

**The Casebooks of William Hey F.R.S.  
(1736-1819): An Analysis of a Provincial  
Surgical and Midwifery Practice**

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*The candidate confirms that the work submitted is her own and that appropriate credit has been given where reference has been made to the work of others.*

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I dedicate this history of medicine thesis to my grandchildren  
Thomas Edward, Sophia Beatrice, James Andrew and Esme Josephine.

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**Josephine M. Lloyd**

**Abstract of Thesis entitled 'The Casebooks of William Hey F. R. S. (1736-1819): An Analysis of a Provincial Surgical and Midwifery Practice' submitted for the Degree of Doctor of Philosophy by Josephine Margaret Lloyd, April 2005.**

Using the twelve Medical and Surgical Casebooks and ten Midwifery Casebooks as central source material evidence, this thesis seeks to provide an analysis of the Georgian provincial medical practice of William Hey F.R.S. (1736-1819). Hey was both typical of many medical practitioners emerging from British medical training in the middle of the eighteenth century, yet untypical in that he was one of the select few who held an appointment over half a century as a senior surgeon in one of the century's twenty-seven newly founded hospitals and infirmaries. I begin by charting the rise of the special skills of human anatomy, surgery and midwifery in the first part of the century, and consider how the previous lack of detailed evidence about the actual day-to-day working lives of Georgian practitioners has restricted recent scholarship. In order to fully evaluate Hey's successful career I then provide detail of his early life, schooldays, apothecary apprenticeship and clinical London training. This is followed by a review of his whole career from his initial relations with the existing medical practitioners, to his domination of the medical stage in Leeds over six decades. Built into this review are some other aspects of his life that nevertheless had an impact upon the progress of his career, not least the significance of his permanent handicaps. The vast quantity of case histories within the Casebooks can only be selectively treated. My selection provides evidence of the medical variety, surgical innovation and some of the finer and more unusual features of his skilful midwifery technique. Elements of his patient- practitioner relationships, the development of his clinical approach, and the indistinct area between his private and charitable patients become evident as the discussion of his work proceeds. The thesis concludes with an overview of Hey's life and the ways in which his Casebooks provide vital new insight for the better understanding of Georgian provincial medical, surgical and midwifery practice.

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## Chapter 1 Sources, Selection and Potential

### Introduction

The primary focus of this thesis is the analysis and evaluation of the twenty-two manuscript Casebooks and supporting manuscripts of the Leeds provincial surgeon and man-midwife William Hey FRS (1736-1819). Hey's Casebooks are unedited and had lain unread until I began my research upon them a decade ago. To establish an appropriate context for study of this almost wholly unexploited and absolutely invaluable source material, the thesis will first provide an analytical survey of relevant secondary and primary materials for the history of eighteenth-century surgery and midwifery; a detailed account of Hey's training; and an overview of his career. The Casebooks emerge as a uniquely informative record of the reality of provincial medical life and practice in Georgian England.

The Hey family had lived for generations in Pudsey working their trade as the only drysalters in the white cloth area to the south west of Leeds. They were astute and careful business people. In 1730 Richard Hey, William Hey's father, married Mary Simpson, one of two surviving daughters and co-heiress, with her sister Elizabeth, of Jacob Simpson (1663-1738) a surgeon-apothecary in Leeds. Jacob Simpson's father William (1639-1680) had been a physician working in Wakefield and York before settling in Leeds. From recollections provided by the two surviving brothers of William Hey, Samuel and Richard in 1820, their parents had been 'religious...highly reputable...excellent parents', and although Mary their mother, had 'an even and kind affection to all her seven children', their father, Richard had 'shewed partialities'.<sup>1</sup> Richard and Mary Hey both inherited substantial wealth, Mary from her father in 1738,<sup>2</sup> and Richard from his uncle in 1740.<sup>3</sup> This wealth enabled them to buy properties in Leeds. In 1741 they bought shops and Burgage premises in the Slip-in Yard, off

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<sup>1</sup> J. Pearson, *The Life of William Hey Esq., FRS* (London: Hurst, Robinson & Co, 1822), p. lxxvii, and lxxiii.

<sup>2</sup> Part of an un-probated will of Mary Hey survives detailing monies from the will of her father Jacob set on perpetual trust with the interest to be used for the benefit of educating poor children in Pudsey. WYAS, C281/23/8.

<sup>3</sup> Richard Hey's parents were first cousins; John Hey (1666-1729) and Dorothy Hey (1667-1746) married in 1692. Richard, Dorothy's bachelor brother died in 1740 and left his fortune to William Hey's father Richard.

the Briggate by the Moot Hall in the heart of Georgian Leeds, and sixteen years later properties in Great Woodhouse and Gallows Hill on the outskirts of Leeds Township. The family moved to live in Leeds in 1750 still retaining their Pudsey properties.<sup>4</sup>

William Hey set up in an apothecary shop equipped by his father in the Slip-in Yard property in Leeds as a sole surgeon-apothecary in May 1759. He did not take a partner until 1796 when his eldest surviving son William joined him. In 1767 Hey was one of the founders of the Leeds General Infirmary and was appointed one of the four original surgeons. He became the senior surgeon in 1773, a post he held until his resignation in 1812. He remained an active consultant to the Infirmary and continued his private practice until two weeks before his death in March 1819, a working life of sixty years. This was the more remarkable because he had physical handicaps: he had suffered severe burns to the torso of his body when he was aged three, and he was blinded in his right eye, when a penknife pierced it as he was cutting a piece of string at the age of four.<sup>5</sup> He injured his right knee in 1774 causing partial lameness. A second accident to the same leg in 1778 caused total lameness,<sup>6</sup> and from that date he became a doubly handicapped surgeon.<sup>7</sup> Apart from odd references when the accidents occurred,<sup>8</sup> and one to his singular vision when he said 'I examined carefully with my eye as well as my hand',<sup>9</sup> a reader of Hey's casebooks would be totally unaware of these handicaps.

There has been scant opportunity for historians to study the surgical and midwifery day-to-day working lives of the generation of provincial medical practitioners, who emerged from British medical education of the mid-eighteenth century, and this has resulted in

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<sup>4</sup> Pearson, *Hey*, p. lxxxii.

<sup>5</sup> Pearson, *Hey*, p. 2.

<sup>6</sup> *Ibid*, pp. 46-49.

<sup>7</sup> I am grateful to the Librarians at the Wellcome Library, Douglas Knock and Lina Bakshi, whose exhaustive enquiries on my behalf have failed to identify a similarly handicapped Georgian medical practitioner.

<sup>8</sup> Special Collections, Brotherton Library Leeds, Medical and Surgical Casebooks in the hand of William Hey, vols. 1-6 and 9-12, ref. MS/628, (hereafter MS/ 628), Book 5, pp. 31-41, this is an account of five weeks rehabilitation spent in Buxton from March to April 1774. And Special Collections, Brotherton Library, Leeds, Midwifery Casebooks, vols.1-10,ref. MS/567, (hereafter MS567), Book 4, Case 234, dated 28 October 1777; in this case Hey said that he could not kneel on account of his lameness. MS/567, Book 5, begins with the words 'I was five months absent from home in 1778'.

<sup>9</sup> MS/628, Book 6, p. 16. Remarks made in a case of a prolapsed vagina dated 10 October 1775.

fragmentary and inconclusive assumptions and ideas. The Hey archive offers a rare, possibly unique opportunity, to fill at least some of the gaps in our understanding of Georgian surgical and midwifery provincial practice. Concentrating parochially on Leeds, this thesis nonetheless pursues the opportunity to reveal a far wider network between all types of medical practitioners in the Georgian period than has previously been generally recognised.

To appreciate the rarity and significance of the Hey archive this chapter will briefly review some relevant published and unpublished primary sources and consider how this material presents opportunities to form a sounder perception of eighteenth-century provincial medical practice. This will be followed by a short survey of the, somewhat limited, relevant secondary material which will reveal how Hey's manuscripts provide important new evidence of the actual day-to-day working practices of a Georgian medical practitioner. The chapter will conclude with the provenance and a description of the Casebooks.

In Chapter 2 this thesis will chart Hey's childhood parental influences, his schooldays, apothecary apprenticeship, London medical training and the development of his Christian faith. The way that his training progressed and his skills were acquired from the significant practitioners and teachers involved will be fully explored. Although concentrating on Hey, this chapter also serves to demonstrate how a fledging provincial surgeon came to rise from the rank and file of the peripheral medical crafts, in Hey's case from drysalting and previous generations of apothecaries. Because Hey spent his whole professional life in the provincial town of Leeds, this thesis has the opportunity to chart a provincial medical career from the outset, through success and adversity until death, and thereby provide a concrete local context.

Chapter 3 will consider Hey's career on the medical stage of Leeds, including his role in the inception of Leeds General Infirmary. Biographical detail on the change in Hey's theological convictions and his rising status as a citizen of Leeds, together with pertinent detail of friends and family, will be included in the chronological flow of this chapter, which

charts his rise to professional success and civic status, and identifies the key features of those processes. Hey became typical of many medical men whose success also registered in their bank balances, property accumulation and philosophical activities. The chapter will conclude with a consideration of Hey at the end of his career and life when enormous crowds gathered to pay their respects, and editors in London and elsewhere extolled him far beyond the requirements of convention.

The second part of this thesis will concentrate on Hey's working practices, but because of the quantity of material available selection is necessary. Hey's enduring reputation is only that of a skilful surgeon, and Chapter 4 offers a selective account of some of the key issues in Hey's medical, surgical and anatomical work. I have selected one Casebook, Book 6, to give a general review of the eclectic nature of provincial practice, as well as a concentrated focus upon Hey's working life over three years from May 1774 to the summer of 1777. Many interesting ailments and conditions are found in this Casebook, and it provides an overview of Hey's versatility. I shall briefly discuss some of his Infirmary admissions and his work in the 1775 nationwide influenza epidemics. In order to demonstrate how patient personality began to be submerged beneath the identification and treatment of an ailment, I shall then discuss case histories of two regularly performed surgical procedures and one highly significant domiciliary surgical case. This chapter will then discuss examples of medical practice in Hey's later years, and continues with discussion of the more general 'Remarks' scattered throughout the Medical and Surgical Casebooks. The chapter then moves on to areas where Hey made specific surgical advances, in particular Hey's treatment of skull lacerations and fractures. Trepanation is the oldest known type of invasive surgery, and was an accomplishment expected of every surgeon-apothecary. Hey's redevelopment of a small saw to facilitate removal of skull bone fragments and to use alternatively in gutter incisions to relieve pus in leg bone caries, was a milestone in surgical history. A further innovative surgical advance undertaken by some provincial surgeons was the extirpation of diseased

female mammae. Hey included several accounts of such cases and this thesis will show how his procedures evolved over a considerable period. It will also consider Hey's healing practices by 'the first and second intention' and his identification of the highly malignant fungating cancer, which he named Fungus Haematodes.

In Chapter 5 some of Hey's more innovative midwifery work will be described including cases from across the whole of his obstetric career. To provide ease of access into this extensive new archive material this chapter will be split into four parts. In Part One I shall briefly discuss Hey's few obstetric publications that belie the clinical complexity of his Casebooks. I shall then discuss the particular form of his midwifery narrative and how his midwifery practice evolved. Comparison will be provided by detail from the manuscripts of another, hitherto unrecognised skilful obstetrician, Dr David MacBride. I shall then draw out the eighty plus sets of patient records that are contained within the Casebooks, and discuss four sets of patient records that stretch in time over the whole of Hey's working life. These records will reveal Hey's anticipation of parturition complications and his reticence at the prospect of coping with them. Part One will close with a case that demonstrates Hey's consultant obstetric status in the later years.

Part Two of Chapter 5 will discuss the problem that faced a man-midwife when the child he had successfully delivered became 'languid'. Neo-natal care was a new focus for the working life of all men-midwives as they attempted to maintain the independent breathing and suckling ability of a neonate. Part Three will discuss the puerperal complication of convulsion, a condition dreaded by eighteenth-century practitioners. This thesis has a singular opportunity, from the score or more cases that Hey recorded, to give a concerted view of how puerperal convulsions were treated in a domiciliary eighteenth-century practice. Previous opportunities to describe the development of treatment practices of this particular obstetric complication have been constrained by the lack of firsthand accounts.

Chapter 5 will conclude with an account of Hey's 'Remarks', his unpublished professional obstetric writings. These 'Remarks', are uniquely valuable because they rest on a long lifetime of accumulated clinical experience. As midwifery observations they bridge the half a century between comparable principles published by Smellie and Denman. They are all the more remarkable because written by a sole provincial practitioner who was not a pure obstetrician; they constitute a document of major significance in obstetric history.

In conclusion I will consider how Hey's Casebooks clearly demonstrate the day-to-day life of a Georgian surgeon-apothecary. By focusing on the working life of one carefully trained practitioner who, despite the harrowing adversities he suffered, continued to extend and perfect his medical knowledge, this thesis will have thrown new light on the clinical sophistication achieved in provincial medical practice, and on our greater understanding of the way medical specialities developed in later Georgian Britain.

### **1.1 Selected Primary Sources for the Study of Surgery to the Later 1770s**

This thesis will focus on primary sources which take three relevant forms of authorship: those who published, those who taught but did not publish, but whose lectures, and in some cases patient records, were recorded by others, and those who dispersed into provincial practice and left manuscript records of their working lives. All three remain for the main part uncharted by historians. This survey of primary sources also serves as a brief introductory history of practitioners relevant to Hey's surgical background, training and practice. The significant personalities involved, and the manifestation and gestation of their ideas of theory and practice, emphasize the struggle between existing doctrines and the implementation of new ideas. Phillip Wilson traced 'ninety surgical treatises written in the English vernacular that were first printed between 1685 and 1745',<sup>10</sup> most of which have lain un-consulted in libraries. 1745, the year the Company of Surgeons was inaugurated, was clearly an institutional watershed in surgical history, but even a cursory review of some of the

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<sup>10</sup> P. K. Wilson, *Surgery, Skin and Syphilis in Daniel Turner's London 1667-1741* (Amsterdam, 1999), p. 1 and Appendix 1.

outstanding earlier publications reveals development in medical knowledge and technique, with gross human anatomy seen as foundational.

William Cheselden's (1688-1752) publications display the quality and level of skill that surgeons and anatomists had achieved in the first part of the eighteenth century.<sup>11</sup> In writing down the substance of his lectures with suitable illustrations,<sup>12</sup> Cheselden became one of the first in a succession of British surgeon-anatomists to promote and elevate the status of the crafts of surgery and anatomy. The visual display alongside the textual instruction highlighted the pre-requisite need for an aspiring surgeon to have absolute familiarity with anatomy. Cheselden offered comparisons to confirm the normal size of viscera, for instance comparing a 'mans kidney to that of a hog', and a urethra to be 'the bigness of a goose quill'.<sup>13</sup> He performed his dissections and operations wearing a silk turban,<sup>14</sup> rather than the unhygienic heavy wigs of the period, his style adopted by later surgeons; a forerunner of surgical attire.<sup>15</sup> His surgical technique in lithotomy operations, where he was able to complete in little over a minute, spared the patient undue shock and pain.<sup>16</sup> Cheselden advocated 'that it was necessary for the intestines to be emptied before a lithotomy to prevent them pressing down upon the bladder',<sup>17</sup> and he went on to describe the appropriate operating position for the patient,<sup>18</sup> following with a series of case histories to demonstrate his procedures.<sup>19</sup> Cheselden's *Osteographia*,<sup>20</sup> a large illustrated book, depicted 'every bone in the human body being here delineated as large as the life',<sup>21</sup> with some bones in section.

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<sup>11</sup> W. Cheselden, *The Anatomy of the Human Body with XXXI Copper Plates* (London: S. Collins, 1722).

<sup>12</sup> *Ibid.*, Table XVII, this engraving like many others of viscera was filled with wax to display the veins and capillary blood vessels, and displays Cheselden's talent as a draftsman.

<sup>13</sup> *Ibid.*, p. 213, this size comparison is a recurrent theme in Hey's casebooks.

<sup>14</sup> The bust of William Cheselden in St. Thomas's Hospital depicts him wearing this turban.

<sup>15</sup> A. Batty Shaw, 'Benjamin Gooch, Eighteenth-Century Norfolk Surgeon', *Medical History* (1972), 16, Portrait of Benjamin Gooch, Fig. 1. p. 46, also portrait of William Smellie by Rymsdyk in 1753, presently in the London Royal College of Physicians.

<sup>16</sup> W. Cheselden, *A Treatise on the High Operation for the Stone* (London: Osborn, 1723), p. 6.

<sup>17</sup> *Ibid.*, p. 6.

<sup>18</sup> *Ibid.*, p. 11.

<sup>19</sup> Cheselden drew contemporary complimentary comment on his lack of fatalities, see James Douglas, *Appendix to the History of the Lateral Operation* (London: N. P., 1731).

<sup>20</sup> W. Cheselden, *Osteographia or Anatomy of the Bones* (London: N. P., 1733).

<sup>21</sup> *Ibid.*, p. 1.

Alexander Monro *Primus* (1697-1767), who attended Cheselden's lectures as a student in 1717,<sup>22</sup> and was appointed an Edinburgh Professor of Anatomy in 1720, also published his lectures. Monro's *Anatomy of the Human Bones*, a textbook on osteology, first published in 1726, went to eight editions before 1767.<sup>23</sup> In its second, 1732 edition, it contained detailed descriptions of the nerves in the human body, motions of the human heart, and lacteal sacs and ducts. Monro's work is still credited with an observationally accurate approach, providing the historian with the best description of the difference between the male and female skeleton published up to 1726. Monro *Primus* is also regarded as a pioneer in his observations of breast carcinoma extirpations, one of the first types of invasive surgery.<sup>24</sup> He prepared a manuscript entitled 'An Anatomical Encheiresis or Manual Part of Anatomy, wrote by A. M., P. A. Edin., for the use of his son D. M. in 1747',<sup>25</sup> which for the historian indicates the considerable level of precision in anatomical procedures seen as attainable in 1747. Monro's eldest son Donald, who completed part of the manuscript including critical annotations of his father's findings, was later encouraged by his father to pursue an independent career as a physician at St. George's Hospital in London, where Hey was to benefit from his teaching. This then formed an actual chain of pedagogy from Cheselden to Monro in the metropolitan capitals and centres of anatomical excellence to Hey in provincial Leeds.

Samuel Sharp (1700-1778), a pupil of Cheselden and surgeon at Guy's Hospital from 1733, until 1757, did not publish lecture notes but his *Treatise on the Operations of Surgery*,

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<sup>22</sup> The Monro Archive held in Otago University, Dunedin, New Zealand. MS/165, pp. 261-3, details eight cases dissected by Monro in London from August 1717 to January 1718, and includes thirteen pages of notes from Cheselden's lectures. For further detail on this archive see D. W. Taylor, *The Monro Collection in the Medical Library of the University of Otago* (Dunedin, 1979), pp. 81-130, and 'The Manuscript Lecture Notes of Alexander Monro Primus (1697-1767)', *Medical History* (1986), 30, pp. 444-467.

<sup>23</sup> A. Monro, *The Anatomy of the Human Bones to which are added an Anatomical Treatise of the Nerves: An Account of the Reciprocal Motions of the Heart, and A Description of the Humane Lacteal Sack and Duct* (Edinburgh: T. & W. Ruddiman, 1732).

<sup>24</sup> R. E. Wright St. Clair, *Doctors Monro: A Medical Saga* (London, 1964), p. 45 & note 27, Monro recorded that the disease returned in forty-six out of the fifty cases he had operated on, but not necessarily in the same part of the body.

<sup>25</sup> Monro Archive, Dunedin, manuscript 169, pp. 1-252, I am grateful to D. W. Taylor, Otago Medical School, for his personal transcript of this manuscript.



including his redesign and use of some surgical instruments, went to ten editions, the last in 1782. It was translated into four European languages, revealing that English surgical practices were well regarded in Europe.<sup>26</sup> Sharp's later 1754 *Critical Enquiry into the Present State of Surgery* included accounts of the French contemporary practice of surgery,<sup>27</sup> and was still in use by provincial surgeons fifteen years later,<sup>28</sup> as well as used as a teaching text by Monro *Secundus*.<sup>29</sup> Sharp was a link in the chain of surgeons who brought their actual working practice, rather than principles, into publications, and his apprentice Joseph Warner (1717-1801) carried forward this approach. Warner's contribution to the body of surgical literature reflected the problems that faced the surgeons of the period, particularly the inability to staunch blood flow after 'capital' operations.<sup>30</sup> This is possibly the first use of the word 'Capital'<sup>31</sup> to describe a deliberate surgical procedure, rather than a constructive repair or amputation, and indicates the increase in deliberate surgery at this time. Again this type of publication, in its third edition only eleven years later, was used by provincial surgeons.<sup>32</sup>

The work of Percival Pott (1714-1788), who was trained by Edward Nourse at St. Bartholomew's,<sup>33</sup> had influence particularly on pupils, such as Hey, who attended his surgical demonstrations. Unfortunately Pott's pupil register and lecture notes have not survived. The training of Benjamin Gooch (1708-1776), the provincial Norfolk surgeon-apothecary and friend of Warner, is unknown, but because he sent the manuscript of his first book to Sir John Pringle for his opinion before publication in 1758 it could have been in

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<sup>26</sup> S. Sharp, *A Treatise on the Operations of Surgery with a Description and Representation on the Instruments Used in Performing them to Which is Prefixed an Introduction on the Nature and Treatment of Wounds, Abscesses and Ulcers* (London: J. & R. Tonson, 1758).

<sup>27</sup> S. Sharp, *A Critical Enquiry into the Present State of Surgery* 2<sup>nd</sup> ed. (London: J. & R. Tonson, 1761).

<sup>28</sup> MS/628, Book 3, Case 25, dated 22 June 1769.

<sup>29</sup> A. Monro II, 'Lectures in Surgery', taken by Alexander Gordon circa 1760, Special Libraries and Archives, Kings College, Aberdeen, ref. MS/636, pp.234-241, and p. 306.

<sup>30</sup> J. Warner, *Cases in Surgery, with Introductions, Operations and Remarks to which is Added, an Account of the Preparation and Effects of the Agaric of the Oak in Stopping of Bleedings after some of the Most Capital Operations* (London: J. & R. Tonson, 1754).

<sup>31</sup> OED cites Gooch 1773 as the first use of the word 'capital' but Warner predates him by seventeen years.

<sup>32</sup> MS/628, Book 2, Case 14, dated 10 May 1765.

<sup>33</sup> P. Pott, *A Treatise on the Hydrocele or Watery Rupture, and Other Diseases of the Testicle Its Coats and Vessels Illustrated with Cases* (London: L. Hawes & Co, 1767), and *Observations on that Disorder of the Corner of the Eye Commonly Called Fistula Lachrymalis*, 2<sup>nd</sup> ed. (London: L Hawes & Co, 1763).

London. Gooch's *Cases and Practical Remarks in Surgery* was remarkable because he was a provincial surgeon-apothecary, with no access to an Infirmary at the time of publication, and moreover he indicated that it was written for the benefit of his pupils.<sup>34</sup> Thus despite the lack of institutional facilities, Gooch was attracting surgical pupils and was involved in adventurous surgery. His publication proved both useful and popular from the outset,<sup>35</sup> and a second edition in 1766 was followed in 1773 by a much-extended three-volume edition.<sup>36</sup> Apart from his surgical procedures Gooch provides the historian with some contextual knowledge of provincial dissections; in his section 'The Method of Opening a Dead Body' Gooch wrote 'Dexterity and neatness in the performance of it are of consequence to the surgeon, as the eyes of spectators are upon him making their remarks'.<sup>37</sup>

Dr. Thomas Kirkland (1722-1798) was a similar practitioner from whose publications historians can evaluate how provincial surgical and midwifery practice was developing. Kirkland, unlike Gooch, was never attached to an Infirmary, remaining a provincial practitioner, and his training experiences, apart from being a pupil of Smellie,<sup>38</sup> are unknown. Kirkland's published works have lain unexplored by most present-day historians, yet, like Gooch, he was an influential Georgian medical writer,<sup>39</sup> publishing a series of eleven medical and surgical books from 1754 to 1792. His *Treatise on Gangrene*<sup>40</sup> and *Methods On Suppressing a Haemorrhage from a Divided Artery*<sup>41</sup> indicated that he was involved in developing surgical procedures. Kirkland also developed a substantial midwifery practice.<sup>42</sup>

<sup>34</sup> B. Gooch, *Cases and Practical Remarks in Surgery* (London: N.P., 1758).

<sup>35</sup> MS/628, Book 1, Case 4, dated 1 March 1763.

<sup>36</sup> A. Monro II, 'Lectures in Surgery', above cited, p. 252, p. 306, p. 356 and p. 442. The extensive reference to Gooch as a teaching text, reveal the extent of his influence.

<sup>37</sup> *Ibid.*, vol. 1, p. 451.

<sup>38</sup> A. Crane, *The Kirkland Papers 1757-1869: The Ferrers and the Lives and Times of a Medical Family in Ashby-de-la-Zouch* (Ashby, 1990), p. 51, illustration p. 112 also depicts Kirkland wearing a turban.

<sup>39</sup> MS/628, Book 4, Case 30, dated summer 1773; Hey cites here Caesar Hawkins, Thomas Kirkland and Charles White.

<sup>40</sup> T. Kirkland, *A Treatise on Gangrene* (Nottingham: N.P., 1754). Kirkland was awarded an M.D. by St. Andrew's University on 27 December 1769 on the testimonial of Dr. Erasmus Darwin of Lichfield and Dr. John Davison of Nottingham.

<sup>41</sup> T. Kirkland, *An Essay on the Methods of Suppressing Haemorrhages from Divided Arteries* (London: R. & J. Dodsley, 1763). The diary of Kirkland's son, T. J. Kirkland (1760-1824), is held in Leicester City Archives, Ref. DE3182/1, but is informative only on family.

