in the context of medicalisation. As discussed in the thesis, the medical discourse surrounding childbirth acknowledged its uncertain nature. It claimed that childbirth was a pathological state that required a planned and systematic approach in order to overcome its problems. This medical direction concentrated on thorough monitoring, expert management and obstetric intervention to circumvent the dangers of childbirth. Hence, many doctors believed that increased intervention and surveillance of the mother would benefit both mother and child. At the same time, this justified medical intervention. Generally performed in dire circumstances, craniotomy confirmed that birth was difficult and dangerous. Craniotomy was therefore a vehicle by which medicalisation was extended. The increased medicalisation also validated the obstetrician's profession, and indicated the increased power of the obstetrician in predicting the likelihood of severe pelvic disproportion and problem births before they occurred. Craniotomy helped to medicalise birth as full of danger and problems, which had significant ramifications in the next century. Firstly, the move towards medical-based antenatal care in the 1920s was, in part, a reflection of this

concern over the possible dangers of childbirth that craniotomy generated.¹⁰⁹¹ Secondly, it helped establish medical intervention as the basis of modern obstetrics.

This thesis has also demonstrated that craniotomy helped to construct a specific view of the maternal body. As well as emphasising the medical belief that childbirth was a dangerous period, the practice of craniotomy highlighted that the maternal body was not capable of coping with such danger. Constructions such as this fed into the belief that the female body was weak and in need of protection. Intervention, according to many doctors, was the key to assist the woman's body through the hazards of birth. In addition, doctors claimed that intervention was necessary as women's bodies during birth were unpredictable and at risk of breakdown. Medical texts filled their pages with deliberations on other procedures that could possibly replace craniotomy. This discussion tightly linked women to birthing problems. Subsequently, it conferred obstetricians with the status as "experts" in women's bodies. This construction, nevertheless, was complex. It was not simply that birth was beyond a woman's capabilities. Some women, especially those requiring craniotomy, could not give birth without endangering their lives. They did require assistance. However, craniotomy did participate in the construction of the dominant cultural image of female bodies as fragile and so deployed a powerfully effective conception of the maternal body that was flawed and needed managing.

¹⁰⁹¹ For a variety of scholarly views on antenatal care see, Marks, "Mothers, Babies and Hospitals: 'The London' and the Provision of Maternity Care in East London, 1870–1939," pp. 48–70; Lisa Featherstone, "Surveying the Mother: The Rise of Antenatal Care in Early Twentieth-Century Australia," *Limina* 10 (2004): pp. 16–31; Lara Marks, *Metropolitan Maternity: Maternal and Infant Welfare Services in Early Twentieth Century London* (Amsterdam - Atlanta GA: Rodopi, 1996), pp. 214–38; Earner-Byrne, "'Twixt God and Geography: The Development of Maternity Services in Twentieth-Century Ireland," pp. 99–112; Salim Al-Gailani, "Pregnancy, Pathology and Public Morals: Making Antenatal Care in Edinburgh around 1900," pp. 31–46; McCalman, *Sex and Suffering*, pp. 160–62.

Indicative of the significant position that craniotomy held in obstetrics was the shifting paradigm around the relative value of the life of the mother and foetus. During the century the obstetrician increasingly saw his role as saving both lives. Regardless of the procedure, every technique carried risks for both the mother and child, but the risk to the infant from craniotomy was always death. As obstetricians were rethinking the rationale and place of craniotomy, the outcome for the infant was increasingly occupying a more prominent place in their philosophy on the procedure. The redirection and re-evaluation of craniotomy transferred the focus away from the mother and towards the child. This placed a new emphasis on the life of the child. A critical point in trying to save the foetus was that the infant became more visible and this endorsed its status as a patient. Hence, craniotomy and the new thinking around it were, in part, crucial to the emergence of the foetus as a subject of medical interest.

Moreover, searching for alternatives to craniotomy was also indicative of a change in philosophy that focused on the infant and what could be done to save it. Choosing Caesarean section with its high maternal mortality indicated a swing in thinking that reallocated the focus from the mother to the foetus. In ideological and technical terms the mother was no longer more valuable than the child. Moreover, once Caesarean section became comparatively safe for the mother the rejection of craniotomy can be read as a defining moment in beliefs about the relative value of human life. It confirms that the origins of the shift in attitudes away from the mother and towards the foetus lay, in part, with craniotomy in the nineteenth century. Once seen as the perfect replacement for

craniotomy, this thesis is timely as it runs concurrently with the concern over the rising rates of Caesarean section in the twenty-first century.¹⁰⁹²

Medical documents used in this thesis have revealed why doctors acted as they did. At the beginning of this study, I thought that craniotomy was gruesome and barbaric and I was horrified that any doctor would perform the procedure. But as I immersed myself in the sources, I realised the decision to perform it was difficult and complex for all involved. Underpinning this difficult decision was the growing resistance to the notion of the inevitability of childbirth death. Consequently, this produced huge dilemmas for doctors.