<sup>42</sup> T. Kirkland, *A Treatise on Childbed Fevers and the Methods of preventing them* (London: N. P., 1774).

The works of Charles White (1728-1813) offer the historian some insight into the behaviour of a provincial institutional surgeon and domiciliary man-midwife because his name crops up frequently in both specialties. White first published in 1760,<sup>43</sup> and a decade later published his *Cases in Surgery* that included patients treated from 1760.<sup>44</sup> White referred not only to Warner and Gooch but also to Monro, a further indication of the linkage of practitioners.<sup>45</sup> It was however White's *Treatise on the Management of Lying-In Women* that attracted most acclaim, and remained a standard work until its fifth edition in 1791.<sup>46</sup> A remark White made in this publication, 'by the frequent dissections of pregnant women', reveals that midwifery training also involved anatomical technique.<sup>47</sup>

Two medical practitioners who provide the historian with opportunity to evaluate how European surgery and anatomy influenced British practitioners are the German surgeon Lornez Heister (1683-1758), and the Italian anatomist Giovanni Battista Morgagni (1682-1771). Heister's *General System of Surgery* became arguably the first most successful manual of surgical procedures with a comprehensive table of contents.<sup>48</sup> It is unclear whether Heister had actually performed all the hundreds of operations included, most of which were outside the normal scope of surgical practice.<sup>49</sup> Morgagni's *Seats and Causes of Diseases*, based primarily on comparison of individual case histories, extended anatomically based pathology with greater sophistication and subtlety, yet historians display a strange disparity in the amount of attention they have given to Morgagni's correlation of symptoms with accurate

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<sup>43</sup> C. White, 'An Account of a Remarkable Operation on a Broken Arm', *Philosophical Transaction* (1760), Vol. LI, p. 657.

<sup>44</sup> C. White, *Cases in Surgery* (London: W. Johnston, 1770), p. 4 & p. 13.

<sup>45</sup> *Ibid.*, p. 43.

<sup>46</sup> C. White, *A Treatise on the Management of Pregnant and Lying-in Women*, p. 98, White refers to Kirkland's and Denman's publications.

<sup>47</sup> *Ibid.*, Case 1, dated 14 January 1761.

<sup>48</sup> L. Heister, *A General System of Surgery Containing the Doctrine and Management, I. Of Wounds, Fractures, Luxations, Tumors, and Ulcers of all Kinds. II. Of the Several Operation Performed on all Parts of the Body. III. Of the Several Bandages Applied in All Operations and Disorders. The Whole Illustrated with Forty Copper Plates, Exhibiting all the Operations, Instruments, Bandages and Improvements, According to the Modern and Most Approved Practice* (London: W. Innes and J. Richardson & Co, 1757).

<sup>49</sup> *Ibid.*, Part II, Chapter CXIII, 'On the Caesarean Section', pp. 74-85, is cited by Colin MacKenzie, 'Lecture Notes on the Theory and Practice of Midwifery taken by Catper Day 1762', Royal College of Physicians, London, MS/693, Lecture 22, 'On the Treatment of Lying-In Women During the Month, before we enter this subject Dr. MacKenzie mentioned the caesarean operation, everything relating to it may be found in Heister's Surgery'.

post-mortem findings. His methodical analysis and classification of symptoms set new guidelines, for hitherto case histories had been studied in isolation. Morgagni's work was not translated into English until 1769,<sup>50</sup> although evidence from Hey's Casebooks shows that despite the not insignificant cost of acquiring a continental three-volume work, it was used in English provincial practice.<sup>51</sup>

Cheselden was one of the first surgeon-anatomists to be attached to the new St. George's Hospital that was founded in 1733, followed by the appointment of Sir Caesar Hawkins (1711-1786) in 1735. Hawkins was one of the century's most influential surgeons, and remained at St. George's for forty years but did not publish. Although no archive material can be traced, historians can find evidence of his expertise as a surgeon in the publications of others.<sup>52</sup> This thesis will also draw upon two surgeons who were appointed to St. George's Hospital, William Bromfeild (1712-1798) in 1744, and John Hunter (1728-1793), who was first appointed in 1756. Bromfeild did not publish until 1773,<sup>53</sup> and no archive sources survive. Some primary source material on Bromfeild's post mortems remain within the casebooks of John Hunter,<sup>54</sup> but have as yet drawn no attention.<sup>55</sup> Historians have studied the life of John Hunter and considered his influence and surgical expertise, but 'few authors have quoted from Hunter's case notes'.<sup>56</sup> Indeed the further comment made on John Hunter's work, 'that there are so few records of operative surgery...the majority of the

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<sup>50</sup> G. B. Morgagni, *The Seats and Caused of Diseases Investigated by Anatomy in Five Books, containing a great variety of Dissections with Remarks, to Which are Added Very Accurate and Copious Indexes of the Principal Things and Names Therein Contained Translated from the Latin by Benjamin Alexander, M. D. in Three Volumes* (London: A. Millar and T. Cadell, 1769).

<sup>51</sup> MS/628, Book 1, Case 2, dated 9 March 1764.

<sup>52</sup> T. Gould & D. Uttley, *A Short History of St. George's Hospital and the Origins of its Ward Names* (London, 1997), pp. 84-90; G. C. Peachey, *A Memoir of William and John Hunter* (Plymouth, 1924), Chapter 1, and W. Hey, MS/628, Book 1, Case 12, p. 35 dated January 1764.

<sup>53</sup> W. Bromfeild, *Chirurgical Observations and Cases* (London: T. Cadell, 1773).

<sup>54</sup> J. Dobson, *William Clift* (London, 1954), p. 59. The five surviving volumes of Hunter's Case Histories represent only a fraction of the whole because his son in law, Sir Everard Home, plagiarised and burnt many of Hunter's manuscripts and papers, and never gave a satisfactory account of his actions. What does survive is due to the foresight of Hunter's employee William Clift (1775-1846), who had previously copied out a considerable number of them.

<sup>55</sup> E. Allen, J. L. Turk and Sir R. Murley, eds, *The Casebooks of John Hunter FRS* (London, 1993), p. 3, p. 6, p. 49, p. 83, p. 127, p. 241, p. 282, p. 307, p. 336, p. 384, p. 440 & p. 449.

<sup>56</sup> *Ibid.*, Prologue written by E. Allen and G. Qvist, curator, Hunterian Museum p. XXII.

records describe [merely] the morbid changes after death',<sup>57</sup> renders the opportunity to study descriptions of surgical procedures, post operative care and subsequent post mortems together with remarks and comments by Hey, who was specifically taught such procedures by Hunter and Bromfeild, all the more valuable.

Medical publications from this time increasingly contained observation on case histories, including dissections. Possibly in the continuing quest for the correct diagnosis of an ailment, every opportunity began to be taken to dissect a cadaver, and write up the findings for future reference. Moreover, provincial practitioners subscribed to journals dedicated to publishing curious and instructive case histories, for example *Medical Transactions*, founded in 1767 by the physician Dr. William Heberden,<sup>58</sup> and *Medical Observations and Inquiries*, founded by William Hunter in 1764.<sup>59</sup> These provide an invaluable source for the historian because they became a forum for debate within medical circles and enabled practitioners to publish interesting and instructive cases, such as caesarean sections.<sup>60</sup>

### 1.1.2 Selected Primary Midwifery Sources to the Middle of the Eighteenth Century

The work of Cheselden and Monro *Primus*<sup>61</sup> demonstrates the close connection between obstetric, surgical and anatomical publications, but specific midwifery publications up to the middle decades of the eighteenth century were just as prolific,<sup>62</sup> and included some female

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<sup>57</sup> Ibid., p. XXII.

<sup>58</sup> Vol. I of *Medical Transactions* contained only articles by physicians who were fellows of the Royal Society, but by Vol. III articles by surgeon-apothecaries were included, such as John Power, surgeon at Polesworth 'Of the Uses of Cataplasms in Mortifications', pp. 47-53.

<sup>59</sup> The Hunterian Collection in Glasgow University contains letter to Mr. Underwood from William Hey of Leeds 9 September 1766, ref. H.73, letter to William Hunter from William Hey dated Leeds 19 May 1767, ref. H.74, letter to William Hunter from William Hey dated Leeds 7 November 1770, ref. H 84, letter from James Lucas in Leeds to William Hunter dated 1 July 1773, ref. Letter 295, and letter from Joseph Priestley to William Hunter dated 19 March 1775, letter 328.

<sup>60</sup> W. Cooper, 'A Case of the Caesarean Section', *Medical Observations and Inquiries* (1769), pp. 261-271, H. Thomson, 'An Account of Performing the Caesarean Operation' (1770), pp. 272-288 and W. Cooper, 'An Account of the Caesarean Operation' (1774), pp. 217-233.

<sup>61</sup> W. Cheselden, *The Anatomy of the Human Body*, 'Of the Foetus in Utero', pp. 228-238, and A. Monro 'An Essay on the Nutrition of Foetuses', *Medical Essays and Observations* (1734), 2, pp. 121-245.

<sup>62</sup> For a survey of the number of primary sources see A. F. Wilson, *The Making of Man-Midwifery: Childbirth in England 1660-1770* (London, 1995), pp. 211-216.

authors.<sup>63</sup> A mischievous anonymous treatise purporting to represent the unborn, recognized at the time of publication as written by the anatomist Dr. Frank Nicholls, highlighted the emerging ethical questions on the rights of the unborn, and revealed new issues facing midwifery practitioners, that of the care and nurture of neonates.<sup>64</sup> Nicholls stirred the debate on the role of men-midwives by charging the College of Physicians with failing to regulate fraudulent practices by men-midwives, provoking the College to respond that the practice of midwifery 'did not come under the cognisance of the board'.<sup>65</sup>

The French men-midwives Francois Mauriceau<sup>66</sup> and Guillaume M. La Motte,<sup>67</sup> and the two English men-midwives, William Giffard,<sup>68</sup> and Edmund Chapman<sup>69</sup> included case histories in their publications with comments upon how to deal with complications. The Dutch man-midwife Hendrik van Deventer<sup>70</sup> probably owed part of his success to his wife who was an accomplished midwife. The works of these five men reveal the level of midwifery skill attained in the early part of the century. Midwifery began to be taught as a clinical science in the work of William Smellie (1697-1763), a Lanarkshire apothecary-surgeon, and friend of Monro *Primus* who came to London in 1739.<sup>71</sup> The benefit that emanated from Smellie's principles and teaching practices was a watershed in obstetric history. Smellie's writings were revised at his request, during his lifetime by the medical

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<sup>63</sup> S. Stone, *A Complete Practice of Midwifery* (London: T. Cooper, 1737). For comment see I. Grundy 'Sarah Stone an Enlightenment Midwife', in R. Porter, ed., *Medicine in the Enlightenment* (Amsterdam, 1994), pp. 128-144.

<sup>64</sup> Anon., *The Petition of the Unborn Babes to the Censors of the Royal College of Physicians of London* (London: M. Cooper, 1751)

<sup>65</sup> *Annals of the London College of Physicians*, October 1751, pp. 121-122.

<sup>66</sup> F. Mauriceau, *The Diseases of Women With Child and in Childbed*, trans. Hugh Chamberlen, 2ed. (London: J. Darby, 1683)

<sup>67</sup> G. M. La Motte, *A General Treatise of Midwifery: Illustrated with Upwards of 400 Curious Observations and Reflections Concerning That Art*, trans. by Thomas Tomkyns (London: J. Waugh, 1746).

<sup>68</sup> W. Giffard, *Cases in Midwifery Revised and Edited by Edward Hody* (London: B. Motte & Co., 1734).

<sup>69</sup> E. Chapman, *An Essay on the Improvement of Midwifery, Chiefly with Regard to the Operation* (London: J. Brindley & Co., 1735).

<sup>70</sup> H. van Deventer, *The Art of Midwifery Improved Fully and Plainly Laying Down Whatever Instructions are Required to Make a Compleat Midwife, and the Many Errors in all the Books Hitherto Written Upon this Subject Clearly Refuted* (London: A. Bettesworth, 1716).

<sup>71</sup> A. H. McClintock, *Smellie's Treatise on the Theory and Practice of Midwifery Edited With Annotations* (London: The New Sydenham Society, 1876) vol. I., p. 4.

practitioner and novelist, Dr. Tobias Smollett (1721-1771).<sup>72</sup> Smollett separated Smellie's clinical discussion from the case histories, which he then classified into type. Two years later William Hunter (1718-1783) a fellow Lanarkshire man, and pupil of Monro *Primus* came to live with Smellie in London. Smellie and Hunter made arguably the greatest contribution to midwifery publications by their accurate, realistic, life size, and beautiful images of an unborn human child, surpassing anything previously published. The engraver Jan van Rymsdyk prepared most of the engravings,<sup>73</sup> and for a similar publication by Charles Jenty.<sup>74</sup> Jenty, an elusive character, has always remained in the shadow of both Smellie and Hunter, and Rymsdyk has been given sparse recognition apart from one short biographical study by J. L. Thornton.<sup>75</sup> The historian Ludmilla Jordanova has argued that these publications were beyond the reach of ordinary medical practitioners,<sup>76</sup> a comment which fails to recognize that prior to publication the engravings were used for teaching purposes.<sup>77</sup>

Manuscripts relating to lectures on the theory and practice of midwifery, such as those of Dr. Colin MacKenzie, one of Smellie's senior pupils,<sup>78</sup> who focused his teaching solely on obstetrics, have as yet received no attention from historians.<sup>79</sup> The extensive obstetric archives of Dr. David Orme (1727-1812) and Dr. William Lowder (d. 1801) have likewise received scant, if any, recognition.<sup>80</sup> MacKenzie, like Smellie never held a hospital

<sup>72</sup> Smollett's Archive does not survive apart from 106 letters, for detail see McClintock, *Smellie's Treatise*, Vol. I, p.10, & Vol. II, p. 7, Case 2

<sup>73</sup> W. Smellie, *A Set of Anatomical Tables With Explanations and an Abridgement of the Practice of Midwifery with a View to Illustrate a Treatise on That Subject* (London: N. P., 1754), and W. Hunter, *An Anatomical Description of the Human Gravid Uterus and its Contents* (London: J. Johnson, 1774).

<sup>74</sup> C. N. Jenty, *Demonstrations of a Pregnant Uterus* (London: N. P., 1757).

<sup>75</sup> J. L. Thornton, *Jan van Rymsdyk, Medical Artist of the Eighteenth Century* (Cambridge, 1982).

<sup>76</sup> L. Jordanova, *Sexual Visions: Images of Gender in Science and Medicine Between the Eighteenth and Twentieth Centuries* (London, 1989), p. 137.

<sup>77</sup> Thornton, *Jan van Rymsdyk* p. 58 quoted a letter from John Fothergill M.D. (1712-1780) to James Pemberton of Philadelphia dated 7 April 1762 regarding sending eighteen drawings, sixteen by Rymsdyk to William Shippen M.D. at Pennsylvania Hospital for teaching purposes.

<sup>78</sup> C. MacKenzie, 'Lectures on the Theory and Practice of Midwifery', taken in 1762 by Catper Day, The Royal College of Physicians, MS/693, and 'Lectures on the Theory and Practice of Midwifery', taken in 1770 by an anonymous student, Wellcome Institute, M/WM3392

<sup>79</sup> This comment is exemplified to the extent that MacKenzie, the man who established the true anatomy of a human placenta has not rated an entry in the New D. N. B.

<sup>80</sup> D. Orme and W. Lowder, 'Lectures in Midwifery' taken by H. G. Clough, dated 1780, Royal Society of Medicine, MSS 231 and 'Abstracts of Lectures on the Theory and Practice of Midwifery taken in 1776 by Parnell, Royal Society of Medicine MSS 212.

appointment, nor did he publish. This thesis will seek to remove him from the footnotes of midwifery history by examining his teaching technique and taking account of comments made about him in the diary of one of his pupils Dr. William Shippen,<sup>81</sup> in the publications of another pupil, William Perfect (1737-1809),<sup>82</sup> and in the later publication of William Wadd (1776-1829),<sup>83</sup> and, above all in the Casebooks of his pupil William Hey.

Dr. John Harvie,<sup>84</sup> Smellie's successor, who was the first midwifery practitioner to write about a specific obstetric complication, *Preservation of the Perineum*, began a more scientific discernment of parturition in midwifery publications.<sup>85</sup> Charles White's innovative practices with regard to the lying-in room carried forward this approach, although such practices were in provincial use more than a decade prior to his publication.<sup>86</sup> The work of another Scot and man-midwife, who worked in the London area, Robert Wallace Johnson,<sup>87</sup> based on practical observations extended the innovations of Harvie. Johnson, who like Orme redesigned Smellie's forceps, was part of the London surgical scene and referred to dissections done by Hawkins in 1750. He also referred to caesarean section, which he termed 'hysterotomy',<sup>88</sup> yet the value of his contribution has to date gone sparsely recognised.

The Irish physician and naval surgeon, Dr. David MacBride whilst well known for his work on the prevention of scurvy and putrid, or gaol fever,<sup>89</sup> is not so for his private midwifery work in Dublin. However, this thesis will take the opportunity to compare his

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<sup>81</sup> B. C. Corner, *William Shippen Jr. Pioneer in American Medical Education, A Biographical Essay with Notes, and the Original Text of Shippen's Student Diary, London, 1759-1760, Together with his Edinburgh Dissertation, 1761* (Philadelphia, 1951).

<sup>82</sup> W. Perfect, *Cases in Midwifery: with References, Quotations and Remarks* (Rochester: T. Fisher, 1762).

<sup>83</sup> W. Wadd, *A Biographical Miscellany, Illustrative of a Collection of Professional Portraits* (London: J. Nichols, 1824).

<sup>84</sup> J. Harvie, *Practical Directions, Shewing a Method of Preserving the Perineum in Birth and Delivering the Placenta Without Violence* (London: D. Wilson and G. Nicol, 1767).

<sup>85</sup> E. Shorter, 'The Management of Normal Deliveries and The Generation of William Hunter', W. F. Bynum and R. Porter, eds., *William Hunter and the Eighteenth-Century Medical World* (Cambridge, 1985). Shorter is the only scholar to have considered Harvie's significant contribution.

<sup>86</sup> C. White, *An Appendix to the Second Edition of Mr. White's Treatise on the Management of Pregnant and Lying-In Women* (London: E. & C. Dilly, 1773). MS/567, Book 2, Case 89, dated April 1764 and see also The Casebook of Richard Paxton, Malden, Essex, p. 67 dated 11 March 1766, Wellcome Library ref. MS/3820.

<sup>87</sup> R. W. Johnson, *A New System of Midwifery Founded on Practical Observations* (London: D. Wilson and G. Nicol, 1769)

<sup>88</sup> *Ibid.*, p. 303.

<sup>89</sup> D. MacBride, *Experimental Essays on the Fermentation of Alimentary Mixtures* (London: A Millar, 1764).



midwifery case histories of domiciliary deliveries<sup>90</sup> to those of Hey. MacBride was the first to identify a haematoma of the labia in parturient women,<sup>91</sup> yet his midwifery work has drawn scant attention from recent historians.<sup>92</sup>

The vast complement of men-midwives, more often than not, worked alone in domiciliary surroundings, dealing with life-threatening complications, closely watched by acutely involved onlookers, a totally different situation to surgical and dissection procedures that were undertaken in a calculated, organized, often institutionalised form. It probably supported their confidence to have some sort of textbook to turn to. The midwifery publications of Johnson, Harvie and White, along with the later ones of Prof. Alexander Hamilton (1739-1802) provided this type of support.<sup>93</sup> Matthew Flinders (1750-1802), a Lincolnshire man-midwife, bought 'Hamilton's *Midwifery* at five shillings...the inducement to purchase [he wrote] was the character given of it in the *Critical Review* and my having no one publication on midwifery'.<sup>94</sup> This applied also to surgery as evidenced in the comment by James Lucas (1744-1814), the Leeds surgeon and man-midwife, that 'an alphabetical list of different writers on the subject...will likewise be very useful'.<sup>95</sup>

Dr. Thomas Denman (1733-1815), a surgical pupil at St. Georges in 1753 and a pupil of Smellie, later became entirely involved with midwifery. Denman did naval service, like Smellie<sup>96</sup> and MacKenzie, before he began to practice midwifery in 1769. He provides the historian with probably the greatest opportunity to understand how eighteenth-century

<sup>90</sup> D. MacBride, 'Journal of My Practice of Midwifery', National Archives of Ireland, Dublin, vol., Misc-Medica, 1749-1760, Bundle 13.

<sup>91</sup> D. MacBride, 'An Account of Two Extraordinary cases after delivery', *Medical Observations and Inquiries*, (1776), vol. 5, pp. 89-93.

<sup>92</sup> K. J. Carpenter, 'Memoir of Dr MacBride', *Dublin Quarterly Journal of Medical Science*, (1847), vol. 3, pp. 281-90

<sup>93</sup> A. Hamilton, *Elements of the Practice of Midwifery* (London: J. Murray, 1775). Hamilton took over from Thomas Young in 1783 as Professor of Midwifery in Edinburgh, charging three and a half guineas a session, Hamilton's Midwifery Pupil Register 1781-1802, Royal College of Physicians, Edinburgh, No. 3.

<sup>94</sup> Matthew Flinders, Diary No. 2, entry January 1785, Lincoln Record Office

<sup>95</sup> J. Lucas, 'Practical Observations on Amputation', *London Medical Journal* (1786), 3, pp. 236-237.

<sup>96</sup> J. R. Butters, 'The Education, Naval Surgeon and Early Career of William Smellie', *Bulletin of the History of Medicine* (1986), 60, p. 11ff

midwifery developed from the middle of the century onwards. <sup>97</sup> Denman condemned <sup>98</sup> the work of Edward Rigby of Norwich (1747-1821), <sup>99</sup> on how to recognise a placenta praevia and although Rigby referred to MacKenzie, Hunter and White in his publication, he did not mention Denman. Rigby's work was a further obstetric milestone, as was the work of James Lucas, who was credited with the first observations on antenatal care. <sup>100</sup>

Concerted studies of the interaction of these mid to late eighteenth-century men-midwives and surgeons need not be constrained by the supposed lack of archive material, nor by the misapprehension that they worked in isolation, because the evidence is clearly to be found in their publications and archives. <sup>101</sup> Historians have hitherto neglected to explore the direct experiences of surgeons and men-midwives and how they interacted and influenced each other. This imbalance has led to an incomplete understanding of eighteenth-century surgical procedures and the treatment of parturient women. Historians have also paid little attention to how Georgian women actually responded to the attentions of a man-midwife, an omission that this thesis has some opportunity to redress. Laurence Sterne (1713-1768), in his novel *Tristram Shandy*, lampooned the York man-midwife Richard Burton's treatment of his wife in the character Dr. Slop. <sup>102</sup> The popularity of this type of novel registered the concern of the general public with midwifery matters, and the significance of the women of the period as a medical commodity. This thesis will consider diaries of women writing at the same time as Hey, Faith Gray, a patient and relation of Hey, <sup>103</sup> Elizabeth Hall, the wife of a Leeds

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<sup>97</sup> T. Denman, *An Introduction to the Practice of Midwifery* (London: J. Johnson, 1794), see also lecture notes dated 1776-1778, Wellcome Library MSS2098/99.

<sup>98</sup> *Norwich Mercury*, Obituary of E. Rigby dated 3 November 1821.

<sup>99</sup> E. Rigby, *An Essay on the Uterine Haemorrhage, which Precedes the Delivery of the Full Grown Foetus: Illustrated with Cases* (London: J. Joseph, 1776).

<sup>100</sup> J. Lucas, *A Candid Enquiry into the Education, Qualification and Offices of a Surgeon-Apothecary* (Bath: Hazard, 1800); *On the Duties of a Medical Practitioner* (Ripon: W. Farrer, 1808) and 'Hints on the Management of Women in Certain Cases of Pregnancy', *Medical Society of London* (1788), article xxxvi, pp. 406-417.

<sup>101</sup> William Hunter, *Obstetrical Lectures*, January 1765, incorporating earlier notes of Smellie and references to Orme, Manningham, Hervey [Harvie] and Denman, Royal College of Physicians Edinburgh No., 4,

<sup>102</sup> L. Sterne, *The Life and Opinions of Tristram Shandy, Gentleman* (Oxford, 1983).

<sup>103</sup> The Diary of Faith Gray, York City Archives, The Gray Papers, ref. D. 1a.

merchant from 1765 to 1804,<sup>104</sup> and the diary of Lady Mary York, also a patient, to seek out behaviour of women patients.

It is significant to note that apart from John and William Hunter and William Smellie, not one of the practitioners mentioned above has been the subject of extensive consideration. Their distinction and invaluable contribution to the accumulation of medical knowledge was achieved by hard work aided by courage, sharp intelligence, and a resilient and inventive nature, yet their publications and archives have lain in libraries for the main part undisturbed.

## 1.2 Selected Secondary Sources for the Study of Surgery and Midwifery

Despite a proliferation of medical history articles, edited books and the dedicated study of midwifery, there is a paucity of work on the manuscripts of surgeon-apothecaries and men-midwives. Loudon has commented that 'by the end of the eighteenth century the anatomy of the gravid uterus was understood, so too was the mechanism of normal labour... the nature of management of major complications such as placenta praevia and post partum haemorrhage [and] the contagiousness of puerperal fever had been demonstrated [and] the works of Smellie and Denman were of astonishing maturity', yet the understanding of eighteenth-century day-to-day working midwifery practice remains insufficiently substantiated. Using examples from the notebooks of several provincial practitioners Loudon considered peripheral issues only, such as the dynastic aspects in the Carrs,<sup>105</sup> a Leeds family of apothecaries.<sup>106</sup> In his discussion of Matthew Flinders, Loudon did not comment on Flinders' set of midwifery casebooks.<sup>107</sup> However Loudon's short comments on Richard Paxton do go some way to revealing the skill a man-midwife needed to extract an impacted foetus,<sup>108</sup> while his work on maternal death, and on the rise of the general practitioner,

<sup>104</sup> S. Brooke, *Some Notes of the Hall Family of Stumperlow and Leeds* (Leeds, 1953).

<sup>105</sup> The Notebooks of William Carr, Wellcome Library, MSS/5203-7

<sup>106</sup> I. Loudon, *Medical Care and the General Practitioner 1750-1850* (Oxford, 1986), pp. 325-7.

<sup>107</sup> Matthew Flinders, diary entry dated January 1776, and 19 July 1777. These midwifery books have not survived.

<sup>108</sup> Loudon, *Medical Care*, p. 95 quoting The Casebook of Richard Paxton, 1755-1799, Wellcome, MS/3820.

crosses the divide between midwifery and surgical practice.<sup>109</sup> Loudon emphasised the agony of pre- anaesthetic procedures,<sup>110</sup> and drew attention to prolonged chronic inflammations, fevers and ulcers. He noted that surviving financial records were dubiously reliable,<sup>111</sup> because remuneration from surgery, by its irregularity and charitable institutional involvement, could not always provide an adequate living.<sup>112</sup>

The many publications that have investigated infirmaries have been more concerned with the political and philanthropic ideals and activities that brought them about and kept them going,<sup>113</sup> than with surgical procedures that actually took place inside them.<sup>114</sup> Anne Borsay has commented that 'the medical records generated by voluntary hospitals have traditionally been used to produce hagiographic institutional histories'.<sup>115</sup> Adrian Wilson's work on provincial hospitals, however limited, serves to illustrate this point, insofar as in the twenty-eight infirmaries he commented on he made no mention of surgical procedures.<sup>116</sup> However worthy and dedicated the philanthropic ideals of infirmary subscribers, it was the medical practitioners who were the most charitable participants, in that they freely gave of the expertise stemming from their expensive training, as well as regular subscriptions. Even a cursory glance at the extent of eighteenth-century surgical literature would reveal innovative procedures, and substantial involvement with the institutions within which the surgeons worked. Furthermore, historians, when they look at treatment, have put more emphasis on the spiritual and dietary care the patients received than on the surgical procedures they

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<sup>109</sup> I. Loudon, *Childbed Fever: A Documentary History* (London, 1995), *The Tragedy of Childbed Fever* (Oxford, 2000) and *Death In Childbirth: An International Study of Maternal Care and Maternal Mortality, 1800-1950* (Oxford, 1992).

<sup>110</sup> Loudon, *Medical Care*, p. 73.

<sup>111</sup> *Ibid.*, p. 85.

<sup>112</sup> *Ibid.*, p. 93.

<sup>113</sup> For example see M. R. Fissell, *Patient, Power and the Poor in Eighteenth-Century Bristol* (Cambridge, 1991), and J. Barry and C. Jones, eds., *Medicine and Charity Before the Welfare State* (London, 1991).

<sup>114</sup> For example J. Woodward, *To Do the Sick no Harm: A study of the British Hospital System to 1875* (London, 1974).

<sup>115</sup> A. Borsay, 'Using the Records of an Eighteenth-Century Infirmary', *Archives* (1994), 21, p. 174.

<sup>116</sup> A. F. Wilson, 'Conflict, Consensus and Charity: Politics and the Provincial Voluntary Hospital in the Eighteenth Century', *English Historical Review* (1996), pp. 599-619.

endured.<sup>117</sup> A patient's relation with his or her surgeon, or shared anguish in a postoperative state remains conspicuously absent. Surgical procedures interestingly were not normally part of hospital records.<sup>118</sup> Stephen Anning's work on a Leeds General Infirmary casebook covering the years 1781 to 1784 that he suggested had been compiled by the Infirmary Apothecary, James Peacock,<sup>119</sup> contained a few surgical case histories, but this is a rare example. Some articles have addressed this dearth of evidence. In particular G. B. Risse and J. Harley Warner comment that 'the past decade has witnessed growing interest amongst historians in the use of patient records as one source of information about the medical experiences and perceptions of the past'. They go on to say that 'the case history, variously called the patient record, clinical chart or patient notes, is a key document central to understanding the discourse and practice of medicine'. Their comment that 'patient records obtained from private practice... wherein for the most of history, the vast majority of healers practiced... make it easier to discern patterns of diagnostic schemes and therapeutic strategies', has relevance to the central issues that this thesis will address.<sup>120</sup>

It is only from the surgeons, who influenced each other by their individual contributions and persuasive techniques, that the historian can comprehend how the belief that hospitals offered a favourable environment for fruitful surgical training came into being, because eighteenth-century hospitals were not yet the sanctuaries and bastions of clinical knowledge that remained with the practitioners. Public visibility, even notoriety, from the published accounts of innovative surgery containing vivid accounts of the concentrated agony experienced by both practitioner and patient alike, held little comparison to the mere potions dispensed by a physician. A deliberate surgical procedure on the body of a fellow human being was, and still is, unlike any other experience, no matter if the person is alive or dead;

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<sup>117</sup> Ibid., p. 178.

<sup>118</sup> J. Reinartz, *The Birth of a Provincial Hospital: The Early Years of the General Hospital, Birmingham 1765-1790* (Dugdale Society, 2003).

<sup>119</sup> S. T. Anning, 'A Medical Casebook in Leeds 1781-1784', *Medical History* (1984), 28, pp. 420-431.

<sup>120</sup> G. B. Risse & J. H. Warner, 'Reconstructing Clinical Activities: Patient Records in Medical History', *Social History of Medicine* (1992), 5, pp. 183-205.

emotional disconnectedness is required. Historians have not charted the dissemination of the new surgical practices into provincial England taking place in the middle of the century, nor whether authors publishing their surgical deliberations were entrepreneurs exploiting a commercial market by presenting new perspectives of their craft for an exclusive readership.<sup>121</sup> The work of W. F. Bynum and J. C. Wilson on medical journals, although primarily concerned with the nineteenth century, explores the idea that authors were judged by their clinical practice.<sup>122</sup> Bynum's later work on the state of British medicine in 1790 concluded, without specific evidence, that by 1800, surgeons spent only a fraction of their time on surgical practice, but he addressed the overall circumstances and not specific surgeons.<sup>123</sup>

John Ford's work on the letters of the Weekes family<sup>124</sup> displays the considerable social interaction between patient and practitioner, and between practitioners. The Weekes letters also reveal the number of provincial deliveries, 3000 in a practice of twenty-eight years. Even the apprenticed son, Richard, attended fifty to sixty deliveries prior to his London training.<sup>125</sup> MacBride was reckoned to have attended over a thousand deliveries in the decade 1767 to 1777.<sup>126</sup> Joan Lane's work on the midwifery casebook of Thomas Jones (1764-1846),<sup>127</sup> and the practice book of Thomas Mister (1711-1780) of Shipston,<sup>128</sup> only involves pecuniary detail. However, as with Ford's work on the Weekes practice, it does portray the volume of practice work. The medical ledger of the Sheffield surgeon-apothecary William Elmhirst (1721-1773) covering the years 1768 to 1773 suggests the demographic

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<sup>121</sup> For example see R. Porter, ed., *The Popularisation of Medicine* (London, 1992).

<sup>122</sup> W. F. Bynum and J. C. Wilson, Eds. *Medical Journals and Medical Knowledge: Historical Essays* (London, 1992), p. 36, pp. 41-42.

<sup>123</sup> W. F. Bynum, *Science and the Practice of Medicine in the Nineteenth Century* (Cambridge, 1992), Chapters 1 & 2.

<sup>124</sup> J. M. T. Ford, *A Medical Student at St. Thomas's Hospital 1801, 1802: The Weekes Family Letters, Medical History*, Supplement No. 7, (London, 1987).

<sup>125</sup> *Ibid.*, p. 13.

<sup>126</sup> McClintock, *Smellie*, vol. I, p. 15.

<sup>127</sup> J. Lane, 'Thomas W. Jones of Henley-in-Arden (1764-1846), *Medical History* (1985), 31, pp. 333-348.

<sup>128</sup> J. Lane, 'Illustrations from the Wellcome Institute Library: Thomas Mister of Shipston (1711-1780), *Medical History* (1996), 40, pp. 365-372.

extent of a rural practice.<sup>129</sup> E. M. Sigsworth and P. Swan in their account of Elmhirst's book, drew the conclusion, 'that for the great bulk of patients there is nothing to indicate their rank in life other than their ability to afford the services of a professional medical practitioner', and more pertinently that 'the picture of actual medical practice revealed by the ledger is fairly simple'; only one surgical procedure, an amputation.<sup>130</sup> Similarly the ledger of the Somerset surgeon-apothecaries Benjamin and William Pulsford contains only simple surgical procedures, and accidents.<sup>131</sup>

The collation of medical apprenticeship records drawn from the Inland Revenue Registers by P. and R. Wallis,<sup>132</sup> and Lane's work on the *Medical Register* of 1783 reveals the diverse, largely unexplored number of medical men, in the last half of the century. These records together with trade directories and local newspapers provide further clues to the surgeons and men-midwives working in provincial England, and to men on the margins of medical practice, such as druggists and drysalters. Hilary Marland has argued convincingly that these men have received little attention from historians.<sup>133</sup>

Jean Donnison is one historian who has evaluated the clash of men-midwives, entering a formerly female dominated practice, but she has argued too simplistically that it was at the expense of the female.<sup>134</sup> Marland has demonstrated that the shift was 'more subtle, slower to take effect and more complex than we have realised'.<sup>135</sup> The work of Doreen Evendon is better evidenced from the midwives working in the London Lying-In Charities up to the middle of the eighteenth century.<sup>136</sup> Wilson's work in charting the rise of men working as

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<sup>129</sup> E. M. Sigsworth & P. Swan, 'An Eighteenth-Century Surgeon-Apothecary: William Elmhirst (1721-1773)', *Medical History* (1982), 26, pp. 191-198.

<sup>130</sup> *Ibid.*, pp. 195-196.

<sup>131</sup> Journal of B. & W. Pulsford, 1757-1765, Somerset Record Office, Taunton, ref. DD/FS, box 48.

<sup>132</sup> P. J. Wallis & R. V. Wallis, with assistance of J. G. L. Burnby and the late T. D. Whitted 2<sup>nd</sup> edn., *Eighteenth-Century Medics (Subscriptions, Licences, Apprenticeships)* (Newcastle-Upon-Tyne, 1988).

<sup>133</sup> H. Marland, 'The Medical Activities of Mid-Nineteenth-Century Chemists and Druggists, with Special Reference to Wakefield and Huddersfield', *Medical History* (1987), 31, p. 417.

<sup>134</sup> J. Donnison, *Midwives and Medical Men: A History of Inter-Professional Rivalries and Women's Rights* (London, 1977).

<sup>135</sup> H. Marland, ed, *The Art of Midwifery: Early Modern Midwives in Europe* (London, 1993), p. 8.

<sup>136</sup> D. Evendon, *The Midwives of Seventeenth-Century London* (Cambridge, 2000), the Epilogue pp. 186-203 is particularly pertinent to this argument.

midwives from 1660 to 1770<sup>137</sup> brings together many of the practitioners involved, but although Wilson considered political situation, social attitudes and disagreements between practitioners, he did not discuss the training of midwifery pupils, except in general terms.<sup>138</sup> The evolving design of forceps is a story already told;<sup>139</sup> but midwifery historians have given little attention to how and where training in their use took place.

Likewise little scholarship has been done on eighteenth-century paediatric care since the work of George Still in 1931. Still's work drew together all the eighteenth-century practitioners involved in infant care, as well as the changing attitudes towards the newly born, highlighting the efforts of Dr. William Cadogan (1711-1797) to break down the tradition of swaddling.<sup>140</sup> Only Still has considered Dr. Michael Underwood's (1737-1820) neo-natal and paediatric work, yet Underwood's publication went to seventeen editions and remained the standard work on childhood ailments for sixty years.<sup>141</sup>

Two recent publications in particular add considerably to the understanding of medical and surgical practice in the eighteenth century; Andreas-Holger Maehle's work on eighteenth-century pharmacology,<sup>142</sup> and Philip K. Wilson's biographical account of the early eighteenth-century surgeon Daniel Turner.<sup>143</sup> Maehle's work draws out pertinent issues that faced surgeons, man-midwives and physicians alike, not least that complications almost inevitably arose after what seemed to be a successful operation, such as lithotomy.<sup>144</sup>

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<sup>137</sup> A. F. Wilson, *The Making of Man-Midwifery: Childbirth in England 1660-1770* (London, 1995).

<sup>138</sup> For examples see A. F. Wilson, 'William Hunter and the Varieties of Man-Midwifery', W. F. Bynum and R. Porter, eds., *William Hunter and the Eighteenth-Century World* (Cambridge, 1985), and V. Fildes, L. Marks and H. Marland eds., *Women and Children First: International Maternal and Infant Welfare 1800-1950* (London, 1992).

<sup>139</sup> J. H. Aveling, *The Chamberlens and the Midwifery Forceps* (London: J. & A. Churchill, 1882); B. M. Hibbard, *The Obstetric Forceps: A Short and Descriptive Catalogue of the Forceps in the Museum of the Royal College of Obstetricians and Gynaecologists* (London, 1992); A. Doran, 'A Demonstration of Some Eighteenth-Century Obstetric Forceps', *Proceedings of the Royal Society for Medical History* (1913), 6, pp. 54-76, and K. Das, *Obstetric Forceps: Its History and Evolution* (Leeds, 1993).

<sup>140</sup> G. F. Still, *The History of Paediatrics: The Progress of the Study of Diseases of Children Up to the End of the Eighteenth Century* (Oxford, 1931), pp.323-514 and 379

<sup>141</sup> M. Underwood, *A Treatise on the Diseases of Children With Directions for the Management of Infants from Birth, Especially Such as are Brought Up By Hand* (London: J. Mathews, 1784).

<sup>142</sup> A. H. Maehle, *Drugs On Trial, Experimental Pharmacology and Therapeutic Innovation in the Eighteenth Century* (Amsterdam, 1999).

<sup>143</sup> Wilson, *Surgery, Skin and Syphilis*

<sup>144</sup> Maehle, *Drugs on Trial*, p.55.



He then explored opium in depth as ‘an ambiguous drug’<sup>145</sup> drawing out its medicinal qualities. The Peruvian bark was the most innovative drug of the era,<sup>146</sup> which as Maehle said ‘opened the floodgates’, making it a universal remedy.<sup>147</sup> Wilson’s account of Daniel Turner explored not only the rising status of a working surgeon but also considered his mundane, labour-intensive involvement with chronic complaints.<sup>148</sup>

Roy Porter’s publications cover a vast spectrum of eighteenth-century social and medical issues, as well as work on those practitioners on the margins of medical practice such as quacks and itinerants.<sup>149</sup> To the extent that his work bears directly on the subject matter of this thesis, some of Porter’s comments such as those concerning the physical examination of a patient, that he held were ‘often perfunctory’, could be challenged by the evidence of Hey’s patient encounters.<sup>150</sup> By contrast Bernice Hamilton’s work on medical training and the development of the professional status of a surgeon that emphasised that ‘the greatest change from the old days was the premium put from henceforth on pure surgery’, can be entirely substantiated from the operational detail that Hey’s Casebooks contain.<sup>151</sup>

The stifled matriculation opportunities and lack of sophisticated anatomy and midwifery schools at Oxford and Cambridge did not attract freethinking men and those seeking practical training. An increasingly competitive market and burgeoning opportunities drew British and American free thinkers to seek London and Scottish medical training, and as a result both Anglican and Nonconformist pupils absorbed clinical teaching side by side, forming lasting connections. Lisa Rosner researched medical training in Scotland, noting that using a ‘Grinder’ surmounted the difficulty of writing a Latin dissertation.<sup>152</sup> However her

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<sup>145</sup> Ibid., pp. 127-222.

<sup>146</sup> Ibid., pp. 223-310.

<sup>147</sup> Ibid., p. 286.

<sup>148</sup> Wilson, *Surgery, Skin and Syphilis*, p. 157.

<sup>149</sup> R. Porter, *Quacks: Fakers & Charlatans in English Medicine* (Stroud, 2000).

<sup>150</sup> D. Porter & R. Porter, *Patient’s Progress: Doctors and Doctoring in Eighteenth Century England* (Cambridge, 1989), p.74, and R. Porter, *Patients and Practitioners* (Cambridge, 1985).

<sup>151</sup> B. Hamilton, ‘The Medical Professions in the Eighteenth Century’, *The Economic History Review, Second Series* (1951), 2, pp. 141-169.

<sup>152</sup> L. Rosner, *Medical Education in the Age of Improvement: Edinburgh Students and Apprentices 1760-1826* (Edinburgh, 1991), p.73

references to the availability of surgical lectures concern those of James Rae and James Russell in the decades of the 1770s and 1780s.<sup>153</sup> Scottish Doctoral degrees were given sometimes purely on testimonials,<sup>154</sup> but 'Licentiates in Surgery' were different because there are no records of surgeons from outside Edinburgh who presented themselves as a candidate for a license.<sup>155</sup> Susan Lawrence's survey on London medical training<sup>156</sup> charted the practitioners teaching and working in London throughout the eighteenth century; but the incompleteness of London pupil registers obscures the number of apothecary apprentices who availed themselves of surgical and midwifery training.

This short review of present scholarship reveals that a fair amount of work on the background and framework of the larger issues has been done. However, generalities on such topics as the work of infirmary surgeons and domiciliary obstetric practitioners will need to be re-established in terms of the actual levels of innovative skill in play throughout Georgian Britain. More especially the comprehensive training, career prospects and clinical practices of surgeons and men-midwives will need to be reconsidered. The existing patchy and partial scholarship will need to be raised to a more detailed level commensurate with the professional sophistication achieved, not only in metropolitan but also in provincial settings. This thesis, because of the uniquely documental Casebooks of Hey, is able to contribute substantially to the missing fine detail on these fundamental issues and topics.

### **1.3 Provenances, Description, Content and Narrative of Hey's Casebooks**

From the first page of either set of Hey's Casebooks a reader is aware that they are not simply special but quite extraordinary. The richness of the technical midwifery, surgical and medical procedures detail is matchless. Hey's skill shines with a freshness that the centuries have not dimmed. His accounts of ailments, surgical procedures and childbirths combine not

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<sup>153</sup> Ibid., pp.149-150

<sup>154</sup> Thomas Kirkland was awarded a St. Andrews MD in 1769.

<sup>155</sup> Rosner, *Medical Education*, p. 142.

<sup>156</sup> S. C. Lawrence, 'Science and Medicine at the London Hospitals: The Development of Teaching and Research, 1750-1815', unpublished PhD thesis, Toronto 1985, and *Charitable Knowledge: Hospital Pupils and Practitioners in eighteenth-century London* (Cambridge, 1996).

only the rare perspectives of both patient and practitioner, but also include interaction with other Leeds practitioners, and references to the published works of national medical men. They reveal how Hey's initial anatomical, surgical and midwifery training was consistently and continually built upon as his professional career developed. Hey's Casebooks provide historians, possibly for the first time, with privileged access, that is detailed, massive and extensive access, to the clinical reality of Georgian provincial medical practice.

### 1.3.1 Provenance of Hey's Casebooks

William Hey bequeathed his medical manuscripts, medical practice ledgers and library of medical publications to his eldest surviving son William Hey II (1772-1844).<sup>157</sup> At his death in 1844 Hey II bequeathed the medical archive to his son William Hey III, who, in 1865, gave the manuscripts and books to Leeds Medical School Library. The first manuscript Medical School Library inventory dated 1885 did not fully itemise the archive.<sup>158</sup> In July 1981 Leeds Medical School passed the Hey manuscript Casebooks to the Special Collections of Leeds University's Brotherton Library.<sup>159</sup> Books 7 and 8 of the Medical and Surgical Casebooks and a Practice Daybook had earlier been found in the library of the Thoresby Society, who had passed them to the Special Collections on 25 March 1971.<sup>160</sup> Also in July 1981 the collection of medical publications collected by Hey, by the Medical Society founded by him in 1768, and by Leeds General Infirmary was transferred to Special Collections. These were shelved individually rendering identification of Hey's original library, as a specific library impossible, apart from those with the original Medical Library Bookplates, and some books with Hey's name entered on the flyleaf.<sup>161</sup> Additional manuscripts from the

<sup>157</sup> Probated Will of William Hey, The Hey Papers, West Yorkshire Archives, Leeds (hereafter W Y A), ref. DB/75.

<sup>158</sup> Special Collections, Brotherton Library, Leeds, ref MS/1590

<sup>159</sup> Medical and Surgical Casebooks, MS/628, and Midwifery Casebooks, MS/567

<sup>160</sup> Special Collections, Brotherton Library, Leeds, Medical and Surgical Casebooks in the hand of W. Hey and R. Hey, vols 7 and 8, and a Practice Daybook, ref MS/268/1/2/3 (hereafter MS/268)

<sup>161</sup> For example D. Turner, *De Morbis Cutaneis* (London: Bonwicke and Others, 1732), which has 'W. Hey, May 1759' entered on the fly-leaf.

Hey practice, together with various supporting manuscripts, were also transferred in 1981.<sup>162</sup>

Other documents and letters that were deposited in Special Collections at various times and have, like Hey's Casebooks, a clear line of provenance, will be used in the progress of analysis that this thesis undertakes.<sup>163</sup>

### 1.3.2 A Description of Hey's Twenty-two Casebooks

In a publication of 1803, Hey said that he had not entered into any 'excursions of fantasy or much theoretical reasoning', and that he had 'aimed only at truth and utility [because] useful deductions may be drawn from faithful histories many years after they were written'. Hey's twenty-two surviving Casebooks are complex and highly detailed, but as Hey said, they are 'faithful histories'. Without a foreknowledge of the compilation complexities that the twelve Medical and Surgical Casebooks contain, as the tables below indicate, they are difficult to decipher. By contrast the ten Midwifery Casebooks do not present similar difficulties because they concern only parturient conditions, with variations only on complications resulting from that condition. Hey noted that 'soon after I had entered upon the medical profession I began the custom of committing to paper such cases which occurred in my practice as seemed rare or peculiarly instructive'.<sup>164</sup> His first written detail was probably a routine entry into a daybook, then, as Hey was an acute businessman, with identifying detail into an account book.<sup>165</sup> There is evidence that Hey kept a stock book of case histories and

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<sup>162</sup> Special Collections, Brotherton Library, Leeds, Anonymous, Lecture Notes given by Charles Bell and Astley Cooper, and Leeds Infirmary Case Notes in the hand of W. Hey, ref MS/559 (hereafter MS/559). Case Notes compiled at St. Thomas's Hospital, 1785-1786, in the hand of R. Hey, and Medical Topics 1796, in the hand of W. Hey II, ref. MS/560 (hereafter MS/560). Anonymous Lecture Notes on Surgery and Venereal Disease given by Everard Home and John Pearson, ref. MS/573 (hereafter MS/573) Two Anonymous Volumes of Hey Practice Medical Notes dated 1813, ref. MS/681 (hereafter MS/681).

<sup>163</sup> Special Collections, Brotherton Library, Leeds, Papers in the hand of W. Hey II in connection with J. Pearson's memoir of his father, annotated by R. S. Mortimer, ref. MS/504 (hereafter MS/504), A Memorandum in the hand of W. Hey, 'Remarks on the Question of Augmenting the Number Of Medical Officers at Leeds General Infirmary', ref. MS/505 (hereafter MS/505), Philosophical Papers in the hand of W. Hey, dated 1775-1790, ref. MS/1775 (hereafter MS/1775), Letters from R. Walker, St. James, London to W. Hey dated 1784-1785, ref. MS/1990/4 ( hereafter MS/1990/4) , A Medical Commonplace Book partly in the hand of W. Hey, ref. MS/1587 (hereafter MS/1587), and A Register of Leeds Medical Library Circulation from 1802-1827, ref. MS/1591 (hereafter MS/1591).

<sup>164</sup> Hey, *Observations in Surgery* Preface pp. 1-2.

<sup>165</sup> In the Hey practice accounting book for the year 1827 prepared by Hey II, there are three separate entries for receipts, 'Bill and Fees £3,912. 9s. 4d, Midwifery, £ 161. 7s. 6d, and Till Receipts, £33.2s. 1d. It is possible that this was the type of accounting procedure was first used by Hey. WYAS, The Hey Papers, DB75/20.

transferred them to his Casebooks at a suitable time.<sup>166</sup> There are also case histories in Hey's published work that do not appear in the Casebooks, evidence that daybooks, or additional casebooks, were in existence in 1803. Hey once noted 'three of these cases I have inserted in my 'Adversaria', which could have been his name for the Casebooks.<sup>167</sup> Hey also wrote 'as I find by my daybook' after entries relating to previous consultations and medications in one early midwifery case.<sup>168</sup>

Medical and Surgical Casebooks, MS/628, Books 1-6 and 9-12, MS/268, Books 7 & 8..

The twelve surviving Medical and Surgical Casebooks are not all the same type of book as detailed in Table 1A below. There was an additional Book 13, which Hey referred to on page 179 of Book 12, which has not survived. With the exception of Book 10 each book is entitled Medical and Surgical Cases in the hand of Hey on the title page.

**Table 1A**

Number	Physical Size	Cases	Index Pages	Total Pages	Title	Description
Book 1	8" High, 6" Wide	54	4	190	Medical and Surgical Cases	Cover Lost
Book 2	Ditto	45	3	165	Ditto	Soft Yellow/Brown Mottled Board
Book 3	Ditto	38	3	190	Ditto	Soft Red/Yellow/Blue Striped Board
Book 4	Ditto	39	3	190	Ditto	Soft Red/Blue/Yellow Mottled Board
Book 5	Ditto	47	3	190	Ditto	Soft Blue/Red/Cream Striped Board
Book 6	Ditto	40	3	175	Ditto	Soft Blue/Green Patterned Board
Book 7	8" High, 7" Wide	65	4	280	Ditto	Cover Lost, but Spine Hard and Stringed
Book 8	Ditto	70	5	280	Ditto	Hard Red Mottled Board
Book 9	8" High, 6" Wide	43	3	190	Ditto	Soft, Identical to Book 5
Book 10	8" High, 7" Wide	33	Lost	178	None	Hard Blue/Brown Board with Stringed Spine
Book 11	Ditto	45	4	280	Medical and Surgical Cases	Cover Lost, but Spine Hard and Stringed
Book 12	10" High, 8" Wide	49	Lost	288	Ditto	Ditto

<sup>166</sup> MS/628, Book 9, p. 160, a case dated 1 January 1762 concerning a wrist tumour was inserted amidst a run of other cases of wrist tumours dated 1789, and MS/628, Book 6, p. 9, a case dated March 1762 of Fistula Lacrymalis is included in a series of similar cases dated 1774 and 1775.