Significantly, this thesis has indicated that many doctors were professional, sincere and caring. They wanted to help women and improve obstetric procedures and results. Nonetheless, this aspect of the thesis has been challenging as medical literature and patient records generally revealed only clinical details rather than doctors' emotional concern for their patients. However, from this research, it was clear that for the majority of obstetricians their decision to perform craniotomy was often confronting and frequently worrying. Yet, they acted as they did because the alternative to let the woman die undelivered was even more horrific. To them, this was unthinkable. Undoubtedly, many doctors were motivated by financial and professional rewards, nevertheless, it seemed they were also genuinely concerned for their patients.

This study also suggested that the repositioning of craniotomy reflected the approach to childbirth that was taken up by obstetric practitioners during and after the nineteenth

¹⁰⁹² "Caesarean section on the rise," *Lancet* 356, no. 9243 (2000): p. 1697; Helen Churchill and Colin Francome, "British Midwives' Views on Rising Caesarean Section Rates," *British Journal of Midwifery* 17, no. 12 (2009): p. 774.

century. No longer was it acceptable to sacrifice one life for another. This was intensified by escalating concerns about the customary use of craniotomy and its potential to cause more harm than good. This paradigm shift around craniotomy dramatically changed the pattern of obstetric care and the saving of untold infant lives. With a reversal of opinion about the value of craniotomy came improved outcomes during childbirth, which also greatly reduced the suffering of a number of women. Therefore, craniotomy occupies a critically important place in the development of obstetric care then and today.

This thesis has moved away from the idea that the rethinking and re-evaluation of craniotomy was purely driven by medical and technical progress or represented a form of increased control. Instead, it has stressed that doctors in performing craniotomy were responding to a complex and stressful problem. Without a doubt, the women who were operated on were in a desperate state. Doctors had their own opinions as to the best procedure to use. This was generally based on personal experience, documented results of procedures and the circumstances of each case. Even so, there were some occasions when women demonstrated that they had some agency in the decision-making process. It was women who decided whether to accept the doctor's advice. From the evidence some even felt confident to challenge medical advice because sometimes they refused early induction of labour and Caesarean section. In dire situations though, it seemed that many practitioners did assert their authority with the final word resting with the most senior doctor. However, the decision to perform craniotomy or any alternative were generally based on necessity and providing the best outcome.

Moreover, the thesis has also attempted to make clear that obstetricians did not necessarily work as one coherent body. Doctors were often in heated disagreement over the best procedure for obstructed labours. Far from being confident in their decisions, craniotomy

reflected diversity within obstetric practice and between practitioners. As science advanced doctors gained more authority in the birthing room but the decisions they made varied. Diagnosing disproportion, the main indication for craniotomy, was not easy. If there was evidence of rickets or a deformed pelvis had hindered the woman's progress in her previous labours, it was possible that she would undergo another craniotomy. However, doctors often argued over the extent of the contracted pelvis and the best method of treatment. The goal of searching for the best practice affirmed certain individual and medical assumptions, priorities and methods over others. Universally agreeing on one procedure was therefore impossible and clearly generated divisions. While medical decisions were both beneficial and harmful, doctors were, nonetheless, working within what medical science had to offer at the time in terms of medical practice and knowledge. Consequently, obstetrics was fraught with controversy and cannot be seen merely as a rational science.

This thesis has linked the medical indication for craniotomy to the social conditions of the women who underwent it. It has asserted that those living in the poorer industrialised cities of Britain such as Glasgow with its poverty and overcrowding were far more susceptible to this procedure than those living in cleaner healthier environments. However, how much this environmental factor compared with the general health and diet of these women affected the likelihood of craniotomy has not been thoroughly addressed in this thesis. To do so would entail a study of the health of these women as children and adults. Many, I suspect, emigrated from Ireland as a result of the potato famine and so tracing their childhood health could be problematic. However, a study that correlated these factors would add further to the history of craniotomy.

As well as changes there were continuities. The repositioning and rejection of craniotomy moved the profession towards greater investigation and intervention that catered for the health and well being of mother and her infant. This created an obstetric “expert” that dictated what was best for the birthing women. It also allowed for a more rigorous surveillance of the mother’s pregnancy. Constant monitoring became the norm. This philosophy has contributed to the standard obstetric approach to delivery we see today. Thus, it provides a historical context by which we can understand the management strategies used nowadays in maternal care.

Much of the focus of modern obstetrics has been on new technologies such as ultrasound and electronic monitoring of the foetus. These have assisted in diagnosis of potential problems and provided treatments that could deliver a healthy baby and mother. This history of craniotomy has provided a context that, in part, can explain how these medical practices have created an increasing incentive to intervene in childbirth. Crucially, the history also offers a historical background to contemporary debates over the validity of technology, the extent to which they are utilised and the results in terms of outcomes.¹⁰⁹³ As a result, the debate over the best possible outcome to pregnancy for the mother and her infant continues at the present time, even though the profile has changed.