<sup>167</sup> MS/628, Book 6, p. 35. Adversaria is the Latin word for notebook, daybook or memoranda.

<sup>168</sup> MS/567, Book 1, Case 74.

Book Number	Date of the First Case in the Book	Date of the Earliest Case in the Book	Date of the Last Case in the Book	Private Patient	Infirmiry Patient	Total Number of Cases
Book 1	Oct 1763	1760	Sept 1765	54		54
Book 2	Nov 1765	Nov 1765	Sept 1767	45		45
Book 3	Nov 1767	Nov 1767	Sept 1770	27	11	38
Book 4	Nov 1770	Nov 1770	June 1774	24	15	39
Book 5	Summer 1773	Jan 1770	Spring 1775	29	18	47
Book 6	June 1775	May 1774	Summer 1777	26	14	40
Book 7	7 August 1776	7 Aug 1766	31 Mar 1785	36	29	65
Book 8	July 1781	Sept 1776	Jan 1781	56	14	70
Book 9	Sept 1785	Jan 1784	Sept 1789	33	10	43
Book 10	March 1791	Mar 1791	Feb 1794	36	7	43
Book 11	11 July 1794	July 1794	July 1799	23	22	45
Book 12	Oct 1799	June 1797	Aug 1809	24	25	49

**Table 1 B**

Table 1B above explains the chronology of the Medical and Surgical Casebook showing the variation of the dates of compilation, and Table 1C below shows the sets of 'Remarks' in Books 4 to 9.

**Table 1 C**

Book No	Page No	Remarks in Medical and Surgical Books
Book 4	56-58 70-71 94-96 102-106 166-167	On delirium On strangulated femoral hernias On putrid fever On strangulated scrotal hernia On retention of urine
Book 5	31-48	On Buxton water
Book 6	13 and 29 and 86 35-36	On prolapsed vagina On retention of urine
Book 7	70-81 172-175 193-199	On fractures of the skull On cartilaginous substances in the knee joint On extirpation of cancers by caustic
Book 8	72-90 108 127-128 264-266	On the ulcerous sore throat On cancer of the penis On renal suppression of urine On healing by the first intention
Book 9	6-9 38-40	On dislocation of the tibia On fistula lacrymalis

The Casebooks contain 577 case histories, including 209 surgical operations; some with dissections, 63 dissection only cases, and 165 cases refer to Infirmiry patients. Although the operations can be grouped into type each one has a singular quality, with prehistory, presentation symptoms, and most have daily postoperative care. However none of the public dissections he performed for the benefit of the Infirmiry are included. And although female

ailments are included, there are no female patients within the Midwifery Casebooks that also appear in the Medical and Surgical Casebooks. The index detail of the Medical and Surgical Casebooks has often only one line of concise medical detail, and the names of patients do not appear until Book 4 where there is one name: no names are entered in Book 5, there are five names in Book 6, thirty-eight names in Book 7 and sixteen names in Book 8. In Book 7 and Book 8 the index for the first twenty-five pages of one refers to cases in the other and vice versa; no explanation is given for this anomaly.

Midwifery Casebooks, MS/567, Books 1-10

Hey's Midwifery Casebooks begin in May 1759 one month after he had completed his midwifery training in London. They provide a substantial record of the personal obstetric working life of one man in wholly domiciliary environments. Hey numbered the Casebooks 1 to 10 in the top right hand corner of the frontispiece and entered 'Cases In Midwifery' in the centre. Every Casebook has an index to the cases contained in that book, and Book 1 has an analytical complications index. The patient's name is not entered in the index until Book 4; thereafter all patients are named. The last four books covering twenty-one years contain 162 of the 480 cases, but there are lengthy 'Remarks' on obstetric procedures. The Midwifery Casebooks are identical in size, and measure eight inches high by six inches wide, have soft dark blue card covers and 180 unlined pages in each book bound with a central knotted string. They were possibly devised from a premeditated plan, because it would have been impossible to obtain identical books after a period of fifty years. At the beginning of Book 5 Hey recorded the loss of a previous Book 5, and said he was obliged to recount the detail of some cases from memory.<sup>169</sup> The length of the case histories varies from half a page to twenty pages and the cases are more or less in chronological order. (See Table 1D below.)

**Table 1 D**

Book No	Date of First Case	Date of Last Case	Case Numbers
1	May 1759	26 May 1766	1-74
2	22 May 1766	8 July 1771	75-130

<sup>169</sup> MS/567, Book 5, p. 1 dated spring 1778.

3	28 July 1771	21 September 1775	131-175
4	27 May 1775	30 November 1777	176-235
5	10 October 1778	23 May 1783	236-280
6	1 July 1783	19 June 1786	281-317
7	29 August 1786	August 1793	318-363
8	December 1793	17 June 1797	364-400
9	15 July 1797	December 1801	401-443
10	11 December 1801	November 1807	444-480

In Books 2 to 10 there are various sets of obstetric 'Remarks'. (See Table 1 E below)

**Table 1 E**

Book No	Page No	Remarks on Midwifery Procedures & Observations
Book 2	116-121 175-176	On the extraction of a placenta On guarding the perineum
Book 3	90-93 109-110 184	Concerning unnatural & irregular uterine contractions On the seat of puerperal fever disorders On a globular placenta post natal presentation
Book 4	45-46	On the change of the life of a child in utero foetal life to animal life
Book 5	25 52-54 79-81 87-91 145 152	On puerperal fever On a laceration of the uterus and caesarean section On the breaking of the membranes On the state of the perineum On the use of the lever On the method of turning a child
Book 6.	28-34 111-130 147-149 131-141 150-153 159-181	On retained part placenta On guarding the perineum On convulsions On extraction of the placenta On guarding the perineum On flooding cases dated 9 June 1797 (cont. in Book 8 p. 95)
Book 7.	31-32 35-36 41-42 103-106 114-116 136-137	On reflections after a death On reflections after a death On how long a child's head may remain in the vagina On the treatment of puerperal fever On praeternatural delivery On flooding cases
Book 8.	21-27 66-68 95-102 109-111 133-135 150-152 163-164 173-178	On the perineum in labour On a relaxed uterus On miscarriages On the proper treatment of flooding cases (cont. from Book 6, p.159-181) Mr. Rigby of Norwich, on uterine haemorrhages On miscarriages On the utility of the lever On the danger of leaving the second twin to nature
Book 9.	6-8 99-100 130-137 178-181	On the breaking of membranes in flooding On the advantage of delivery before the haemorrhage has sunk the patient On the extraction of the placenta On flooding in the last three months of pregnancy cont. Book 10
Book 10.	1-2 61 124-125 136-138	On flooding in the last three months of pregnancy (cont. from Book 9) On prevention of flooding On an inert uterus On early miscarriages

These parturient complications may represent a particular interest at the time of compilation as the surrounding cases indicate. Comparable comments indicate that although



most cases were recorded at the time of their occurrence, or shortly after, there were occasions when Hey neglected this procedure, and was obliged to recollect at a distance, often to earlier deliveries where he had attended a particular patient.<sup>170</sup>

The Midwifery Casebooks testify to the often solitary nature of the work of an eighteenth-century man-midwife, highlighting the fact that in the pre-caesarean period only one person could affect manual obstetric procedures. There were often circumstances of extreme danger, to the life of both the mother and child, where there was no opportunity for a premeditated organized consultation with experienced assistants to take place, an entirely different set of circumstances to a surgical procedure where several people could be involved. A combination of the cases in both sets of Casebooks offers therefore an unprecedented opportunity to gauge the reaction of a man in solitary crisis parturition situations, in contrast to his reactions in a measured, organized institutional surgical procedure.

### 1.3.3 The Content of Hey's Casebooks

The content of Hey's twenty-two surviving Casebooks is both varied and surprising. For a man who was a devout Christian, they are almost devoid of religious comment, yet he was said to have 'rarely entered any sick room without offering up a secret prayer to Almighty God on behalf of those he was attending'.<sup>171</sup> There is no pecuniary detail entered in any of the Casebooks or in any of the supporting medical manuscripts, rather it is the ailment discussed which was the entire subject of the prose account. All types of patient are included from the poor in Leeds Workhouse to prosperous landed-gentry such as Lady Mary York. The religious persuasion of any patient rich or poor is never mentioned, by contrast the profession or occupation, male or female, mostly is, and in many midwifery cases Hey merely gives the name of his patient, leading to the assumption that, in some cases, the mother initiated the call for his obstetric services.

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<sup>170</sup> MS/567, Book 9, Case 413, p. 63.

<sup>171</sup> Pearson, *Hey*, p. 260.

Pearson said that it was 'greatly to be regretted that no journal of his life', was found amongst Hey's papers after his death.<sup>172</sup> Yet Pearson knew of the Casebooks because he entered cases within them at the time he sustained Hey's private practice during Hey's absence in 1778. The Casebooks, aside from their clinical accounts, contain some autobiographical details. For example there are many comments regarding Hey's personal health, the most significant being his two-month convalescence at Buxton in the spring of 1774.<sup>173</sup> Hey's biographical detail also extended to his children. The smallpox his infant daughter Margaret (Peggy) contracted in 1767 was balanced by detail of her marriage contract entered in the middle of a midwifery case thirty years later.<sup>174</sup> In the normal course of his writing Hey's prose compilation was neat and tidy, written without blot or error. The major exception is a midwifery case that began seven days before the death of his favourite and eldest son Richard, and continued up to and following Richard's death. His stoic continuance of midwifery practice could not hide his grief and inability to concentrate: lines are crossed out, blots and errors abound and there is disorientation of sentence construction.

#### Medical and Surgical Casebooks

Hey's Medical and Surgical case histories are more than a sample of his working life, or even a sample of the type, or number of cases that he encountered. They serve, not only to assess how Hey personally treated an ailment, however minor or major that ailment was, but also to understand how surgical and medical treatment practices evolved during Hey's working life.

Certain issues immediately arise, not least the issue of Hey's typicality. As Bromfeild said, referring to the period 1750 to 1775, 'almost every market town is now furnished with a gentleman extremely well qualified in the art of surgery'. By 1775 hundreds, possibly thousands of trained surgeons had emerged from the medical training available in Britain, and were working in provincial medical institutions as well as building up private practices. Hey was therefore typical of many similarly trained men, but he went on to achieve an eminence

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<sup>172</sup> Ibid, Preface, p. xviii.

<sup>173</sup> MS/628, Book 4, Case 38, pp. 31-38.

<sup>174</sup> MS/628, Book 3, Case 8, p. 32 dated 16 December 1767, and MS/567, Book 9, Case 405 dated October 1797

far greater than the many rank and file provincial practitioners. W. G. Rimmer's comment that 'Hey entered a professional cul-de-sac after 1773 and did not perceive the need for a new age' is contradicted by the content of the Casebooks.<sup>175</sup> Hey's development and redesign of the small head saw, that he used to relieve compound head fractures, and its alternative use to relieve leg bone caries, his identification of the condition Internal Derangement of the Knee Joint, and the previously unrecognised cancer Fungus Haematodes, all came after 1773.

Interestingly Hey makes scant references to surgical tools, in fact apart from the needle he used to couch eyes, his head saw and some types of catheters, few are mentioned in the Medical and Surgical Casebooks. He often mentioned his watch, or the lack of his watch due to repairs, because taking a pulse was a vital part of charting the condition of a patient. Indeed Georgian practitioners had little else but a watch in terms of diagnostic technology to augment their sensory perceptions. Hey acknowledged irregular healers and medical technicians, some identified and some not, such as the itinerant oculist Dr. Hilmer,<sup>176</sup> who provided Hey with the couching needle. There were other local technicians and prosthesis providers such as Mr. Mannison, and his successor Mr. Eagland, who manufactured various types of supportive truss to accommodate chronic hernias, Mr. Mann of Bradford whose wooden legs could withstand wet weather, and Mr. Wrightman the bonesetter; these men emerge as significant supporters.

Hey published sparingly, and an historian without knowledge of his case histories would be unaware of his many accounts of epidemics in Leeds, such as those of putrid fever, influenza, dysentery, cholera morbus, peripneumony and smallpox. Neither would an historian be aware of how Hey identified family traits and susceptibility to certain chronic ailments. There is also evidence of the indeterminate area in Hey's practice, which could also have been commonplace elsewhere, between supposedly charitable infirmary patients and private patients. There are patients that Hey treated in the Infirmary who clearly were

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<sup>175</sup> W. G. Rimmer, 'William Hey of Leeds, Surgeon (1736-1819): a reappraisal', *The Leeds Philosophical and Literary Society Transactions* (1961), vol., ix, pp. 205-6.

<sup>176</sup> MS/628, Book 3, Case 23, dated 1 May 1769.

not poor. The fourteen-year-old son of the Town Bailiff, whom Hey treated for a head injury in the Infirmary for several months, is but one case.<sup>177</sup> Another patient was Lady Gordon's maid whose sciatic nerve was trapped, when she fell over in London attending Lady Gordon outside the Gordon London town house.<sup>178</sup>

The Casebooks also provide evidence of patient-practitioner relationships, at least from Hey's perspective. By contrast, despite the measured prose Hey wrote, there were many occasions when he retired defeated because his treatment procedures were sullied and superseded by additional practitioners called into consultation by family.<sup>179</sup> But perhaps the most significant content of any of Hey's Medical and Surgical case histories of whatever ailment or surgical procedure, are the clear accounts of the patient's presentation symptoms, the clinical operative procedures, the daily, sometimes hourly postoperative care, and in some terminal cases post-mortem findings to confirm or negate the diagnostic deliberations and treatments provided. These aspects provide some of our best practical accounts of thorough and focused evidence-based medicine, both in private and institutional environments. The historian therefore has a rare opportunity to fully consider how the day-to-day working life of a Georgian provincial practitioner's was played out over five decades.

### The Midwifery Casebooks

Posterity has not regarded Hey as an accomplished man-midwife, yet three of only five articles that he published concerned parturient women, although more than half a century elapsed between his first article in 1766<sup>180</sup> and his last in 1816.<sup>181</sup> Few other manuscripts of provincial midwifery case histories survive, none of which extend over the whole working life of a practitioner. The fact that Hey's case histories have survived, does not signify that they are representative of anything other than the working life of a typical man-midwife who

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<sup>177</sup> MS/268, Book 8, p. 239 dated 10 April 1781.

<sup>178</sup> MS/628, Book 9, p. 78 dated 1 November 1784.

<sup>179</sup> MS/628, Book 6, Case 10 dated 12 August 1775. This case well portrays this feature.

<sup>180</sup> W. Hey, 'An Account of an Extra-uterine Foetus', *Medical Observations and Inquiries* (1766), vol. iii, pp. 341-355.

<sup>181</sup> W. Hey, 'Facts Illustrating the Effects of the Venereal Disease on the Foetus in Utero and the Mode of its Communication' *Medico Chirurgical Transactions* (1816) vol. vii, pp. 541-561.

had been trained in the eighteenth-century British Schools, and developed a substantial provincial midwifery private practice. There are few references to midwives, and none except as an adjunct, or incompetent assistant. Hey named only four midwives, and the first, Mrs. Peat, not until thirteen years after he began in practice.<sup>182</sup>

Hey's Casebooks contain possibly the only known sets of patient records over the whole of a woman's childbearing years, with identification and anticipation of parturient complications. There are also considerable numbers of deliveries effected by forceps, fillet, scissors and crochet, many cases of praeternatural presentation with subsequent footling delivery, and the varieties of ante-partum and post-partum haemorrhage. Hey also included accounts of gynaecological conditions, in both sets of Casebooks, resulting from parturition trauma. The care of a neonate and the recognition of the emerging question of the right to life of the unborn is a theme present throughout the Casebooks, as is the maintenance of the health of a mother during a tedious labour, and measures for her restorative care. The Casebooks also shed light on other issues that historians have attempted to discern, such as the way a midwifery practice came to be built up, how a man-midwife was called to deal with a normal delivery, and how a domiciliary delivery room was made more clinical by overturning traditional lying-in procedures. And, as in the Medical and Surgical Casebooks, the historical pre-symptoms are carefully noted along with the presentation symptoms.

#### 1.3.4 The Narrative of Hey's Casebooks

Hey was an acute narrator, using to effect the telling detail, the apt phrase, combined with pathos, verisimilitude, and occasionally deadpan humour. Benjamin Bell said Hey 'had the gift of telling his cases in such a way as to make the reader interested in the individuals of whom he wrote'.<sup>183</sup> Surprisingly for a man of profound spirituality, they are almost devoid of overt religious pieties. A rare exception occurs in a craniotomy of a putrid foetus; when Hey saw maternal death approaching he wrote 'The Lord killeth and make alive, his hands

<sup>182</sup> MS/567, Book 3, Case 144, dated September 1772.

<sup>183</sup> B. Bell, 'The Life, Character and Writings of William Hey of Leeds: a discourse delivered at the annual meeting of the Harveian Society, 12 April 1867', *Edinburgh Medical Journal* (1867), 12, p. 1061.

wound and they heal'.<sup>184</sup> Rather a sense of the restoration of a patient's capacity and value pervades the Casebooks. Hey often added a comment such as 'he found the patient sitting with the window open shelling peas' in a case where he had been 'under the necessity of removing the greater part of the mamma' only three days earlier.<sup>185</sup> And when he noted that a patient was 'assisting the apothecary in making conserve of hips', eight days after he had removed fragments of bone from the patient's head caused by 'a blow from a pickaxe'.<sup>186</sup>

One of the most significant qualities that the Casebooks contain is a humane perceptiveness, providing the historian with human stories of some intensity. Hey treated patients ranging from the workhouse poor to William Wilberforce,<sup>187</sup> with acute observation of habits, family traits, mannerisms and sensitivity to pain. The Casebooks indicate that he deftly avoided the emotional dependence of his patients, and retained the professional detachment and self-effacement that his craft required. It is also evident from the Casebooks that Hey was well aware of the complexities of patient expectations. The case of Mr. Row, who had a leg amputated because of an aneurysm, is an example of patient and practitioner control tussles as the second leg began to require treatment. (See chapter 4.)

In terminal cases, Hey invariably noted that he asked leave to open the body, which the relatives did not always grant, and that other medical practitioners as well as relatives were present at the dissection.<sup>188</sup> His narrative accounts of dissections are finely detailed, as are his accounts of surgical operations. There is no evidence that he used a scribe to take down his findings, but it is possible, otherwise the very fine detail must have been committed to memory and written up later. Not all his dissections were restricted to a localized lesion; on occasion Hey removed viscera to study them in his private premises. An example is in a case of puerperal fever where Hey removed the uterus, noting that 'the intestines were not quite cold and the cadaverous smell was pretty strong indeed, there was a fire in the room

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<sup>184</sup> MS/567, Book 1, Case 18 dated 27 July 1760.

<sup>185</sup> MS/628, Book 8, p. 269,

<sup>186</sup> MS/268, Book 8, p. 33.

<sup>187</sup> MS/628, Book 9, p. 41.

<sup>188</sup> MS/567, Book 1, Case 74.

where the body lay tho' not very near it. I brought away the uterus that I might examine it a little more carefully'.<sup>189</sup> This quest to confirm, or extend anatomical knowledge is a continuous theme, and there are some cases where bodies were used purely for dissection purposes, to demonstrate anatomical detail unconnected with the cause of death of the patient.<sup>190</sup> In a case where Hey had amputated a leg because of a tumour on the knee, he then used the amputated portion of the leg 'to show the pupils the muscles'.<sup>191</sup>

A standard feature of his narrative was the recording of not just the date, and the day of the week, but also the time of day and prevailing weather conditions, usually throughout daily treatment extending over several weeks.<sup>192</sup> Hey used coins from a sixpence to a crown piece to describe the extent that a mother's cervix had opened. He likewise used eggs, from pigeons to geese, and apples from crab to cooking, to describe the size of a tumour; even teacups to measure the quantity of discharging pus. There are vignettes, almost as an aside, such as when he examined the wife of J. Russian in January 1774 and found that 'the vagina felt very hot...I could scarce bear my finger in it, but the uneasy sensation was in part owing to the coldness of my finger, the weather being intensely cold'.<sup>193</sup> If Hey had begun his account by stating that the weather was 'intensely cold' the humour that a reader can find in this phrase would have been lost. In another case, that of a mother delivered on a hot day in June 1786, his account was acutely sensory: 'her skin was soft and unusually moist sometimes with a free perspiration...the weather was sultry...the thermometer being at seventy in the shade'.<sup>194</sup>

The occupation and age of the patient is invariably included together with the compilation of prehistory symptoms. Comments upon a patient's manner and demeanour,

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<sup>189</sup> MS/567, Book 1, Case 24, date 9 March 1764.

<sup>190</sup> MS/628, Book 12, 9,36, dated 17 January 1800.

<sup>191</sup> MS/268, Book 7, p 192.

<sup>192</sup> For comment on how weather conditions affected health in the eighteenth century see G. Cheyne, *An Essay of Health and Long life* (London: G. Strachan, 1724), pp. 16-18, and J. C. Riley, *The Eighteenth-Century Campaign to Avoid Disease* (London, 1987), pp. 31-53.

<sup>193</sup> MS/567, Book 4, Case 199.

<sup>194</sup> MS/567, Book 6, Case 315 dated June 1786.

such as plethoric, delicate, corpulent, decrepit, emaciated, of tender habit or of pleasant countenance are all included, as are relevant medical details of the patient prior to treatment procedures. The quantity of patient self-medication is sometimes mentioned especially with regard to opium, or the indulgence of intoxicants as an analgesic. Although Hey's case histories were probably written in the first instance for private reflection and use, his indirect accounts of incidentals, draw a reader directly into a sick room, providing a degree of verisimilitude rarely found elsewhere. Small comments on the mundane reality of a patient's habitation, on the bed, the bed linen and on the patient's state of dress evoke for a reader a picture of the situation as encountered by Hey. For example he wrote 'I desired the assistants to withdraw for the great number of them filled the room and made it like a stove', and on a later occasion like a 'bagnio'.<sup>195</sup> In his accounts of how he 'doused fires', 'opened windows', 'set doors ajar', 'removed quilts', washed patients with cold water and vinegar and undressed them to place them comfortably in a bed, a reader feels immediately aware of the habitation conditions that he was confronted with, and worked within.

The dramatic reality of life-threatening midwifery complications is regularly recorded. The wife of an innkeeper 'was sitting on a barstool in the centre of the inn on the evening of 22 July 1776, when she had a violent gush of blood at the expiration of her twelfth pregnancy'.<sup>196</sup> The reader can envisage the commotions amongst the motley crowd as Hey was urgently called. In a later case, when Hey was almost seventy, he was tardy in responding to the call, and it would seem that the mother was likewise tardy, for 'feeling an occasion for evacuation...she went to the nightchair'. She expelled her child along with her bowel evacuation. Hey wrote a vivid account of finding his patient still sitting on the nightchair with the delivered child head first in its contents, and the placenta still in the

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<sup>195</sup> MS/567, Book 1, Case 51 dated 26 May 1764.

<sup>196</sup> MS/567, Book 4, Case 215.



uterus. Despite the life-threatening aspects to both mother and child, Hey successfully revived the child and the mother recovered.<sup>197</sup>

Curiosities drew his interest, and after he had delivered ‘a monster’, despite his evident concern he wrote ‘I was exceedingly affected with her situation, especially as I could not help accusing myself as not having taken proper care’. He took the foetus home, not just to examine it,<sup>198</sup> but also later to give a paper upon this interesting oddity to the Leeds Philosophical and Literary Society.<sup>199</sup> The reader may almost wince reading Hey’s confessional self-doubt in his account of how he had succumbed to his inquisitive nature.

Accident descriptions transport the reader by one simple phrase directly into the heart of the scene, for example in a case of fractured ribs where a man ‘had been squeezed against a gatepost by the end of a cart shaft’,<sup>200</sup> another of a dislocated thumb, where a man ‘had fell against a stone when in liquor’,<sup>201</sup> and an old lady who suffered ‘a compound fracture of both legs when a coal wagon ran over her’, whose injuries were so horrific that Hey could scarcely bear to look at them.<sup>202</sup> Conspicuous by its absence is reference to pain and suffering. In midwifery cases there are odd phrases such as ‘crying out’, and in surgical cases that the patient ‘withstood the procedure well’. But despite this Hey’s recognition of the unimaginable agony of the patient is evident from occasional adjectives, such as ‘violent’, that he used to describe labour pains, where a reader cannot fail to feel at least some of the patient’s torment. The case of Thomas Walker, a stonemason whose horse dragged him ‘for 100 yards...with his foot hanging in the stirrup’, dislocating his shoulder, proceeds throughout the alarming relocation so descriptively that a reader cannot fail to feel pangs of sympathy. Walker’s shoulder proved difficult to relocate, despite the use of the Infirmary

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<sup>197</sup> MS/567, Book 10, Case 475.

<sup>198</sup> MS/567, Book 4, Case 246.

<sup>199</sup> Pearson, *Hey*, p. 53.

<sup>200</sup> MS/628, Book 2, Case 16 dated 8 February 1766.

<sup>201</sup> MS/628, Book 2, Case 39 dated 1 March 1767.

<sup>202</sup> MS/268, Book 8, p. 244.

blocks, tackle and pulley ropes, Hey laying him on the Infirmary floor, and forcibly using his foot against the shoulder, before a second session with the block and tackle relocated it.<sup>203</sup>

#### 1.4 The Potential

Hey's twenty-two Casebooks and the supporting manuscripts provide an opportunity to evaluate the private and institutional working life of a wholly English trained Georgian provincial medical practitioner over six decades. By a study of Hey's working life as revealed in these manuscripts, this thesis has the opportunity to fill some of the obvious gaps in our present understanding of how a late eighteenth-century provincial medical career developed. As my survey of some present scholarship has shown, historians lack unified awareness; some have become preoccupied with the supposed conflict between the successes of the trained man midwife over the untrained female midwives, others through lack of archive sources have failed to come to terms with the high degree of skill and technique achieved in innovative surgical procedures. There is also no unified vision or perspective on how practitioners networked and supported each other, in provincial and national settings. Those historians whose interest has centred upon infirmaries and hospitals have demonstrated only slight interest in the actual work of the surgeons and physicians and have not considered the select few who held institutional appointments. Consequently they have presented a restricted view of how a clinical environment developed.

Hey was one of many innovative entrepreneurial provincial practitioners who exploited the later eighteenth-century market for medical treatment. A study of his working practices will further reveal how a prestigious reputation came to be achieved by practice and skill alone, rather than by the successful rhetoric of publication, and will culminate in an exploration of the hitherto most obscure area of Hey's work, that of an accomplished obstetric practitioner. The Casebooks have massive relevance to the extent and diversity of Georgian medical practice. It is the focused accumulation of relevant practical experiences in

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<sup>203</sup> MS/628, Book 5, Case 12, dated 29 September 1774.

a written form, which pulls Hey's medical knowledge out of the realm of tacit experience and memory, rendering it as overt and analytically available. As such the Casebooks could be held to be as important a part of Hey's working procedures as any of his technical skills. Therefore they have a dual function, i.e., for the historian a possibly un-paralleled record of a working medical life, but for Hey they were a significant functional part of his working life; a record of crucially instructive cases that could be brought to bear on future cases, and for further analytical and practical reflection. Kirkland commented in 1786 that 'the chief mistake committed by medical surgeons is leaving off their studies just when they have qualified for pursuing them';<sup>204</sup> the evidence of Hey's Casebooks shows how Hey avoided this mistake. He consistently strove to clarify diagnosis, improve treatment patterns and extend his knowledge, and the consistent narrative notation of cases was an important part of this endeavour.

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<sup>204</sup> T. Kirkland, *An Inquiry into the State of Medical Surgery* (London: J. Dodsley and W. Dawson, 1786), 2<sup>nd</sup> ed., vol. 1, p. 12.

## Chapter 2 William Hey's Education and Medical Training

He was naturally fond of study, so that inclinations as well as religious principle led him to pursue his studies with great diligence and to a determination of making himself master of every subject to which he applied. (W. Hey II, MS/504/1)

A concerted study of Georgian provincial day-to-day medical practice remains a largely unexplored part of medical history, and whilst Hey's Casebooks provide an opportunity to explore this uncharted area, no detailed appraisal can be considered before the measure of the practitioner concerned, namely Hey, is taken. Such formation requires a deeper analysis than mere anecdotal biography; rather it requires an account of how a professional medical man was formed as such. To satisfy this end this chapter will evaluate the influences, training, and pressures that were put upon Hey's early life until he embarked upon his professional career in 1759.

In order to understand Hey's overall orientation, religious disposition, character formation, and, as will later be shown his genteel pretensions, his early life needs to be understood. Hey was born into a family of tradesmen stretching back in time over many generations, both paternally and maternally, and he learned from an early age that profits from trade and careful business acumen could buy both education and property. Ownership of property in the eighteenth century carried certain distinctions, especially in an unfranchised town of burgeoning population such as Leeds, for it altered status, even if it did not make a man a gentleman. The reason why that later, distinguished and accomplished professional man that Hey became, was able to move effortlessly amongst the upper reaches of society, but still retain harmonious relationships with those lower in rank, owes much to his early family life.

It is of importance to establish as many facts as possible about Hey's schooldays and apothecary training. These facts merit scrutiny because they prepared Hey to be receptive to the influx of anatomical, surgical, medical and midwifery training which he received in the

short period between October 1757 and April 1759. Fortunately, many details of Hey's early life are available; therefore this chapter will open with details of Hey's formative influences, school days and apothecary apprenticeship.<sup>1</sup> It is also of considerable consequence that a substantial amount of detail of his London training can be ascertained, or reasonably inferred, including the influence of certain teachers and the emulation with which Hey came to regard them. This thesis recognises that anatomical, surgical, medical and midwifery training in the hospitals of Georgian London was essentially a self-designed course; there was no university curriculum, such as was in place in Scotland.<sup>2</sup> A pupil in London paid a separate fee to a surgeon, a physician and to a man-midwife of his choice, or to whoever would accept him. There were no textbooks, and lecture notes were manuscript versions hurriedly copied out or obtained from other pupils. The chapter will provide a detailed review of Hey's training in London, taking account of procedures and techniques that he may have observed and come to an assessment of what he gained. The scholarship by historians on the rise of the man-midwife has not fully explored how a man-midwife was trained, or how the dissemination of London midwifery training into Georgian provincial towns took place.<sup>3</sup> Further, despite the extensive research by Susan Lawrence on the overall training of surgical and medical pupils in London, little detailed research has been done on how such training was effectively used in provincial life.<sup>4</sup> The chapter will close by considering the possible cost of training a

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<sup>1</sup> Similar details are sparse in medical biographies such as J. L. Thornton, *John Abernethy, A Biography* (London, 1953), I. A. Porter, *Alexander Gordon MD of Aberdeen, 1752-1799* (Edinburgh 1958), J. Dobson, *John Hunter* (Edinburgh, 1969), R. Porter, *Doctor of Society: Thomas Beddoes and The Sick Trade in Late-Enlightenment England* (London, 1992) and Wilson, *Surgery, Skin and Syphilis: Daniel Turner's London 1667-1741* (Amsterdam, 1999).

<sup>2</sup> For detail on Scottish Medical Training see L. Rosner, *Medical Education in the Age of Improvement: Edinburgh Students and Apprentices 1760-1826* (Edinburgh, 1991), however Rosner did not consult the Monro Archive in Dunedin.

<sup>3</sup> For example A. F. Wilson, *The Making of Man-Midwifery* (London, 1995), barely addresses this point and mentions the significant midwifery teacher Colin MacKenzie only once in a footnote, p. 131, note 9. By contrast for a comprehensive overview of the development of obstetric training, and the many practitioners involved, both in London and Edinburgh, during the eighteenth century, see A. M. Lord, 'To Relieve Distressed Women: Teaching and Establishing the Scientific Art of Man-Midwifery or Gynaecology in Edinburgh and London, 1720-1805', unpublished PhD thesis, University of Wisconsin-Madison, 1995, pp.56-80

<sup>4</sup> S. C. Lawrence, *Charitable Knowledge: Hospital Pupils and Practitioners in Eighteenth-century London* (Cambridge, 1996)

provincial practitioner and conclude with a review of some additional attributes that raised a surgeon-apothecary above the status of a mere tradesman.

### 2. 1. Childhood, School Days and Apprenticeship

The moderate wealth of William Hey's parents, derived from inheritance combined with acute business acumen, enabled them to provide farsighted education for their sons and 'train them for open professions'.<sup>5</sup> Only William's maternal grandfather and great grandfather, Jacob and William Simpson, had held a degree of professional status; Jacob was an apothecary and William a physician. Amongst the artisans of Leeds inner and outer townships his father, Richard Hey, was a man of standing, known by the epithet 'honest' Mr. Hey, regarded as a 'zealous Churchman with a strong moral sense' and an abhorrence of false testimony and the undue concealment of facts.<sup>6</sup> Although a devout member of the Church of England he 'was amicable with persons who dissented'.<sup>7</sup> Before William was born, Richard Hey had made financial provision for ordained clergy to be able to administer the Sacrament at the small chapel in Pudsey.<sup>8</sup> Mealtime Bible discussions and daily prayer sessions formed part of the everyday religious practices of the Hey family life. Rimmer observed that the importance and advantage of private devotions, knowledge of the duties owed to their Creator, in addition to Church attendance, was implanted in all Richard Hey's children from early childhood.<sup>9</sup> Some of Richard Hey's books and musical scores remain, indicating that he was a man of undoubted intellect, musical ability and an eclectic theological taste.<sup>10</sup>

Nothing is known of the early rudimentary education that the Hey children had, but John (1734-1815), the elder by two years, and William, achieved a standard sufficient to justify the expense of sending them both in 1743 to the 'modern' Heath Academy, a boarding school in Wakefield, for seven years. The choice of Heath School, founded in 1740, over

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<sup>5</sup> Rimmer, 'A Reappraisal', p. 191.

<sup>6</sup> *Ibid.*, p. 190.

<sup>7</sup> Pearson, *Hey*, p. lxxx.

<sup>8</sup> Rimmer, 'A Reappraisal', p. 190 & notes 9 & 10.

<sup>9</sup> *Ibid.*, p. 191.

<sup>10</sup> The Samuel Hey Library, Clerestory, St. Mary's Church, Steeple Aston, Wiltshire.

Leeds Grammar School, a long established traditional school, proved fortunate, although in 1743 it was expensive at £42-£70 per year.<sup>11</sup> Heath School was 'superintended by Joseph Randall, a mathematician. The classical languages were taught by Dr. Dodgson, the Bishop of Elphin and by the Rev. Sedgwick'. Of great significance, as far as William was concerned, was the teaching of 'natural philosophy by John Arden' (1720-1791).<sup>12</sup> William, his brothers recalled, displayed at this early age 'a great love of learning and science which increased with his years',<sup>13</sup> and in later life Hey said that 'the design of mathematical and philosophical studies is to enable a man to reason well...and to arrange...ideas and arguments with scrupulous care'.<sup>14</sup> The extensive Heath School library of 1500 books provided opportunity for wide study beyond the taught courses. In addition to a proficiency in classics,<sup>15</sup> particularly Latin,<sup>16</sup> Hey became fluent in French, and took advantage of Arden's apparatus to participate in experiments, in astronomy observations, and natural philosophy.<sup>17</sup>

The brothers of William Hey also remembered that 'during his childhood he [William] was remarkable for his sprightliness and activity, engaging in all the sports common to children with great ardour and vivacity; and this vigour and animation of body and mind, remained with him and were conspicuous in all his pursuits through every period of his life'. His active exuberance was guided into the gentlemanly accomplishments of music and fencing. Such pursuits would have been helpful for him to come to terms with his monocular vision. Hey became particularly adept at playing the flute to a concert standard,

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<sup>11</sup> J. W. Walker, *Wakefield its History and People* (Wakefield, 1939), II, p. 382.

<sup>12</sup> Pearson, *Hey*, p. 3, see also p. 49. Hey dissected an eye to complement a lecture on optics by Arden in 1778 in Bath.

<sup>13</sup> *Ibid.*, pp. 4-5.

<sup>14</sup> *Ibid.*, p. 14. An extract of a letter Hey sent to his son John dated Leeds 20 June 1795.

<sup>15</sup> J. Scultetus, *Armanentarium Chirurgicum* (Amsterdam: Janssoniana, 1662), and appendix (Amsterdam, 1671). This book was an early acquisition.

<sup>16</sup> MS/628, Book 1, Case 1, reveals that Hey read Morgagni in Latin.

<sup>17</sup> Pearson, *Hey*, p. 4, see also John Arden, *A Short Account of a Course of Natural and Experimental Philosophy* (Birmingham: N. P., 1773)

and the way in which a flute is held to one side whilst one eye reads the music would clearly have been an advantage for the adaptation of William's monocular vision.<sup>18</sup>

We catch three glimpses of Hey's early school life. Firstly when he compared the illness of a twelve-year-old boy to one of his own when about that age. The patient was infested with worms and had disturbing hallucinations that caused Hey to remark 'when I was young I used to have very frightful dreams, which terrified me at the time beyond measure. I was much relieved by drinking Harrogate water, tho' the disorder attended me at times for several years'.<sup>19</sup> Secondly, Hey proudly said that he had been punished but once only during his time at Heath School, and that the punishment had been for his concealment of the fault of a fellow pupil.<sup>20</sup> These reflections are very telling, because to feel terrified he must have felt special fear, and possibly for his immortal soul. Concealment of facts was a sin requiring punishment, even if it was in terms of a kindness to a fellow pupil. Lastly Hey recorded that his tutor Dr. Dodgson gave him a book 'as a testimony of his regard and approbation [for] his unwearied application and persevering industry'.<sup>21</sup> Thus the fourteen-year-old William left Heath School both with a conscience and an enquiring mind, or soul, as well as a secular education.

William became apprenticed to William Dawson (1718-1777), a first generation sole apothecary, on 24 June 1750.<sup>22</sup> Hey's son William said that his father had 'been designed for the medical profession from infancy', and that 'he submitted to the wishes of his parents, in adopting the study of medicine',<sup>23</sup> but also commented that 'had his own inclination been consulted, he would have preferred going to sea... in the hope of being at some future period, the surgeon of a Man of War'. William never referred to the lack of a naval career in his manuscripts, or other writings.

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<sup>18</sup> Pearson, *Hey*, p. 107.

<sup>19</sup> MS/268, Book 8, p. 139, dated late October 1779.

<sup>20</sup> MS/504/1, p. 4.

<sup>21</sup> Pearson, *Hey*, p. 4.

<sup>22</sup> Dawson was born 21 May 1718, the son of James Dawson a mercer and Elizabeth, of the Ibbetson family, one of the oldest and important Leeds families.

<sup>23</sup> MS/504/1, p. 6. William was named after his maternal great-grandfather, Dr. William Simpson.



The choice of Dawson was as fortunate a choice as Heath School. Dawson was a keen and accomplished botanist, who, Pearson noted, 'had adopted the botanical system of Ray [and introduced William to the] multiplied variety of flowers...and the important purposes for which they were designed [and that] Mr. Hey found recreation and delight in surveying the productions of the vegetable world'.<sup>24</sup> No evidence exists on the medical or surgical training that Dawson had received, but a certificate 'with the name of William Dawson purporting to be printed on the river Thames, in the great frost in the month of January 1739-1740'<sup>25</sup>, suggests that at aged twenty-one he was in London. Dawson was skilled in the use of forceps, a skill that he could only be acquired prior to 1740 in London, or from a pupil of a London trained man-midwife.<sup>26</sup> Dawson's superior ability was probably a factor in the choice over Michael Cottam (1710-1783), an apprentice of Hey's grandfather Jacob Simpson from 1724, who had succeeded to the practice on Simpson's death in 1738, since there is no evidence that Cottam had the same skill. Hey did not later recall any particular medical or surgical treatment pattern that he had learned from Dawson or later call upon Dawson for assistance in medical and surgical cases such as he did in midwifery cases; at least from the evidence of his case histories. Hey did however record Dawson as being present at the majority of his early dissections, suggesting that Dawson was keen to gain from Hey's extensive anatomical knowledge.

Hey's apprenticeship deed was not drawn up until 11 September 1753, at £30 for seven years, when Hey had already been an apprentice for three years. It was witnessed by Dawson's senior apprentice Samuel Ingham, and by Charles Barnard, a wealthy Leeds citizen

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<sup>24</sup> Pearson, *Hey*, appendix 1, pp. 126-131. Hey was noted as being familiar with the works of Robert Boyle.

<sup>25</sup> The main source for William Dawson is O. A. Moore 'Some account of William Dawson, Surgeon late of Leeds', *The Naturalist*, 5, 1855, pp. 145-151, who had Dawson's certificate in 1855. See also the Summersgill Collection, III, p. 198, Leeds Local Studies Collection.

<sup>26</sup> The accomplished man-midwife John Burton (1710-1771), trained in Leiden, where he became aware of the midwifery of Heinrich van Deventer. Burton later devised a refined version of the early type of forceps, and had a practice in Heath in Wakefield before settling in York. It is highly probable that Dawson was aware of Burton's skill and of Burton's 1751 publication *An Essay Towards a Complete System of Midwifery* that contained engraved plates by George Stubbs. For comment on Burton see also Wilson *The Making of Man-Midwifery*, p.164 note 17 and p.168 notes 47 &48.

involved in many Leeds legal transactions.<sup>27</sup> William's apprenticeship was marked with great industry, but without repugnance to menial tasks. His later working pattern rarely delegated menial, unpleasant tasks to others, as substantiated by his case histories; he attended to them personally.<sup>28</sup>

No archives of Dawson exist, but James Lucas, his kinsman, later partner and heir wrote *A Candid Inquiry into the Education, Qualification and Offices of a Surgeon-Apothecary*,<sup>29</sup> that suggests the type of training that Hey may have had. Lucas included an alphabetical list of the contents of an apothecary shop together with the shelf arrangement,<sup>30</sup> and an alphabetical table of instruments and bandages.<sup>31</sup> Prior to the proclamation of January 1788, on the uses of a Pharmacopoeia by the College of Physicians, there was no standard arrangement for an apothecary shop, and its order and tidiness was usually dependent upon an efficient apprentice. Lucas noted that every pupil would gain 'inconceivable advantage...and his master be preserved from a composition out of his dispensary causing the death of his patient' if he adopted a methodical method of keeping the shop.<sup>32</sup> The preparation and delivery of ointments, salves, bolus, cathartics and cordials was part of the daily grind of an apprentice. So eager was Hey to understand the effects of the drugs he prepared, that early in his apprenticeship he tasted the effects of one of the medications. It needed, as his son later recalled 'all the aid his kind master could render' to resuscitate him, for his curiosity had led him 'beyond the bounds of prudence...experiencing the delightful delusions of opium'.<sup>33</sup>

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<sup>27</sup> Apprenticeship Indenture between William Hey, William Dawson and Richard Hey, J. B. Hellier, 'On the History of Medical Education in Leeds' a typescript held in Leeds Reference Library, pp. 2-4. See also for Charles Barnard detail, *Leeds Mercury*, 30 January 1775. Ingham began his apprenticeship on 1 January 1746, but his deed was not sealed until 11 September 1753.

<sup>28</sup> Pearson, *Hey*, p. 9.

<sup>29</sup> J. Lucas, *A Candid Inquiry into the Education, Qualification and Offices of a Surgeon-Apothecary* (Bath: Hazard, 1800).

<sup>30</sup> *Ibid.*, pp. 134-142.

<sup>31</sup> *Ibid.*, pp. 244-252.

<sup>32</sup> *Ibid.*, p. 134.

<sup>33</sup> Pearson, *Hey*, p. 7.

An apothecary apprentice would also have been called to assist with the daily hotchpotch of ailments that was part and parcel of his master's workload, such as eruptive disorders from fleabites to smallpox, chronic inflammations, ulcers, hernias, eye problems, self-limiting seasonal ailments and a plethora of wounds and lacerations. Much of this work involved unpleasant tasks including lancing boils and abscesses, dressing pus-filled wounds and coping with the mal-odours resulting from putrid and necrotic internal disorders. The two standard cure-all treatment practices of electrification<sup>34</sup> and phlebotomy would also require assistance. Lucas made the salient comment that having 'imbibed pharmaceutical and surgical knowledge...[the apprentice] may find the practice of a skilful accoucheur the best introduction to the whole employment of a surgeon-apothecary'. He further observed that by executing a skilful delivery, a whole grateful family could be procured as patients.<sup>35</sup>

As Hey learnt his first practical medicine his mind was also developing his theological convictions. It is not known at what age Hey first encountered the 1747 publication of Philip Doddridge (1702-1751),<sup>36</sup> but it could have been soon after it was published because early in his apprenticeship he had many 'engaging conversations with Mrs. Dawson on the sentiments that it contained'.<sup>37</sup> Hey said that he had felt called in his youth to the true knowledge of God.<sup>38</sup> This may indeed relate to Doddridge's religion, which emphasized the grace of religious re-birth.<sup>39</sup> Hey came to consider the Bible as a practical book that conveyed those truths that relate to everlasting welfare and placed emphasis on individual willpower.<sup>40</sup>

During the middle decades of the eighteenth century Leeds was at the centre of northern Wesleyan activity, with many converts amongst the emergent mercantile elite.

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<sup>34</sup> For a discussion on early electrification practices see G.R. Rousseau, 'John Wesley's *Primitive Physic* (1747)', *Harvard Library Bulletin*, 16 (1968), p247

<sup>35</sup> Lucas, *A Candid Enquiry*, p. 189.

<sup>36</sup> P. Doddridge, *The Rise and Progress of Religion in the Soul* (London: N. P., 1947).

<sup>37</sup> Pearson, *Hey*, Part 2, p. 147.

<sup>38</sup> W. Hey, 'Memorial to Robert Hey written 17 May 1702', quoted in Pearson, *Hey* p. 89.

<sup>39</sup> D. L. Jeffrey, *English Spirituality in the Age of Wesley* (Michigan, 1994), pp. 173-198. See also *The First Epistle of Peter*, Chap. 1, v. 23.

<sup>40</sup> Pearson, *Hey*, p. 151.

Rimmer noted that ‘some 500 families supported the movement, more in fact than attended the Church [including] a sprinkling of young men from the better off families...a ginger group’.<sup>41</sup> In 1754, when Hey was eighteen, a separate Methodist congregation was formed in the White Chapel in Leeds,<sup>42</sup> and Hey decided at that time to ‘unite himself to’ the Methodists, whom he considered a body of Christians whose principles were orthodox and whose discipline might be useful.<sup>43</sup> Hey never at any time formally dissented from the established Church of England.<sup>44</sup> Wesley’s publication *An Appeal to Men of Reason and Religion* was said by Pearson, himself a lifelong Methodist, to have ‘operated powerfully on the mind of Mr. Hey’, although there is no detail to confirm whether this publication caused Hey’s connection to Methodism in 1754.<sup>45</sup> Dawson was said to have been devoid of bigotry and religious constraints, and allowed William freedom to absorb, or to reject Methodist values, as he would do in 1781 (See Chapter 3). In the intervening period Hey had a serious involvement with Methodism, despite the fact that he differed from the Methodists respecting the Doctrine of Perfection, and by no means agreed with their sentiments relative to the witness of the spirit, and the necessity of instantaneous conversion.<sup>46</sup>

From the teaching he found in the publication of Doddridge and the preaching of John Wesley, the sense of duty and purity that was to so distinguish the whole of Hey’s adult life took root. He felt ‘a deep concern for the welfare of his soul’,<sup>47</sup> and his deeply religious convictions could also stem from the fact that he had three times felt the hand of God preserving his body. He later recalled the pleasure that he had felt when sitting in solitude in the solemn gloom of Leeds Parish Church, listening to the sermons each Sunday as well as from hearing the preachers in the more vibrant atmosphere of the Methodist meeting. He said

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<sup>41</sup> Rimmer, ‘A Reappraisal’, p. 195.

<sup>42</sup> *Ibid.*, p. 195.

<sup>43</sup> Pearson, *Hey*, p. 155.

<sup>44</sup> *Ibid.*, p. 145.

<sup>45</sup> *Ibid.*, p. 144.

<sup>46</sup> *Ibid.*, p. 154.

<sup>47</sup> *Ibid.*, Part 2, pp. 7 & 8. Apart from the opium mishap and the loss of an eye at aged four, at the age of three Hey suffered severe burns to his body when his nightdress caught fire. He was saved by his nurse. A personal nurse is an indication of the standard of the Hey family life.

that he was always sure of hearing two good sermons and that he gained much from them; 'one from a prophet [the Church of England Cleric]', and another from an 'evangelist [the Methodist Preacher], in allusion to the first and second lessons'.<sup>48</sup> He also was said to have been meticulous in observing his morning and evening private prayers, ignoring the scorn of his fellow apprentices.

Hey's schooling had taught him, besides the requirements of Latin and mathematics, an appreciation of natural philosophy, a fluency in French, and developed his musical ability. His apprenticeship had not only trained him in apothecary organization and the uses of materia medica, but also extended his interest in natural philosophy with botany. In the seven years with Dawson he undoubtedly had had some midwifery experience, besides the run of day-to day accidents and minor surgery. When Hey went up to London in the autumn of 1757, his schooling, apothecary training and private theological deliberations ensured that he travelled, not only with enthusiastic professional aspirations and deep religious convictions, but also with a receptive, organized, and partially prepared mind. It is unlikely that with a mind set on absorbing extensive quantities of detail in a short time, Hey had not undertaken preparatory study prior to going to London. Some of the anatomy, surgical and midwifery books that survive from Hey's medical library, could suggest from their publication date<sup>49</sup> that he either chose, or was advised, to acquire and study them in preparation for his London training.<sup>50</sup>

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<sup>48</sup> Ibid., pp. 145-146.

<sup>49</sup> To give just a sample William Cheselden, *The Anatomy of the Human Body with XXXI Copper Plates* (London: S. Collins, 1722), *A Treatise on the High Operation for the Stone* (London: Osborn, 1723), Alexander Monro, *The Anatomy of the Human Bones to Which are Added an Anatomical Treatise of the Nerves; An Account of the Reciprocal Motions of the Heart; and, a Description of the Human Lacteal Sac and Duct* (Edinburgh: T. & W. Ruddiman, 1732), Lorenz Heister, *A General System of Surgery* (London: W. Innes and J. Richardson, 1757) and W. D. Smellie, *A Set of Anatomical Tables with Explanations and an Abridgement of the Practice of Midwifery* (London: N. P., 1754).

<sup>50</sup> The avid accumulation of a library particular to their profession was a common feature with Hey's siblings. The partial sale by Sotheby's of John Hey's library in 1815 took two days, and the extant remainder of Samuel Hey's library is as extensive as William's.