By the twenty-first century, craniotomy had been written out of the medical texts. The “shocking spectacle” has been forgotten, as have the doctors who performed it. This thesis has sought to address this gap by charting the history of craniotomy throughout the

¹⁰⁹³ See, for example, B. K. Rothman, *The Tentative Pregnancy: Prenatal Diagnosis and the Future of Motherhood* (New York: Viking, 1986), pp. 113–14; Mitchell, *Baby's First Picture: Ultrasound and the Politics of Fetal Subjects*; A. Prentice and T. Lind, "Fetal Heart Rate Monitoring During Labour – Too Frequent Intervention, Too Little Benefit?" *Lancet* 2, no. 8572 (1987): pp. 1375–77; Robin Gregg, *Pregnancy in a High-Tech Age: Paradoxes of Choice* (New York: New York University Press, 1995).

nineteenth century in Britain. This in-depth account has also challenged the positivist approach that focused on obstetric successes. Craniotomy was not the star of obstetrics and its demise was indicative of this. However, the history of craniotomy is significant. As the evidence illustrated, it played a key role in the development of obstetric thinking and practice and contributed to ideas around childbirth and the maternal body. In addition, it presented a new historical analysis of the emergence of the foetus and evaluated this in relation to the mother. It confirmed and justified the role of the obstetrician in childbirth and his proclivity for intervention. Above all, it blazed a new trail that lead to the professional and technological competencies of today. Through a critical study of the complexities around this challenging procedure and its dramatic and remarkable shift, this thesis provides a new understanding of craniotomy and, most importantly, makes a valuable contribution to the knowledge of the histories of obstetrics, childbirth and women's bodies.

Glossary

Asphyxia: a decrease in the amount of oxygen and an increase in the amount of carbon dioxide in the body as a result of interference in respiration.

Auscultation: listening for sounds produced in the body in order to detect or judge some condition.

Cephalo-pelvic disproportion: a mismatch between the size of the foetal head and the woman's pelvis.

Cephalotome: instrument for cutting the head of the foetus.

Cephalotomy: cutting the foetal head to facilitate delivery.

Cephalotribe: instrument for crushing head of foetus.

Cephalotripsy: crushing of foetal head in difficult labours.

Cervical os: mouth or opening of the cervix.

Cervix: the neck or lower part of the uterus; separates the body of the uterus from the vagina.

Cervix uteri (Latin): the cervix.

Contagion: the process of transferring a specific disease either by direct or indirect contact.

Cranioclast: instrument for crushing the foetal skull in delivery.

Cranioclasty: crushing of the foetal head in difficult deliveries.

Craniotome: devise for forcible reduction of the foetal skull in labour.

Craniotomy: breaking up foetal skull to facilitate delivery in difficult parturition.

Crochet: a sharp hook used in craniotomy to extract the foetus.

Dystocia: difficult labour.

Embryotomy: the dissection of the foetus to aid its delivery.

Embryulcia: forcible removal of the foetus as by embryotomy or extracting a dead foetus with instruments.

Embryousia: same as embryulcia.

Emphysema: distension of tissues by gas or air often produces a crackling sound or crackles with touch.

Ergot of rye: a drug obtained from a fungus that grows parasitically on rye, especially black rye, used to stimulate uterine contractions.

Fillet: a noose-like instrument that was passed over the foetal head through which traction was applied.

Foetal lie: the relation of the long axis of the foetus to that of the mother; can be longitudinal, transverse or oblique.

Foetal presentation: that part of the foetal body that is either foremost within the birth canal or closest to it.

Funis: umbilical cord.

Hydrocephalus: enlargement of the head due to an increase of the fluid in the brain.

Mollities ossium (Latin): osteomalacia, a bone disease similar to rickets but affecting adults.

Morbid anatomy: the study and structure of diseased organs and tissues.

Occiput: back part of the skull.

Os uteri (Latin): mouth or opening of the cervix.

Ovariectomy: removal of one or two ovaries or ovarian tumour.

Ovum: the female reproductive egg, plural ova.

Pelvimetry: measurement of the pelvic dimensions or proportions.

Percussion: tapping the body lightly to determine the position, size and consistency of the underlying structure or the presence of fluid.

Peritonitis: an inflammation of the peritoneum, a membranous coat that lines the abdominal cavity and covers the viscera.

Placental souffle: sound heard on auscultation of the circulation of blood in the placenta.

Preternatural labours: all presentations except those of the head in childbirth.

Phthisis: Pulmonary consumption, that is tuberculosis.

Physiology: the science of the functions of cells, tissues and organs.

Rickets: a childhood bone disease caused by lack of vitamin D.

Septicaemia: bacteria in the blood that often occurs with severe infections, can be fatal.

Slough: dead matter or necrosed tissue, or an ulceration.

Sulphonamides: the sulpha-related group of antibiotics.

Symphysis pubis: the front mid-line junction of the pelvic bones.

Symphysiotomy: surgical cutting of the symphysis pubis to facilitate delivery by enlarging the pelvic diameters.

Tartar emetic: a poisonous salt of sweetish metallic taste, used formerly in medicine as an expectorant and emetic.

Vectis: a single-bladed instrument through which leverage could be applied to the foetus.

Venesection: opening a vein for removal of blood, commonly known as bleeding.

Version: turning the foetus

Vertex: top of the head, the crown.

Viscera: Internal organs, especially of the abdomen.

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