## 2.2. Anatomical and Surgical Training

Considering anatomy to be the foundation of all medical and chirurgial science, he determined to acquire a competent knowledge of the structure of the human body, (Pearson, Hey, p.8)

In 1757 Ambrose Dawson, Dawson's cousin held a position as a physician at St George's Hospital,<sup>51</sup> where a School of Medicine, the first in London, had been organized since 1752, giving St George's an air of innovation and modernity.<sup>52</sup> This could have been a determining factor in the choice of St. George's. A second possible consideration could have been knowledge of London medical training that Richard Hey heard about in dealings he may have had with wholesale London druggists, such as Thomas Corbyn,<sup>53</sup> since Corbyn was one of the first people who later supplied the Leeds Infirmary. Why Hey became a pupil of the surgeon William Bromfeild is uncertain, particularly since Dawson's nephew, heir, and later partner James Lucas had his London training only a few years later at St. Bartholomew's Hospital under the surgeon Percival Pott. Medical teaching at this time still transcended particular institutional boundaries and training was effected in multiple sites. There was no standardisation of medical, and more particularly of surgical training in London in 1757. Although contractual obligations existed between a master and a pupil the informality allowed work-based relationships to develop. Hey came to regard his anatomy teachers, John and William Hunter,<sup>54</sup> his surgical teacher, William Bromfeild (1712-1792),<sup>55</sup> and his midwifery teacher Colin MacKenzie, as lifelong mentors, although he did not always agree

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<sup>51</sup> Ambrose Dawson, William Dawson's first cousin was a physician at St. George's Hospital in London from 1745 to 1760, see Lawrence, *Charitable Knowledge*, appendix 1a, p. 345.

<sup>52</sup> C. Singer, & S. W. F. Holloway, 'Early Medical Education in England in relation to the pre-history of London University', *Medical History*, (1960), IV, p. 9.

<sup>53</sup> Wellcome Institute for the History of Medicine, The Corbyn Papers, 1726-1910, MSS/5435-5540, there are no details of individual supply and purchases relating to provincial druggists. See also R. Porter & D. Porter, 'The Rise of the English Drug Industry: The Role of Thomas Corbyn', *Medical History* (1989), pp. 277-295. Matthew Flinders, the Lincolnshire apothecary bought his drugs from Mr. Wilson a wholesale London druggist, entry dated January 1785.

<sup>54</sup> William Hunter was not named by William Hey II, or by Pearson as Hey's teacher of anatomy.

<sup>55</sup> Bromfeild was born into a London medical family comprising of physicians, surgeons and apothecaries who lived in Red Lion Street, Holborn, see G. C. Peachey, 'William Bromfeild', *Proceedings of the Royal Society of Medicine* (1915), 103-125, and D.I. Williams, *The London Lock: A Charitable Hospital for Venereal Disease 1746-1952* (London, 1988), pp.11-17

with them. Hey wrote to his parents on arrival in London in the autumn of 1757, 'I would spare no pains to qualify myself for that state of life to which the providence of God has called me, and then trust him with the success of my endeavours'.<sup>56</sup> This comment typifies Hey's whole approach to his chosen profession. His son William, later commented 'that inclination as well as religious principle led him to pursue his studies with great diligence and to a determination of making himself master of every subject to which he applied'.<sup>57</sup>

St. George's Hospital, in Lanesborough House, an imposing building situated on the corner of Hyde Park in London, had been open only twenty-four years when Hey arrived in 1757.<sup>58</sup> It had 'fifteen wards with over 250 beds...[and] an operating room...surgeon's [senior] pupils were called "dressers", because they helped to dress the wounds. Physician's pupils were called "clerks" '.<sup>59</sup> Hey now found himself within a group of pupils, some of whom (but we do not know if Hey was one) were resident in the accommodation provided at St. George's Hospital. This group of pupils would be startlingly different to any 'group' that Hey had previously been a part of. In the eighteen months prior to his arrival, forty-nine other pupils had been registered to Bromfeild, although how many of these still remained is unknown, and during the period that Hey was attached to Bromfeild as his pupil a further twenty-five students were enrolled. Amongst his fellow students, who ranged from Alexander Hamilton, William Osborne to Thomas Denman, Hey made two particular friends, Charles White of Manchester<sup>60</sup> and Michael Underwood; the latter was to remain his closest medical friend until death. Underwood was known at this time to be a Calvinistic Methodist and devotee of George Whitfield,<sup>61</sup> who had earlier preached to great effect in Leeds.<sup>62</sup> Hey

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<sup>56</sup> MS/504/1.

<sup>57</sup> Ibid., p. 1.

<sup>58</sup> Royal College of Surgeons, Transcript of St. George's Pupil Register, and Hey's number is fifty. The Pupil Register stems from 1752 but Bromfeild's pupils are not entered until 3 March 1756.

<sup>59</sup> T. Gould & D. Uttley, *A Short History of St. George's Hospital* (London, 1997), pp. 5 & 6. I am grateful to the Archivist of St. George's Hospital for confirmation of these facts. Interestingly the term 'clerking' is still in use to describe the way a patient is examined by a junior medical practitioner on admission to a hospital.

<sup>60</sup> St. George's pupil register for November 1758 details White no. 85 of Bromfeild's pupils.

<sup>61</sup> Ibid., p. 299. See also Corner, *Shippen*, diary entry 26 August 1759, records when Shippen heard Whitefield preach at the Tabernacle in Moorefield..

could have been drawn to Underwood by their shared religious views. Hey observed the Sabbath Day 'with unswerving exactness', finding that 'the complete suspending of all his secular pursuits, prepared him to resume his studies with renewed ardour and alacrity'.<sup>63</sup> It may well have been that Hey attended services with Underwood to hear Whitfield preach, as a later pupil, William Shippen, was to do in the following months.<sup>64</sup>

Hey's first winter in London was spent attending anatomical lectures and dissections, and his application to his studies was said to have been 'un-intermitted'.<sup>65</sup> Bromfeild, who had an extensive surgical practice,<sup>66</sup> had not taught anatomy after 1749,<sup>67</sup> and there was generally a lack of formal lecturing in anatomy at St. George's. Bromfeild's pupils, and surgical pupils attached to other London surgeons in 1757, in the two or three following years, were taught anatomy by William and John Hunter at William Hunter's private locations,<sup>68</sup> without charge.<sup>69</sup> The Hunter lectures ran each year from the first Monday in October to May. William Shippen, a pupil attached to a surgeon at St. Thomas's Hospital, lodged with William Hunter and attended similar lectures to Hey, but a year later. At the end of the first week of the anatomy course that Shippen attended, he noted, that he had 'rose at seven, spent the day in the dissecting room till 5, Dr's lecture till 7. 30 bed at 10. 30, talking anatomy with Mr. H. from supper'.<sup>70</sup> This may well have been the pattern that Hey had

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<sup>62</sup> W. J. Maloney, 'Michael Underwood: A Surgeon Practicing Midwifery from 1764 to 1784', *Journal of the History of Medicine and Allied Sciences* (1950), 5, p. 291.

<sup>63</sup> Pearson, *Hey*, part 2, p.17.

<sup>64</sup> Corner, *Shippen*, diary entry 28 October 1759.

<sup>65</sup> *Ibid.*, p. 8.

<sup>66</sup> D. I Williams, *The London Lock: A Charitable Hospital for Venereal Diseases 1746-1952* (London, 1988) Bromfeild had founded the Lock Hospital in 1746 and was also a surgeon there as well as a surgeon attached to the Royal Household.

<sup>67</sup> *Ibid.*, p. 15, Bromfeild sold his anatomical specimens to William Hunter at this time for two hundred pounds.

<sup>68</sup> S. C. Lawrence, 'Science & Medicine at the London Hospitals: The Development of Teaching and Research 1750-1815' (PhD Thesis, Toronto, 1985, Unpublished), p. 149 and p. 150.

<sup>69</sup> T. Gould & D. Uttley, *A Short History of St. George's*, p. 8 also Royal College of Surgeons, Transcript of the Pupil Register for St. George's Hospital, entry for Thomas Blount, November 1758, one of Hey's fellow students, who was noted as present at Hunter's lectures in November 1758. See also Peachey, *Memoirs of William and John Hunter*, p. 112, John Hunter taught pupils anatomy at the house in Great Piazza during the winter of 1757.

<sup>70</sup> Corner, *Shippen*, p. 25, diary entry Saturday 6 October 1758



followed a year earlier, because he said he 'seldom spent less than twelve hours daily in the lectures and dissecting rooms'.<sup>71</sup>

Dissection appears to have been an absorbing occupation for the pupils. There is a distinct difference between the dissection of a complete human cadaver and a limited dissection performed to determine the cause of death, or the extent of a disease. Anatomical education could not adequately be acquired from texts alone, nor could self-taught individuals acquire it, instead it had to be taught by demonstration. The 'Treatise on Anatomical Encheiresis' written in 1747 by *Monro Primus*,<sup>72</sup> together with his eldest son Donald, detailed exactly how a cadaver should be dissected and the viscera preserved. *Monro's* designated procedures were probably what could be regarded as standard at that time, and serve as an example.<sup>73</sup> *Monro Primus* began by describing the various types of dissecting implements, scissors, forceps, lancets, saws and scalpels that should be used, in particular how they should be held in the hand to be most effective.<sup>74</sup> He noted that an operator should remember that a much greater force would be needed when performing the same procedure on a living body. He went on to detail preservation and embalming procedures, and that it was advisable to inject arteries, with mercury or with wax, before opening the body.<sup>75</sup> Robert Wallace Johnson, who had a private practice in the London area at this time but did not hold a hospital appointment, said that 'Mr. John Hunter who injected the abdominal arteries of a young woman for me in November 1757' returned the next day and 'opened the body'.<sup>76</sup> *Monro* then gave specific instruction for the complete dissection and preservation of a skeleton to keep it as intact as possible, even if some bones needed to be boiled to clean them.<sup>77</sup> Half a century later in 1809 *Hey* was to demonstrate how well he had been taught to dissect and preserve a skeleton, when he dissected the body of Mary

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<sup>71</sup> Pearson, *Hey*, p. 8 and p. 9.

<sup>72</sup> Peachey, *William and John Hunter*, p. 58, *Monro Primus* taught William Hunter anatomy in 1739-1740.

<sup>73</sup> A. *Monro Primus* and Dr. D. *Monro*, 'A Treatise on Anatomical Encheiresis', ref. MS/169.

<sup>74</sup> *Ibid.*, pp. 7-14.

<sup>75</sup> *Ibid.*, pp. 17-23.

<sup>76</sup> Johnson, *New System of Midwifery*, p. 28.

<sup>77</sup> *Ibid.*, pp. 38-60.

Bateman, whose extant skeleton, with even her finger nails intact, is testimony to the effectiveness of his technique.<sup>78</sup>

William Hunter stressed the importance of dissecting a human body, as well as the importance of the study of preserved parts of a human body. 'A proficiency in anatomy is [attained] by attending the lectures of dissection in the theatres...and dissecting dead bodies and by the help of microscopic injections on preparations of the various parts of bodies...of the celebrated authors consult Heister'.<sup>79</sup> Parts of cadavers once preserved could be bought by pupils and retained for personal study,<sup>80</sup> an advantage in an age where there were few illustrated anatomical textbooks, and dissection took place only in the cooler months of the year.

There are accounts of eleven pathological dissections performed by John Hunter at 'our house' the premises of William and John Hunter between November 1757 and April 1758, the period of Hey's in-depth anatomical studies, at which he might have been present (see Table 2A below).<sup>81</sup> The variety of dissections is remarkable, exposing a pupil such as Hey to investigation of many types of terminal ailments. Two preserved specimens from these dissections still remain in the Hunterian Collection, the kidney in the fourth dissection and the tongue and lower jaw in the tenth.<sup>82</sup> Significantly in the second case, a pupil, Mr. Phillips, is named as the dissector in the organ removal.<sup>83</sup>

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<sup>78</sup> The skeleton of Mary Bateman is on display in the Thackray Museum in Leeds.

<sup>79</sup> Manuscript, Anatomical Lectures of Dr. William Hunter, dated 1757, written in the hand of William Hunter, Royal College of Physicians, MS/368, and Lecture One.

<sup>80</sup> Ford, *The Weekes Family Letters*, no. 32 & 56 Richard Weekes asked his son when a pupil to obtain 'a small pelvis of a male subject where the penis is in situ...and the bladder and rectum [had been injected] to show the parts concerned in operating for the stone', adding that he did not mind the expense involved.

<sup>81</sup> Allen, Turk and Murley, *The Casebooks of John Hunter F.R.S.*, pp. 302-308, Cases 37 to 47.

<sup>82</sup> *Ibid.*, plate 10, p. 363.

<sup>83</sup> Transcript of the Pupil Register of St. George's, Mr. J. Phillips is listed as pupil number 34 under Bromfeild, entry date 7 February 1757, and therefore a fellow student of Hey. It could well be that pupils such as Hey took part in similar dissections in the following year.

**Table 2A Dissections November 1757 to April 1758**

No	Date	Surgeon	Patient	Condition	Dissection Findings
1	Nov 1757	John Hunter	Old man	Ossification of the Pleura	Lungs removed, Loose Concretions in the Tunica Vaginalis
2	Nov 1757	Mr. Phillips	A young marine, robust and fat	Carious Tibia, subsequent fever & Chronic Infection	Mr. Phillips removed Stomach, Liver, Spleen and Pancreas. Thorax opened 5 days later Diaphragmatic Hernia found
3	Nov 1757	John Hunter	A woman	Obstructive Jaundice	Many concretions in the Bile Ducts
4	Nov 1757	John Hunter	A man	No detail	Left Kidney irregular and hard with white knobs full of mucus and a black stone found in Pelvis
5	Dec 1757	John Hunter	Mr. Page very fat	Irregular pulse	Heart large and soft as if rotten, Aorta large and coats very thick, Stones in Gall Bladder
6	Dec 1757	Mr. Hawkins	A sailor lad	Operation to remove congenital femoral hernia	Bubonocoele, Omentum mortified
7	Dec 1757	John Hunter	A woman	Chronic Cholecystitis	No Gall Bladder, ligamentous knot at upper end of Cystic
8	Dec 1757	Sir John Pringle and John Hunter (This Case is also in the Pringle Papers)	Capt. Strachan aged 75	Head injury at aged 15, chronic pain and stupor, Tenemus and violent pain	Head opened 36 hours after death, water in the upper Ventricles, Stomach contracted, no cavity in the whole length of Colon and Rectum
9	Feb 1758	John Hunter	Neonate died on 6 <sup>th</sup> day	Spina Bifida	Tumour size of a large walnut on Spinal Cord
10	3 Feb 1758	John Hunter	A woman	Childbed Fever	Tongue Adhering to the right side of the under Lip and rotten Teeth
11	April 1758	Mr. Bromfeild	A man	Operation to remove a nose polypus, cancerous ulcer	Head opened, Nostril and Antrum filled with Maxillary Cancer

The effect that dissections such as these had upon the surgical pupils was twofold. Firstly it exposed the pupil to the interest shown by significant medical men of the day (in this case Sir John Pringle in Case 8) to dissections, and secondly because they could be called upon to demonstrate their dissecting technique, as in Case 2. The disturbing effect that a full anatomical dissection on a human cadaver had upon a pupil not yet fully accustomed to regular dissections, must also be taken into account. Hey's own response to his dissecting experiences as a student took a religiously contemplative form, because he said 'dead bodies

are much more innocent companions than living ones. I have often had very solemn reflections in the dissecting rooms, and have when all the company was gone, kneeled down in prayer in the midst of these silent preachers of our guilt and misery'.<sup>84</sup> This comment conveyed the religious embedding of his practical learning. He clearly saw God's creation in the human form, living or dead, and regarded a body as a subject of religious contemplation.

How Hunter's anatomy lectures progressed can be gleaned from a manuscript of his lectures given by Hewson, his pupil and successor.<sup>85</sup> These ninety-two lectures were extremely comprehensive. They began with the uses of anatomy to surgeons and physicians, and then detailed the venal, glandular and nervous systems before proceeding to membranes, muscles, bones and ligaments. Specific parts of the body were discussed; the male body, with its parts of generation, were included first, and it was not until lecture forty-six that the female body was discussed. Hey returned to London in December 1768 to attend some of Hunter's anatomy lectures. Whilst in London he renewed the acquaintance of Hewson, who had also been a medical pupil in London in 1758 and 1759. The continuance of surgical and anatomical studies appeared to be of great value to Hey because he referred to it when he sent a curious case history<sup>86</sup> to William Hunter for publication.<sup>87</sup> And in the compilation of several of his case histories Hey inserted the comment 'it is the opinion of Dr. Hunter',<sup>88</sup> thereby revealing his consistent awareness of Hunter's work. The Hunter vs. Hewson controversy some years later could have influenced Hey's later negative attitude towards Hewson<sup>89</sup> (See Chapter3).

Hey's diligence earned the respect of his teachers, and his fellow students.<sup>90</sup> His principal concern would seem that he wished to gain clear ideas of what he learned in the

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<sup>84</sup> MS/504/1. Part of a letter that Hey sent to his son Richard when Richard began his London medical studies.

<sup>85</sup> Royal College of Physicians MS/368 & MS/369, a manuscript copy of Hunter's Lectures on Anatomy given by William Hewson in 1770, taken by Thomas Gillatt.

<sup>86</sup> MS/628, Book 3, Case 15, p. 65 dated 7 March 1768 and Case 16, p.70 dated 28 July 1768.

<sup>87</sup> William Hey, letter dated 7 November 1770 to William Hunter, Hunterian Manuscripts, ref. H84, Glasgow Royal College of Surgeons.

<sup>88</sup> MS/628, Book 4, Case 17, p. 107 dated January 1773.

<sup>89</sup> Hey, *Observations on the Blood*, pp. 5, 10 and 16 following.

<sup>90</sup> W. Hey, letter dated 20 June 1795 to John Hey his son, quoted in Pearson, *Hey*, p. 14.

pursuit of his medical knowledge, and to assimilate and consolidate this knowledge. To this end, 'from the dissections that he was involved in, and by the use of books, Hey set himself to dissect without them and composed a description of the human nerves and blood vessels', from which he was later said 'to have gained great advantage',<sup>91</sup> an indication that he succeeded in clarifying the teaching he had received to his own satisfaction, and also that he clearly regarded it as important to be able to dissect without the immediate guidance of written texts. Moreover he recognised the need to record results and observations for future reference. These actions exhibit a highly active, participative attitude to learning, and a significant degree of confidence in his developing practical skills. Hey's actions also define his realization of the acute limitations of anatomical technical publications at this time, because the sophistication that is evident in the *Monro Primus* and Hunter manuscripts mentioned above did not apply to all, a view endorsed by Thomas Young (d. 1783), who compiled a similar notebook to Hey, but on midwifery technique, in which he drew together both published and manuscript material.<sup>92</sup>

Surgeons were, and still are, taught to develop an acute sense of touch, for the eye captures only partial, fleeting signs. The inside part of the index finger carries the most sensitive area of touch, and the training to use this touch could stem from very early days when surgeons had no way of visualizing what lay beneath the skin.<sup>93</sup> Surgery was, and is still essentially a craft, and Bromfeild said that 'no one can think himself competent as a surgeon until he has a complete knowledge of the structure of the human body'.<sup>94</sup> It was also recognized at this time, when the art of invasive human surgery was developing, that 'a surgeon must add a kind of courage peculiar to him...not to have the heart to tear, lacerate

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<sup>91</sup> Pearson, *Hey*, p. 8.

<sup>92</sup> T. Young, 'A Midwifery Notebook, 1759-1780', Royal College of Physicians, Edinburgh, ref. 7.

<sup>93</sup> I am grateful to have had the opportunity to attend some clinical teaching lectures held in St. James University Teaching Hospital, Leeds where this technique was demonstrated.

<sup>94</sup> Bromfeild, *Chirurgical Observations*, p. 2.

and mangle the patient wantonly, but he must have the courage to go through the most severe necessary operation without being much affected by the patients suffering'.<sup>95</sup>

Apart from lithotomy and the relief of head fractures, surgical procedures in the mid-eighteenth century were restricted to non-invasive operations involving mainly limb amputations, realignment of dislocated joints, relief of strangulated hernias and the extirpation of tumours on the pendulous parts of the body. The surgical lecture notes of Alexander Monro *Secundus*, given around mid-century, also cover the surgical adjustment of fistulas, removal of cataracts, relief of urine retention, caesarean section, and a large consideration on wound management.<sup>96</sup> Referred pain from internal tumours, the spread of carcinoma metastases and the osteo-arthritic deterioration of the skeleton were not yet readily apprehended. All surgical operations were dependent upon the willingness of a patient to subject him, or herself, to unimaginable agony, where a cure could often have appeared more traumatic than the presenting condition, with no guarantee of success.

No archives of Bromfeild remain, but an idea of his teaching can be gleaned from his publication where he consistently referred back to the works of Cheselden, Heister, and Sharp, the latter in regard to improvements to surgical instruments.<sup>97</sup> Bromfeild was proud of his teaching, commenting that 'almost every market town is now furnished with a gentleman extremely well qualified who have attended our hospitals and professors of anatomy in London'.<sup>98</sup> In his observations on Lithotomy he noted that 'several of my pupils when they attempted to perform this operation on dead subjects...had great difficulty in getting at the prostate gland', and he went on to advise the best position to place a patient in before operating.<sup>99</sup> An essential part of the surgical training that Hey would have received from Bromfeild was the demonstration of particular operations carried out slowly and carefully on

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<sup>95</sup> R. Campbell, *The London Tradesman* (London: T. Gardner, 1747), pp. 48-49.

<sup>96</sup> Monro *Secundus*, Twenty Surgical Lectures taken by Alexander Gordon, circa 1755, Aberdeen University Specials, ref. MS/636.

<sup>97</sup> Bromfeild, *Chirurgical Observations*, vol. II, p.165, p.209 and p.210.

<sup>98</sup> *Ibid.*, p. 58.

<sup>99</sup> *Ibid.*, p. 239.

a cadaver, which on the living would need to be carried out at speed. Evidence of such procedures can be found in Bromfeild's publication, where he referred to his lectures on amputation that he had given to his pupils at St. George's, and in the later publication of Charles White, one of Hey's fellow pupils under Bromfeild.<sup>100</sup> White, in discussing an amputation of the upper head of an os humerus said 'I had frequently performed this operation upon dead subjects where the parts had not been diseased...and had no reason to doubt of success in a living subject, where the ligaments and muscles were more subtle'.<sup>101</sup> The quality of Bromfeild's surgical teaching lay not only in making his pupils aware of the particular procedural difficulties they would encounter, but also in his directions regarding the difference between dead and live anatomy, and ordinary and pathological anatomy.

Surgical procedures on chronic conditions caused by multiple tubercular foci and osteomyelitis of bone marrow, presented challenging opportunities to newly trained surgeons. The detail of one operation of this type performed by Bromfeild at St. George's around the time Hey was his pupil has survived. It concerns an eleven-year-old girl whose lower jawbone had become necrotic and filled with matter. Bromfeild successfully excised the dead bone, drained the matter and by careful postoperative care restored the child to health.<sup>102</sup> Hey later recalled in his case histories many similar cases that Bromfeild had treated at St. George's. Two such Hey cases are of a dislocated thumb in 1767,<sup>103</sup> and a leg amputation in the spring of 1773.<sup>104</sup> Hey may well also have gained his disposition to challenge traditional practices from Bromfeild, who remarked in 1773 that 'there were bigots in every profession and many in surgery who from habit, prejudice and false reasoning, cannot fall in with any proposal which does not exactly coincide with their notions of things'.<sup>105</sup>

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<sup>100</sup> Ibid., vol. 1, p. 20.

<sup>101</sup> White, *Cases in Surgery*, p. 66. It is salient to note that the practice of demonstrating some surgical procedures such as reconstructive surgery is still performed on a cadaver. I am grateful for this comment to R. M. Haywood, FRCS (Plast).

<sup>102</sup> Alan, Turk and Murley, *The Casebooks of John Hunter*, p. 3.

<sup>103</sup> MS/628, Book 2, Case 39, p. 135 dated March 1767.

<sup>104</sup> MS/628, Book 4, Case 28, p. 145 dated spring 1773.

<sup>105</sup> Bromfeild, *Chirurgical Observations*, p. 8.

In June 1758 Hey was appointed as a dresser to Bromfeild. His demeanour at times deemed controversial,<sup>106</sup> Bromfeild was said by Pearson to be ‘rough and blustering, his wit coarse [yet] he possessed kindness and humanity’.<sup>107</sup> Hey was at that time a serious and religious young man, but his diligence and surgical potential had impressed Bromfeild to a greater degree than the other pupils. It was a distinct advantage to be a dresser, because it provided greater opportunity to gain technical expertise.<sup>108</sup> Dressing pupils, at least from 1750 at St. Thomas’s had to pay an extra fee, and were sometimes entrusted to attend the wards outside the rounds of the surgeon whose pupil they were. The extra fee could be said to be controversial because the pupils in effect provided a source of free labour to the hospital. They also wore distinguishable attire that marked their status and responsibility.<sup>109</sup> At St. Thomas’s Hospital, Shippen accorded the dresser a fair degree of prominence and importance; he remarked, ‘rose at 7, walked the hospital with dresser’, indicating that a dresser was responsible for the initial morning report to the surgeons on the postoperative state of the patients. Shippen went on to say that he then attended the ‘surgeons’, after which he saw the ‘house dressed’.<sup>110</sup> A dresser applied topical remedies and changed bandages, thereby gaining firsthand knowledge of postoperative complications. This would have been a significant part of a surgeon’s education. The way that Hey later compiled in his case histories the daily detail of his patient’s postoperative care, may well stem from the way that he was taught by Bromfeild to observe what progress a wound had made when re-dressing it, and when to call the surgeon if signs of necrosis or inflammation had appeared. During his period as a dresser Hey was said to have benefited greatly from his recent anatomical training and swiftly gained confidence and technical expertise.<sup>111</sup> Hey would have also learned the

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<sup>106</sup> D. Harley, ‘Honour and Property: The Structure of Professional Disputes in Eighteenth-Century English Medicine’, eds. A. Cunningham and R. French, *The Medical Enlightenment of the Eighteenth Century* (Cambridge, 1990), p. 154.

<sup>107</sup> Pearson, *Hey*, p. 10.

<sup>108</sup> John Abernethy was appointed as a dresser to Pott and counted it a distinct advantage, Thornton, *John Abernethy*, p.23

<sup>109</sup> Lawrence, *Charitable Knowledge*, pp. 127-8 and footnotes 52 to 57

<sup>110</sup> Corner, *Shippen*, p. 16.

<sup>111</sup> Pearson, *Hey*, p. 11.



way to treat patients objectively within the bounded setting of an institution, and he would have been aware of consultations between surgeons working in the same bounded setting.<sup>112</sup> This was a vital part of surgical and medical training in the era of the rise of provincial infirmaries, which removed some patients from domiciliary environments.

Another opportunity that a dresser had was learning the art of teaching, whilst still a pupil oneself, because the dissemination and teaching of a craft technique as specific as human surgery, requires many attributes besides cool nerves, a steady hand and a strong stomach.<sup>113</sup> The fact that Bromfeild, an accredited teacher himself, selected Hey as his dresser, suggests that he recognized possible teaching potential in Hey. This suggestion is confirmed by the fact that Hey's fellow students 'frequently applied to him in matters of difficulty [and] he was able to assist...and encourage them'.<sup>114</sup> Hey was later to write in his *Medical Commonplace Book* that 'the business of the life of a scholar is to accumulate and to diffuse knowledge, to learn in order that he may teach';<sup>115</sup> but medical knowledge needs application, because decisions that concern the life of a fellow human being are not like any other. Under Bromfeild's teaching Hey acquired both anatomical and surgical ability, and confidence in that ability to such a degree that he attained a pre-eminent position amongst Bromfeild's pupils. He also learned the art of communicating the crafts that he learned to others.

Hey later revealed a further significant insight into his formative training, when he recalled that he had attended surgical procedures performed by Percival Pott in 1758.<sup>116</sup> In 1758 Pott had been a senior surgeon at St. Bartholomew's for almost ten years. A man of high character and flamboyant nature, Pott's reputation at that time rivalled, if not exceeded that of both Hunter and Bromfeild, albeit that hindsight has levelled their reputations

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<sup>112</sup> Hey referred to Hawkins in an early case, where he had written to him for advice on a diagnosis, MS/628, Book 1, Case 12 dated January 1764, the case of William Priestley.

<sup>113</sup> Lawrence, *Charitable Knowledge*, p. 49, Lawrence insists that this self-evident point is worth making explicit.

<sup>114</sup> Pearson, *Hey*, p.12.

<sup>115</sup> MS/1587, fifth section, second page

<sup>116</sup> MS/628, Book 9, p. 131 dated February 1789 and p. 138 dated May 1789.

generally. Shippen also attended Pott's operations in the same year as Hey and regarded Pott 'a very clean and neat. surgeon'.<sup>117</sup> There was an open market in medical education in London when Hey was a student,<sup>118</sup> and Hey could have been advised to attend some of Pott's operations and would have paid an individual fee accordingly. Hey criticised Pott publicly, but posthumously.<sup>119</sup> And, privately in his casebooks, when Hey reconsidered one of Pott's surgical practices in 1789 his criticism was acute.<sup>120</sup> Hey wrote 'N. B., this operation which Mr. Pott relates without naming the operator was performed by himself in 1758, when I was a student in London. I was present at that operation and at that time condemned it thinking it argued rather too great fondness for operating to subject a man in perfect health, exclusive of the omental hernia, to so serious an operation, when his life was in no immediate danger'.<sup>121</sup> These are firm and confident opinions formed in a relatively inexperienced young man of twenty-two, but ones that had not changed after thirty years. The fact that Pott had stirred Hey in a way that caused him to reflect carefully before inflicting operational pain carries particular surgical significance, for a judgement on when not to perform an action, is just as important, in fact probably more important, than when to perform an action. The young Hey was already thinking in terms of operational necessity rather than possibility.

Hey's six-month period as Bromfeild's dresser was followed in late 1758 by a period of instruction from the physician Dr. Donald Monro (1728-1802), the eldest son of Monro *Primus*, who was appointed to St. George's Hospital on 3 November 1758,<sup>122</sup> but who had been in private practice in London since 1756. The opportunity to be taught by Dr. Donald Monro was a particular advantage. Monro gave systematic lectures on the theory and

<sup>117</sup> Corner, *Shippen*, p. 28, entry 7 November 1758

<sup>118</sup> Lawrence, *Charitable Knowledge*, p. 168.

<sup>119</sup> Hey, *Observations in Surgery*, p. 1.

<sup>120</sup> P. Pott, *A Treatise on the Hydrocele or Watery Rupture* (London; L. Hawes and others, 1767), p. 114.

<sup>121</sup> MS/628, Book 9, dated May 1789 p. 140.

<sup>122</sup> Wright-St Clair, *Doctors Monro*, p. 63.

practice of medicine, including chemistry, materia medica and fevers.<sup>123</sup> Monro 'was regarded as an able practical physician';<sup>124</sup> the telling words here are 'able' and 'practical'; qualities, at least from the evidence of his case histories, that Hey emulated.

Donald Monro did not fall into the pattern of a normal physician; he was far more than that, because he had been trained in anatomy as his father's heir (See Chapter 1). Later distinguished as an army practitioner, in these early days Monro had prepared in 1756 a manuscript entitled 'Of Internal Diseases'.<sup>125</sup> It is probable that he taught from this manuscript at St. George's, especially from the section on 'Fevers', since he refers to the treatment of a patient, Alice Thomas, who was treated in St. George's in 1758 in an addition to an already completed page.<sup>126</sup> Further evidence on the way Monro could possibly have taught Hey and his fellow students can be found in one of Monro's later publications. Monro gave a detailed account of his treatment of a patient Janet Craggs aged thirty, who was admitted to St George's on 21 December 1758 and treated for jaundice until May 1759; a period that coincided exactly with the time that Monro was teaching medicine to Hey.<sup>127</sup> The prolonged treatment required exposed the medical pupils to the enigmatic nature of many diseases, that even when correctly diagnosed took extensive medication and bed rest to cure. Hey had a copy of Monro's 1753 doctoral dissertation,<sup>128</sup> and two of Hey's early cases<sup>129</sup> concern the condition Hydrocele, the subject of this dissertation. But more significantly, Hey mentioned Monro in his case histories, in a smallpox case,<sup>130</sup> where he was concerned with the level of fever. This suggests that Monro's comprehensive review of the various ways that different type of fever should be treated had been a significant part of his training. Indeed,

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<sup>123</sup> Wright-St. Clair, *Doctors Monro*, p. 64.

<sup>124</sup> Pearson, *Hey*, p. 10.

<sup>125</sup> D. Monro, 'Of Internal Diseases', Ref. MS/254, Monro Archive, Dunedin.

<sup>126</sup> *Ibid.*, This Manuscript contains 192 pages numbers 434 to 662 and the added reference occurs on page 507.

<sup>127</sup> D. Monro, *Observations on the Means of Preserving the Health of Soldiers* (London: J. Murray, 1780), P. 135.

<sup>128</sup> D. Monro, *Dissertatio Medica Inauguralis de Hyrope* (Edinburgh: Hamilton, 1753).

<sup>129</sup> MS/628, Book 1, Case 53 dated 1 January 1761 and Case 54 dated 1 January 1760.

<sup>130</sup> MS/628, Book 1, Case 21, dated 21 March 1764.

the way that Hey adopted the practice of clearing a delivery and lying-in room of attendants and admitting fresh air relates directly to the section 'of heat' in Monro's manuscript.<sup>131</sup>

Bromfeild's surgical teaching built upon the anatomy teaching of the Hunters forging confidence, and honing the ability of his pupils. Hey's period as a dresser exposed him to a rudimentary experience of what historians term, 'the clinical gaze', because his attention had to concentrate on the site of the surgical procedure, rather than on the patient. His later meticulous clinical post-operative accounts must have originated from the type of notes Bromfeild required on the progress of his operations. Monro's teaching on the recognition and treatment of fevers was absolutely fundamental, especially in an age when fevers were one of the most serious hazards encountered in all aspects of health care. Certainly Hey's developing deftness with surgical instruments and awareness of fevers prepared him to be highly receptive to his following period of midwifery training.

### 2.3. Midwifery Training

I used likewise to get leave to come a little before lecture began to propose my doubts and queries collected from reading and thinking on the subject, or arising from what had past at a lecture. Dr. MacKenzie was exceedingly kind to me in permitting this freedom.

(Letter circa 1784 from William Hey to his son Richard in London, W. Hey II MS/504/3)

The period Hey spent in London, autumn 1757 to spring 1759 was an auspicious time for man-midwifery. Smellie was at the zenith of his career,<sup>132</sup> retiring home to Lanarkshire in 1759 after passing his teaching practice to his senior pupil Dr. John Harvie. To be an obstetric pupil amidst the finest obstetricians of the mid-eighteenth century, Smellie, Harvie, Rigby, MacKenzie, and Hunter, at a time of substantial and enduring advance in obstetrics, was an exceptional midwifery training experience.

<sup>131</sup> D. Monro 'Of Internal Diseases', pp. 466-474.

<sup>132</sup> MS/567, Case 48, dated 10 March 1764, in this case Hey referred to the way Smellie observed a delivery presentation in a way that suggests Hey had witnessed the procedure rather than read of it.

When Hey began his formal instruction in midwifery from Dr. Colin MacKenzie (1698-1775),<sup>133</sup> he already possessed a degree of midwifery practice, if not concentrated experience of normal deliveries,<sup>134</sup> obtained during his apprenticeship to Dawson. There are many midwifery publications remaining from Hey's original library that he could have owned, or certainly been aware of prior to 1759, books by recognised midwifery specialists such as Deventer,<sup>135</sup> Giffard,<sup>136</sup> Smellie,<sup>137</sup> and the French author Mauriceau.<sup>138</sup> Whether Hey received any midwifery training from William Hunter is unknown, but Hunter gave midwifery lectures at this time particularly on 'The Gravid Uterus and the Diseases of Children',<sup>139</sup> and used the engravings of Rymsdyk throughout. Furthermore, although Bromfeild was never credited as a midwifery teacher to Hey, he held an appointment to the British Lying-In Hospital.<sup>140</sup> However the midwifery teacher to whom Hey consistently referred in his early years was not Hunter, Bromfeild, or Smellie, but MacKenzie. Hey retained a copy of MacKenzie's lecture notes, to which he sometimes referred,<sup>141</sup> and in one particular case he made the significant comment that he was able 'to apply MacKenzie Forceps, very well'.<sup>142</sup> Not until Harvie's 1767 publication,<sup>143</sup> and Rigby's publication in

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<sup>133</sup> MacKenzie was a member of the MacKenzie Clan from The Black Isle, Cromarty and, Rosshire, for detail see Frazer- MacKenzie Archive, Special Collection, St. Andrew's University Library. MacKenzie trained at Leiden where, like Burton, he experienced the midwifery legacy of Deventer, and is listed as Scotus (No. 10, 1722) C 24 Med, Calenus MacKenzie in, R. W. Innes-Smith, *Students of Medicine at Leiden* (Edinburgh, 1932). MacKenzie was awarded a degree of Doctor of Medicine by St. Andrew's University on 6 April 1759, based on the testimonials of John Aves and J. P. Rutherford, submitted on 10 Feb 1758, Minute Books of the Doctoral Fellows of St. Andrew's University for the year 1759.

<sup>134</sup> Pearson, *Hey*, p. 16.

<sup>135</sup> H. van Deventer, *The Art of Midwifery Improved* (London A Bettesworth, 1728)

<sup>136</sup> W. Giffard, *Cases in Midwifery* (London: B. Motte and others, 1734)

<sup>137</sup> W. Smellie, *A Treatise on the Theory and Practice of Midwifery* (London: N. P., 1754)

<sup>138</sup> F. Mauriceau, *Observations sur la Grossesse et l'Accouchement des Femmes* (Paris: N. P., 1728)

<sup>139</sup> Royal College of Surgeons, 42 d. 25, 'William Hunter, Lecture Notes on the Gravid Uterus and Diseases of Children', compiled by William Allison in 1785.

<sup>140</sup> Maloney, 'Michael Underwood: A Surgeon Practicing Midwifery from 1764 to 1784', p. 298, quoting minutes of the British Lying-In Weekly Board Meeting dated 29 October 1766, 'Mr. Michael Underwood, being the only candidate to succeed Dr. Bromfeild as Surgeon, was unanimously elected as Surgeon to this hospital practicing Midwifery in his place'.

<sup>141</sup> MS/567, Book 3, p. 135, Case 163 dated 20 August 1774, a case of ingested meconium.

<sup>142</sup> MS/567, Book 4, p. 29, Case 186 dated 7 August 1775. This reference to a particular set of Forceps designed by MacKenzie is almost unique, because they are not noted by A. Doran 'Eighteenth-Century Obstetric Forceps', pp. 54-75, by Hibbard, *The Obstetric Forceps*, or by Das, *Obstetric Forceps*.

<sup>143</sup> Harvie, *Practical Directions, Shewing a Method of Preserving the Perineum*, Harvie took over from Smellie in July 1759, teaching and using Smellie's appliances, it is therefore highly likely that Hey had made the acquaintance of Harvie during his time in London.

1775,<sup>144</sup> on particular obstetric complications became available, did Hey reveal any other influence. It is therefore MacKenzie who was the seminal midwifery influence on Hey.

MacKenzie, a bachelor, formerly a surgeon on a Man-of-War, began to teach midwifery in the winter of 1754 to 1755 after a period as senior pupil to William Smellie.<sup>145</sup> He maintained a small private Lying-In Hospital in Crucifix Lane, where he delivered women and demonstrated obstetric principles.<sup>146</sup> He also had a substantial collection of preserved human body parts that were bought by Orme after his death for a thousand guineas.<sup>147</sup> Because MacKenzie falls into the shadow of other eighteenth-century obstetric teachers,<sup>148</sup> it is pertinent to give some background detail of him because he was such a formative part of the way Hey approached his midwifery work.

MacKenzie was a popular man with a wide acquaintance in the London medical fraternity. He gave good dinners and kept a fine cellar in his house in the area of St. Saviour's Church, Southwark, fashionably near St. Thomas's and Guy's Hospitals.<sup>149</sup> He amassed a fortune,<sup>150</sup> presumably through inheritance and taking pupils, since he had no publications. There is no evidence that MacKenzie had wealthy patients, but this cannot be discounted.<sup>151</sup> He was a man said to be 'of medical consequence',<sup>152</sup> esteemed by both John and William Hunter, and was said to have been a colleague of Dr. James Douglas, who, together with Dr. Frank Nicholls had trained William Hunter in anatomy.<sup>153</sup> Whilst Smellie's senior pupil in May 1754, MacKenzie had the opportunity to dissect a woman with her womb

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<sup>144</sup> Rigby, *An Essay on the Uterine Haemorrhage Which Precedes the Delivery*.

<sup>145</sup> McClintock, *Smellie*, Vol. III, p. 151, Case 387, dated 1753.

<sup>146</sup> *Ibid.*, p. 14 and note 34.

<sup>147</sup> Wadd, *A Biographical Miscellany*, p. 107. There are some inaccuracies in Wadd, such as the date of Mackenzie's death, which was 31 January 1775, not 1773, see *The Gentleman's Magazine*. Obituaries for February 1775.

<sup>148</sup> MacKenzie was not accorded an individual entry in *The New Dictionary of National Biography*, however I have an entry and a separate article on MacKenzie in preparation.

<sup>149</sup> Corner, *Shippen*, p. 53.

<sup>150</sup> Wadd, *A Biographical Miscellany*, p. 107, MacKenzie left £12,000 to his brother the Laird of Muirton.

<sup>151</sup> Corner, *Shippen*, none of MacKenzie's patients mentioned by Shippen can be identified as wealthy.

<sup>152</sup> The Testimonial of Dr. Rutherford described MacKenzie as 'a good scholar, a clever lovely fellow and likely to make a good figure at London'.

<sup>153</sup> Peachey, *A Memoir of William and John Hunter*, p. 179, note 2, alludes to the possibility that MacKenzie could have been a pupil of James Douglas. For further detail on James Douglas see Wilson, *Making of Man-Midwifery*, pp. 83-87.

still containing a foetus. During the course of the dissection MacKenzie made the first observation of the structure of a placenta and its connection to the uterine wall. He drew John Hunter and others to the second part of his dissection to reveal his discovery and made specimens of the body parts. John Hunter took some of the preserved parts to his brother William, who realising the magnitude of MacKenzie's discovery, retained them, and later claimed this singular discovery as his own. This was a wrong duly put right by John Hunter after his brother's death.<sup>154</sup> This was the most important obstetric discovery of the eighteenth century, and is now correctly attributed to MacKenzie.<sup>155</sup>

Fortunately two manuscripts of MacKenzie's lecture notes have survived, compiled by his later students.<sup>156</sup> From the accounts of Shippen, who became a pupil of MacKenzie in July 1759, two months after Hey returned to Leeds,<sup>157</sup> and Perfect,<sup>158</sup> a fellow student of Shippen,<sup>159</sup> the type of midwifery training that Hey received can be understood. The impression gained from Hey, Shippen and Perfect, was that MacKenzie was an approachable teacher, willing to advise and expound further upon his teaching lectures.<sup>160</sup> MacKenzie's lectures began by referring back to the ancients, but, surprisingly to Hippocrates, not Soranus, the recognized ancient obstetrician.<sup>161</sup>

MacKenzie's teaching had five separate aspects; the first two were lectures and references to published texts. Hey later recalled that he settled 'his doubts and queries collected from reading...on what had past at a lecture',<sup>162</sup> before embarking upon the next lecture. MacKenzie taught first the types of delivery presentation of the child, natural,

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<sup>154</sup> For detail and transcript of John Hunter letters on the important clarification of MacKenzie's discovery see J. Dobson, *John Hunter* (Edinburgh, 1969), pp. 209-219.

<sup>155</sup> Peachey, *A Memoir of John and William Hunter*, pp. 176-179.

<sup>156</sup> Royal College of Physicians, MS/693, 'Lectures on the Theory and Practice of Midwifery' by Colin MacKenzie', taken in 1762 by Catper Day & The Wellcome Institute, M/WM3392, 'Lectures on the Theory and Practice of Midwifery', taken in 1770 by an anonymous student.

<sup>157</sup> Corner, *Shippen, entry* dated 30 July 1759. The fact that Shippen chose MacKenzie clearly demonstrates that MacKenzie's reputation as an obstetric teacher had spread across to Philadelphia.

<sup>158</sup> Perfect, *Cases in Midwifery*, quotes various letters to and from Colin MacKenzie.

<sup>159</sup> *Ibid.*, Diary entry 22 July, 1759.

<sup>160</sup> Perfect, *Cases in Midwifery*, pp. 31-34, letter to MacKenzie dated 25 September 1762 and reply from MacKenzie undated pp. 34-37.

<sup>161</sup> For identification in this survey I shall refer to the 1762 manuscript as Catper Day, and the 1770 as Anon.

<sup>162</sup> MS/504/3, letter dated 1784.

praeternatural, and cases where the child could not be delivered naturally, emphasizing adroitness in the use of instruments. He then brought midwifery authors, the 'Moderns', as he termed them, to the attention of his pupils, men such as Paré, Chamberlain, Mauriceau, Deventer, Portal, La Motte, Chapman, Giffard, Burton and Smellie, and the anatomy publication of Heister.<sup>163</sup> He highlighted the particular innovations of each author for instance, Deventer's identifications of the 'Oblique Uteri'.<sup>164</sup> Intriguingly, immediately prior to naming Deventer, in his section entitled 'Of the Structure of the Pelvis' in Lecture 1, MacKenzie referred to 'a case of a lady in Derby', who had died undelivered, because her pelvis, due to rheumatism found on autopsy, was reduced in size'. The operator was not named,<sup>165</sup> but could have been the seventeenth-century man-midwife Percival Willughby.<sup>166</sup> This suggests not only that MacKenzie was drawing attention to the types of emergency deliveries experienced by early provincial practitioners, but also that autopsies on women who died undelivered may have been more common than is presently considered.

MacKenzie's lectures proceeded through detailed instruction of the female anatomy, the gestational period, how to tell from the size of the ovum, and from the changes in the mother's anatomy, how far the gestational period had progressed, particularly in the case of spontaneous abortions.<sup>167</sup> He also made students aware of natural disturbances that occurred to the general health of the mother during pregnancy. All the various complications that arise in deliveries are covered, but there were two areas where MacKenzie refrained from substantive comment, puerperal convulsions,<sup>168</sup> and the occasions where a caesarean section

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<sup>163</sup> Catper Day, Lecture 3, p. 1.

<sup>164</sup> Catper Day, Lecture 1, p. 3.

<sup>165</sup> Ibid., p. 5.

<sup>166</sup> The only eighteenth-century acknowledgement of Willughby's work is in T. Denman, *An Introduction to the Theory and Practice of Midwifery* (London: J. Johnson, 1794), p. XLI, where Denman said that he had seen a copy that had been in the possession of Dr. Kirkland. Kirkland was born in Ashbourne, Derbyshire in 1722 thirty miles distance from Bakewell where Denman was born eleven years later.

<sup>167</sup> Perfect, *Cases in Midwifery*, pp. 242-245, Perfect quoted a letter he had received from MacKenzie that detailed fully how to recognise by size and feel the gestational state of the mother and the age of the ovum.

<sup>168</sup> Catper Day, Lecture 5, p. 8.



would have been the only possible means of delivery. In the latter case MacKenzie cited Heister as the one who offered the best instruction.<sup>169</sup>

The third aspect of training provided by MacKenzie was given by idealised demonstrations upon the 'Machine'.<sup>170</sup> The London 'Machine' or 'Phantom' was a device used by Smellie<sup>171</sup> after he had seen 'a similar contrivance used by Gregoire', which was made 'of basketwork covered by coarse cloth'.<sup>172</sup> Smellie devised a new Phantom of the female pelvis 'composed of real human bones armed with fine smooth leather, and stuffed with an agreeable soft substance',<sup>173</sup> and taught how to deliver using 'a collection of foetuses'.<sup>174</sup> MacKenzie, Smellie's senior pupil, also had preserved human body parts. It is therefore highly likely that his machine resembled Smellie's. Practical instruction given on this machine on the use of forceps, turning the child in complicated presentations, or where a deformity of the mother's pelvis existed, attained a level of training not previously available. MacKenzie also developed his own design of forceps; Hey had a pair, which he was still using as late as 1775.<sup>175</sup> Spatial knowledge of the disposition of the foetus was crucial in aiding a successful delivery. Indeed when Hey's son Richard was later a student of midwifery under Dr. Lowder, Hey advised him, 'when you are come to that part of his Lectures in which pupils execute deliveries on the Machine, I would advise you to sit by the Machine all the time of the Lecture'. Hey further said that he had 'found more advantage from seeing the various ways in which others got it wrong than from being corrected, merely, for my [his] own blunders'.<sup>176</sup> This practical instruction extended further to the birthing position that the mother should be placed in, where any idea of preservation of her modesty

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<sup>169</sup> Catper Day, Lecture 22, p. 1.

<sup>170</sup> Catper Day, Lecture 10, Anon, Lecture 10, p. 122.

<sup>171</sup> McClintock, *Smellie*, p. 4. None of these machines have survived, however, a female pelvic bone structure together with a plaster cast of a stillborn foetus is illustrated in Munro Kerr, *Operative Obstetrics* (London, 1908), 10<sup>th</sup> ed. (1982), pp. 287-288.

<sup>172</sup> *Ibid.*, pp. 13-14.

<sup>173</sup> *Ibid.*, p.14.

<sup>174</sup> *Ibid.*, p.13.

<sup>175</sup> MS/567, Case 186 dated 7 August 1775. I am grateful to the librarians at the Royal College of Obstetricians and Gynaecologists, London, for confirmation that they know of no other reference to a set of MacKenzie forceps, Hey's ownership and use of these forceps is therefore unique

<sup>176</sup> MS/504/3, letter dated circa 1784 to Richard Hey.

was entirely disregarded. The delivery position of the mother was of paramount importance to facilitate deliveries with instruments to enable a child to be turned in utero, and to deal with post partum floods, either from a retained placenta or an inert uterus.<sup>177</sup> Hey always adhered to this advice and placed his patient in a suitable position, before he began any complicated obstetric procedure.<sup>178</sup>

The fourth aspect was the opportunity to physically examine pregnant women, an innovative practice beginning in the middle of the century where pupils ceased to be just onlookers and laid hands on the swelling belly of the mother. Shippen blithely entered amongst his daily dietary and social detail one Monday in late August 1759, 'at half past twelve went to Dr. MacKenzie's "Touching Lecture", and examined seventeen pregnant women etc, dined at 2-30'.<sup>179</sup> These women were not, it would seem, in states of parturition, but merely pregnant. To have the opportunity to 'touch' under instruction seventeen women in various stages of pregnancy in the space of two hours was an exceptional training experience. We know that MacKenzie's training also allowed his pupils to attend parturient women independently, because Shippen recorded that he was called to 'a labour at 6am, then attended Dr. MacKenzie two hours later, but visited the woman now and then'. From the afternoon he then 'stayed with her until she delivered at 5am the next morning'.<sup>180</sup> This was not the first time that Shippen had attended a delivery as a man-midwife, and, very likely indicates a pattern of training by MacKenzie that Hey would have experienced less than five months earlier.<sup>181</sup>

The fifth aspect was attending labours, especially complicated ones, together with MacKenzie. Evidence of this comes from a particularly difficult early case of a placenta praevia that Hey was called to deal with. In this case Hey recalled a similar 'case of Mr.

<sup>177</sup> Catper Day, Lecture 10 and Anon, Lecture 10, p. 122.

<sup>178</sup> See also the Journal of Richard Paxton, 1755-1799, pp. 49-82, Wellcome Library, ref. MS/3820.

<sup>179</sup> Corner, *Shippen*, diary entry Monday 27 August 1759

<sup>180</sup> *Ibid.*, diary entry Wednesday 29 August 1759.

<sup>181</sup> *Ibid.*, diary Entry Tuesday 31 July 1759, a labour at Crucifix Lane this morning a natural presentation, and Monday 12 August 1759, rose at seven, to my barber's maid who was in labour, continued with her until 2 o'clock when I delivered her of a daughter.

MacKenzie's' [that] occurred to my mind, wherein he practiced Delivery in the same Manner'. These capital letters are a particular feature of Hey's first Midwifery Casebook. (See Chapter 4.)<sup>182</sup> The familiarity of having seen an accomplished practitioner successfully perform this difficult procedure could buttress the confidence of a young practitioner, if similar circumstances presented early in their private practice.

Two further salient attributes that Hey gained, possibly initially from Dawson, but certainly from MacKenzie in London, were firstly that it was important to listen to the patient's own description of her pre-history, her level of pain, her symptoms and fears,<sup>183</sup> and secondly to develop a good bedside manner; positive reassurance formed a significant part of ante and postnatal care. The development of a man-midwifery practice, an entirely new phenomenon occurring in mid-eighteenth-century Britain, has given rise to copious publications on the demise of the female midwife, an argument that this thesis seeks to avoid. It is entirely plausible that Hey had come to regard treating women, who were not actually ill but had gestational disturbances, and delivering them in natural labours, as an everyday part of medical practice. Gentlemanly attitudes and good manners burnished the lustre of a surgeon and man-midwife's skill and accomplishments. These qualities extended beyond neatness and cleanliness of apparel and the courtesy and politeness of speech, to the fact that one acknowledged and took due blame for one's own blunders. MacKenzie was said to have dressed well and acted like a gentleman, and Hunter, who, as Porter was to remark, 'bore the port of a gentleman'<sup>184</sup> became accoucheur to Queen Charlotte in 1762, attending, if not delivering, all her fifteen childbirths. Hey, it was particularly noted, acquired 'the habits and feelings of a gentleman', during his time in London, emulating in this possibly both MacKenzie and Hunter.<sup>185</sup> 'Feelings' is a very telling word because it could imply both

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<sup>182</sup> MS/567, Book 1, Case 23, dated 15 October 1760, p. 39

<sup>183</sup> Catper Day, Lecture 22, On the Treatment of Lying-In Women.

<sup>184</sup> R. Porter, 'William Hunter: A Surgeon and a Gentleman', eds., Bynum and Porter, *William Hunter and the Eighteenth-Century Medical World*, p. 12.

<sup>185</sup> Pearson, *Hey*, p. 31.

expressed subjective feelings, as well as retained personal feelings in order to preserve those of others.

How much did all this cost, what scale of investment did the Hey family make for the sake of William's education and training? A resumé of Hey's education and what he brought back to Leeds with him after his medical training in London belies any description of it as ad hoc or opportunistic. Rather it appears to have been a deliberated and concerted development. A chain of events can be traced from Arden at Heath School, to Dawson, to the choice of St. George's in London, to Bromfield and MacKenzie and the well stocked, already prepared apothecary premises in the Slip-In Yard, off The Briggate in Leeds. (See Chapter 3.) The cost of his education and medical training can be estimated, and it appears to have been a substantial sum. The £30 paid for his seven years of apothecary apprenticeship was the least part of it; however an apprentice was a quasi employee who paid for his training in kind by the work that he did. Dawson had not only given Hey excellent apothecary training and opened his mind to botanical studies, but had also provided genteel habitation.<sup>186</sup> His schooling at Heath School had probably cost around £400.<sup>187</sup> A pupil premium to a surgeon at St. George's in 1769 was £107.<sup>188</sup> The pupil charge a decade earlier could not have been very different, and as we know that Hey was specifically a pupil of Bromfeild, Monro and MacKenzie, and a dresser of Bromfeild, a total fee of £400, if no charge was made by the Hunters, is plausible. A contemporary student, yet another Dawson training in 1758 in London 'took sixty pounds with him, which maintained him for one and a half years', the same length of time that Hey was in London.<sup>189</sup> Shippen observed that although he spent his

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<sup>186</sup> *Leeds Intelligencer*, 27 February 1776, sale details of Dawson's house in Kirkgate, Leeds. This was a substantial property with five of the larger chambers and the staircase hung with wallpaper, and having a large apothecary shop at the front.

<sup>187</sup> Rimmer, 'A Reappraisal', p. 191. Rimmer estimated that Hey's father had spent three to four thousand pounds between the years 1740 to 1760, on the education of his sons. These sons would only have included John and William; the two younger brothers Samuel and Richard had not begun their education at this time.

<sup>188</sup> Toby Gelfand, 'Hospital Teaching as Private Enterprise', eds., Bynum and Porter, *William Hunter and the Eighteenth-Century Medical World*, p. 148.

<sup>189</sup> Joan Lane, 'The Role of Apprenticeship' in *Ibid.*, p. 84 & note 61.

money in London ‘very cautiously [that] it melts faster than I imagined’.<sup>190</sup> When the costs of travel, accommodation, books, specimens and instruments are added, the total cost of Hey’s London training would be little short of £500. This was a considerable sum, but in addition ‘his father who tho’ a tradesman, wished that his sons might be fitted by their education for the highest walks in their respective professions, made his son William the offer of going to study in Paris’.<sup>191</sup> Fluent in French though Hey was, he declined his father’s offer, because ‘he did not think anything he should gain would be equivalent for his loss’.<sup>192</sup> This loss, according to Rimmer, was the advantages of religious freedom that Hey enjoyed amongst the Dissenters and Methodists in Leeds<sup>193</sup>. He could have spent time in Edinburgh, where there was a proliferation of Dissenters, to write a medical thesis towards the award of a Doctorate, but it would seem that Hey had no desire to put ‘the feather of MD in his cap’;<sup>194</sup> but ‘entered upon the profession of surgery in 1759’.<sup>195</sup> The role and status of the surgeon grew steadily throughout the eighteenth century, confronting the hegemony of the physician. It was only the embryonic obstetricians, caught in the impasse between physician and surgeon, who still sought the titular epithet of Doctor, men such as Smellie, MacKenzie, Underwood and Denman. The Georgian surgical community was to develop its own system of honours, for only other surgeons could correctly evaluate surgical skill.

#### 2.4 Education and Training: Some Conclusions

Using unexploited resources, this chapter has endeavoured to reconstruct the most salient features of Hey’s education, and most particularly his training in surgery and midwifery. A number of features deserve concluding emphasis. Hey’s education at Heath school went above and beyond the stifled curriculum of traditional schools and gave him an early acquaintance with natural philosophy, which when combined with Dawson’s enthusiastic

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<sup>190</sup> Corner, *Shippen*, p. 9, letter dated 10 March 1759 to his uncle.

<sup>191</sup> MS/504/5.

<sup>192</sup> Pearson, *Hey*, p. 19.

<sup>193</sup> Rimmer, ‘A Reappraisal’, p. 198.

<sup>194</sup> Corner, *Shippen*, p. 90 and p. 127, Shippen after similar training to Hey in London from 1758 to 1760, went to Edinburgh and wrote a medical thesis in 1761 entitled ‘De Placentae Cum Utero Nexu’.

<sup>195</sup> Hey, *Practical observations in Surgery*, p.6

botanical interests extended his pharmaceutical awareness. His natural business acumen developed in the entrepreneurial apothecary daily work alongside his adolescent exploration of theological diversity. All these facts helped his maturing character to form standards and principles and prepare him for the scope, quality and above all intensity of his London training. As a result his response to the saturation of his London training went far beyond mere absorption, to intensive personal study, accurate recording of results and conclusions leading towards judgment, evaluation and constructive criticism, resulting in revision and alteration. These features combined with his religiously reflective disposition, ability to form enduring friendships, musical recreational pursuits and enquiring scientific nature, and were fundamental factors in the development of the well-balanced professional man that returned to Leeds in April 1759.

Hey arrived back in Leeds with the minimum of ceremony. No advertisement announced his new practice in Leeds newspapers, and there was at first little scope for developing, or opportunities for using his skills. It was said of him that from the very first he was prepared to treat the most serious accidents without flinching, even those where a successful outcome appeared remote.<sup>196</sup> Dawson's offer of a partnership before he returned to Leeds was, Pearson noted 'after much deliberation...declined'.<sup>197</sup> Undaunted, no doubt aware of Hey's family pressures, Dawson 'expressed a desire that Mr. Hey should reside near him, promising to send as many surgical patients as would receive his recommendation'.<sup>198</sup> Hey had acquired in London 'a professional attitude towards medical practice', an attitude that was clearly distinct from that of a 'tradesman',<sup>199</sup> yet as will later be made clear, he did not despise or belittle, the medical skills of artisans, itinerants or local poorly trained apothecaries. Hey's surgical and midwifery training provided him with skills far above those that any previous Leeds medical practitioner had, because he had been taught by the finest

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<sup>196</sup> Bell, 'Life and Character of William Hey', p. 1065.

<sup>197</sup> Pearson, *Hey*, p.28.

<sup>198</sup> *Ibid.*, p. 29. The Slip-in Yard premises were less than 200 yards from Dawson's practice in Kirkgate, to the left of The Briggate in Leeds.

<sup>199</sup> Rimmer, 'A Reappraisal', p. 198.

medical teachers of the era; men who were 'pure surgeons, 'pure obstetricians', expert anatomists and a physician from a leading medical dynasty in Britain, men who had consolidated and refined all previous knowledge in diagnosis and practical procedures. These men had implanted in Hey a belief that death could in some cases be thwarted, in others diverted or postponed, and that quality of life could be restored. But, above all they gave him confidence to cope with the trauma and trials of his profession. And, the group of surgeons, obstetricians and pupils that he had been privileged to be a part of remained his colleagues and friends for the rest of his life. However, on returning to provincial Leeds, as Pearson noted, 'the lustre of his superior attainments' was for 'a long course of time prejudiced in the minds of the townsmen of Leeds [because] his religious character and connections operated powerfully against him'.<sup>200</sup> Despite this prejudice William Hey 'reached the top of his profession and distinguished himself more than most other men have done in that particular position'.<sup>201</sup>

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<sup>200</sup> Pearson, *Hey*, p. 31.

<sup>201</sup> Rimmer, 'A Reappraisal', p. 188.

### Chapter 3      **Standing Above the Crowd: A Profile of Hey's Professional Career in Leeds**

*One would need to write a book to do justice to the rise and achievement of William Hey*

(W. G., Rimmer, *Leeds Journal*, 31, (1960), p. 336)

Hey began as a medical practitioner in Leeds in April 1759 and continued until two weeks before his death in March 1819, a period of sixty years. This chapter will show how Hey exploited his initial array of medical, surgical and midwifery skills and developed a prestigious career, driven by ambition and entrepreneurial acumen, tempered by a profound Christian faith, and a devoted loyalty to his family and friends. Hey was extraordinarily self-contained, mature at an early age, a curious mixture of reticence and arrogance, yet on the whole retaining good relations with family, friends, patients and colleagues, despite, one might postulate with hindsight, appearing to be naturally superior in a way that did not just stem from his training. He was said never to have spoken at random, or uttered a sentiment that he had not previously well considered.<sup>1</sup> Loudon's notion that the establishment of a successful practice in Georgian Britain was difficult, due to an initial lack of patients, and Harley's that medical practice often involved acrimonious competition, can be questioned by an account of Hey's career.<sup>2</sup> Hey's medical life, though not without personal trials and tribulations, was nonetheless a relatively straightforward story of diligence and skill, increasing reputation and growing practice, for he neither lacked sufficient patients nor had any serious competition. His career embodied the many, it could be said essential, characteristics of a typical provincial practitioner in the second half of the eighteenth century.

This chapter will chart Hey's early medical connections in Leeds, and show how he initially bolstered his professional position by a careful choice of colleagues from amongst the old and new rank and file apothecaries, and from the myriad number of men on the

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<sup>1</sup>Pearson, *Hey*, p.20

<sup>2</sup>Loudon, *Medical Care and the General Practitioner*, pp. 100-105, and D. Harley, 'Honour and Property: The Structure of Professional Disputes in Eighteenth-Century English Medicine', A. Cunningham and R. French, (eds.), *The Medical Enlightenment of the Eighteenth Century* (Cambridge, 1990), pp. 138-9.



margins of medical practice. He deftly manipulated these initial relations until he, for decades, became pre-eminent on the medical scene in Leeds. Historians have given scant attention to the small, elite and exclusive number of medical practitioners out of the thousands emerging from mid-eighteenth-century British medical training who, like Hey, held honorary appointments as surgeons and physicians, many for extensive periods, in the twenty-eight voluntary hospitals and infirmaries founded between 1736 and 1797.<sup>3</sup> Their perceptions have veered between recognition of the progressive triumphs of a few well-known men to bland generalizations concerning the rest. By 1767 Hey had become established as a skilful surgeon, and was at the centre of the movement to found an infirmary in Leeds. Anning's account of the foundation of Leeds General Infirmary has acknowledged Hey's crucial involvement.<sup>4</sup> This involvement counters Porter's comment that medical practitioners were less conspicuous in the launching of infirmaries than one might have supposed,<sup>5</sup> an opinion also challenged by the foundation of the Norwich Hospital.<sup>6</sup>

Hey's career encompassed the whole variety of an eighteenth-century provincial medical practice, including that of a physician. I shall focus my chronological overview of his professional career on issues such as his relationships with his local colleagues, his working life at Leeds Infirmary, his pupils, sparse though they were, his attention to the continuous advancement of medical, and in particular anatomical knowledge, and his mature reputation. Additionally however Hey's career was played out amongst some of the foremost men of the eighteenth century, men such as Joseph Priestley, John Wesley, William Wilberforce, and Isaac Milner, to name but four who each had a deeply significant impact upon his life, and thereby his medical career. Hey also had numerous and continuous

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<sup>3</sup> F. M. Lobo, 'John Haygarth, Smallpox and Religious Dissent in Eighteenth-Century England', p. 223.

<sup>4</sup> S. T. Anning, *The General Infirmary at Leeds: The First Two Hundred Years, 1767-1967* (London, 1963), and *The History of Medicine in Leeds* (Leeds, 1980)

<sup>5</sup> R. Porter, 'The Gift Relation: Philanthropy and Provincial Hospitals in Eighteenth-Century England', eds., L. Granshaw and R. Porter, *The Hospital in History* (London, 1990), p. 161.

<sup>6</sup> Sir P. Eade, *The Norfolk and Norwich Hospital 1770-1900* (London, 1909), p. 35, Benjamin Gooch was a fundamental force behind the foundation, yet only served as a consultant surgeon until his death five years later.

responsibilities to his close and extended family in addition to his personal health problems. He held an increasing civic role and status as well as a high religious profile, both in devotional observance and in publication, and developed enduring friendships with many of the significant non-medical men in Leeds. These aspects of his life, whilst falling outside the brief of this thesis, all had significant impact upon the progress and direction of his professional career and will be given appropriate consideration.

### 3. 1. Early Connections

William Hey was an odd and unusual character, aloof and censorious, disliked and yet revered as a local worthy and most important, the leading surgeon in Britain's sixth largest town (Rimmer, 'A reappraisal' p.188)

In May 1759 when Hey set up in the premises in the Slip-In Yard, fully stocked by his father, off the Briggate by the Moot Hall in the very heart of Leeds town, he faced competition for patients from many longstanding family firms of apothecaries. These firms were the Atkinsons, John, Henry and Charles; the Cottams, Michael and Lawrence; the Fabers, William, Richard and Robert; the Kenions, Edward, Edward Jnr., James and later George; Richard Horncastle, and Benjamin Wynn.<sup>7</sup> It is not known whether Hey interacted with any of these old firms to the degree that he did with the newly established practitioners William Dawson, Francis Billam (1723-?),<sup>8</sup> James Barwick (1742-1800),<sup>9</sup> (a Leeds man who had been an apprentice to Samuel Ward, in turn an apprentice of the Atkinsons), and Benjamin Glover.<sup>10</sup> Barwick and Glover, both skilful in midwifery, set up in the years immediately following Hey, and began taking apprentices as early as 1763. Hey alone amongst all these men had received anatomical and surgical training. Aware of the need to have more advanced skills in 1762 the Kenion apothecary partnership took a trained surgeon, Thomas

<sup>7</sup> The detail of the Leeds apothecaries, surgeons, physicians, apprentices, pupils and druggists included in this chapter is taken from Wallis and Wallis, *Eighteenth-Century Medics*.

<sup>8</sup> Pearson, *Hey*, p. 28, Billam was a former army surgeon who set up in practice around 1750.

<sup>9</sup> No detail exists on how Barwick was trained.

<sup>10</sup> No autobiographical detail exists for Glover.

Jones (1740-1809), as a partner; the first non-family member. This did not prove a lasting partnership, and on the day that the 'dissolvement betwixt Kenion and Jones, surgeons, apothecaries and man-midwives' was announced, Kenion sought a new partner, 'a journeyman to replace Mr. Jones in the practice in Boar Lane'. Jones also let it be known that he was 'to carry on in business from the old shop opposite the New Inn Briggate'.<sup>11</sup> In 1759 there were two known physicians in Leeds, Dr Milner (1706-1788) and Dr. William Hird (1728-1782).<sup>12</sup> Hird was a Bradford man and a Quaker, who came to Leeds shortly after obtaining his M. D. in Edinburgh in 1751. Dr. James Crowther (1739-1793), who had been apprenticed to Benjamin Wynn from 1753, qualified as a physician in Edinburgh in 1764 and then set up in practice in Leeds.<sup>13</sup> Hey's son said that prior to 1759 'the only capital operations that had been performed in Leeds were one of lithotomy, and one of amputation, by Mr. Lawman, an army surgeon,' and that as soon as his father began in practice he performed 'such operations as came in his way, in which his seniors very kindly gave him their countenance and assistance'.<sup>14</sup> By 'seniors' one understands age and experience rather than training, but the word 'assistance' is enigmatic; were practitioners drawn to assist Hey, just to help him, from curiosity to see his superior skills demonstrated, or merely to give him countenance? In any instance, this is evidence of Hey's positive acceptance within the Leeds medical community. But initially as far as patient numbers were concerned, Pearson noted that until 'the medium', surrounding Hey's religious stance that 'enveloped the minds of the townsmen' cleared, it was only his medical colleagues who recognised his worth, as Rimmer noted.<sup>15</sup>

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<sup>11</sup> *Leeds Intelligencer*, 28 November 1775. This advertisement carried the allurement that 'if an apprentice had been in the business three years or more such a one will have the advantage of attending the practice of the Infirmary'.

<sup>12</sup> *Leeds Intelligencer*, 9 July 1782, and 27 August 1782. William Hird was a Quaker, he was much criticised for neglecting his Infirmary duties in 1782 and died a bankrupt,

<sup>13</sup> There are no details of Crowther's early life and religious orientation.

<sup>14</sup> MS/504/2. This is the only mention of Lawman..

<sup>15</sup> Pearson, *Hey*, pp. 30-33, and Rimmer, 'A Reappraisal', pp. 200-201.

The only evidence of Hey's day-to-day working life in the first two years are his accounts of midwifery complications,<sup>16</sup> and two non-surgical cases, one a sixty-four year old man in 1760,<sup>17</sup> and one in the following year, a boy of thirteen, both for the condition of 'hydrocele cured by the palliative method'<sup>18</sup> Hey's son, William, recalled that his father had 'performed the operation for lithotomy three times successfully within the first year of practice', and that an operation to relieve a strangulated hernia had not previously been done in Leeds.<sup>19</sup> Hey recalled that he had performed an operation for a strangulated hernia on five patients, but that 'three in five died' and later that 'two patients in nine upon whom I operated died...leaving out of the account those cases in which a gangrene of the intestine had taken place'.<sup>20</sup>

In July 1761 Hey married Alice Banks, the second of four daughters of Squire Banks of Craven, whose acquaintance he had made during his apprenticeship.<sup>21</sup> Alice had a dowry of £700, which, combined with the rents of two thirds of several properties in addition to the Slip-in yard shops, that his father made over to him, provided an adequate income.<sup>22</sup> William and Alice lived in the Slip-in apothecary premises for the next thirty-three years. During these early years, apart from attending morning and evening services at the Parish Church, William and Alice attended Methodist meetings, but not at the main meetinghouse of the Methodists in Boggart Place, where the Pew Rent Book shows only two entries for them.<sup>23</sup> In the decades of the 1760s and 1770s there were large numbers of Dissenters, and Methodists in particular in Leeds.<sup>24</sup> Difficult as it is to judge at this distance, Hey's early

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<sup>16</sup> MS/567, Cases 1-36.

<sup>17</sup> MS/628, Case 54

<sup>18</sup> MS/628, Case 53

<sup>19</sup> MS/504/1, p. 3.

<sup>20</sup> MS/628, Book 1. Case 10, 23 December 1763.

<sup>21</sup> *Ibid.*, p. 32.

<sup>22</sup> WYAS, Hey Papers, ref. DB/75/1, Marriage Contract

<sup>23</sup> WYAS, Steward's Book of the Brunswick Methodists Circuit, 1/1, The Pew Rent Book Boggart Road, Entry for Hey, 2 seats 1 August 1768 paid 7s 6d and 2 Feb. 1770 2 seats paid 15s. Other names connected with Hey in these books are William Dawson, Michael Cottam, William Carr and Henry Jowett.

<sup>24</sup> J. Priestley, Letter to Theophilus Lindsey dated 11 February 1771, Birmingham University Special Collection. In this letter Priestley complained about the proliferation of Methodists in Leeds

professional life may have prospered from his connection with Dissenting communities. The contacts provided through common religion and personal acquaintance would have mitigated, if not outweighed, the disadvantage of his heterodoxy.

A substantial source of patients, not just for Hey, was to be found amongst the poor in Leeds, but there is only one recorded treatment of a poor woman in Hey's Casebooks prior to 1762.<sup>25</sup> It could well have been one of his 'seniors', Francis Billam, who advised Hey to take advantage of the vacant post of Leeds Workhouse Apothecary. Billam had been the Workhouse apothecary for some years but resigned this position in 1760, bringing in Robert Croft as his successor.<sup>26</sup> Croft died in January 1762, two months before the end of his term of office. Hey was chosen to succeed Croft above Glover, who had also offered his services, and was appointed on 3 February 1762 at a fee of £30 for one year.<sup>27</sup> Significantly in variance to all the appointed Workhouse Apothecaries before or after, Hey was 'to be paid over and besides for attending any sick person that does not belong to the town'.<sup>28</sup> This significant decision could suggest that surgical procedures were undertaken on poor patients drawn from a wider area, and may have been instructive to those who assisted Hey.

As these early years progressed, Hey's Casebooks reveal that he was consulted by Hird, the Quaker physician,<sup>29</sup> and by Dr. Milner,<sup>30</sup> and visited patients with them at their request. More significant however, was the call he received in January 1764 from a Wakefield apothecary to perform a domiciliary post mortem.<sup>31</sup> This is the second known dissection performed by Hey, and less than three weeks after the first.<sup>32</sup>

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<sup>25</sup> MS/567, Book 1, Case 4, dated 8 August 1759.

<sup>26</sup> Little is known of Robert Croft except that he was apprenticed to John Dinsdale a Leeds apothecary on 1 October 1745 for £40.

<sup>27</sup> WYAS, Minute and Order Book, Leeds Vestry Workhouse, 1755-1762, LO/M4 & 1762-1770, LO/75

<sup>28</sup> Ibid., entry dated 3 Feb 1762.

<sup>29</sup> MS/628, Book 1, Case 1, dated 3 October 1763.

<sup>30</sup> Ibid., Case 5, dated 2 November 1763.

<sup>31</sup> Ibid., Case 12, dated 16 January 1764. This patient, William Priestley, was the husband of Hey's eldest paternal aunt Dorothy, and the brother of Joseph Priestley's father. Details of his condition were sent to Caesar Hawkins in 1761 for confirmation of diagnosis.

<sup>32</sup> MS/628, Book 1, Case 10, dated 22 December 1763.

A select group of medical and surgical colleagues began to form around Hey,<sup>33</sup> with Dawson's nephew, and partner from August 1765, James Lucas (1740-1814),<sup>34</sup> closest to Hey. Lucas had had surgical training at St. Bartholomew's Hospital under the direction of Pott, and proved to be as skilful as Hey. Hey also remained in contact with his London connections, in particular with Underwood.<sup>35</sup> The following table (Table 3A), drawn from Hey's Casebooks, shows the number of times that he recorded involvement with local practitioners, prior to the foundation of the Infirmary in 1767. Before his appointment as the Workhouse apothecary, Hey's recorded involvement with local practitioners was restricted to Dawson, but two months after his appointment this involvement notably increased, because on the thirty-two occasions where he attended a medical patient, eighteen were at the request of a physician. Furthermore it reveals that physicians were attending parturition cases. The surgical cases involved only Billam, until Lucas arrived.

**Table 3A**

Apothecary	Surgeon	Physician	First Date Consulted	Medical	Surgical	Midwifery
Dawson			August 1760	2		4
	Billam		April 1762		8	
		Hird	October 1763	8		1
		Milner	November 1763	5		
Kenion			February 1764	1		
		Crowther	November 1764	5		1
Glover			July 1765			2
	Lucas		August 1765	5	1	6
Carr			September 1765	1		
Barwick			September 1764	4		1

A profile of Hey's practice in the decade from May 1759 to December 1770 can be drawn from the 263 case histories that he compiled, almost one quarter of the total number recorded over the period 1759 to 1807, the largest number forty in 1764 followed by thirty-eight in 1765 and thirty-five in 1766. From the habitation detail given of 142 patients, I have

<sup>33</sup> MS/567, Book 1, Case 74, is a fine example of this interaction.

<sup>34</sup> J. Lucas, *Candid Enquiry into the Education of a Surgeon-Apothecary* (Bath: N. P. 1800), p. 57.

<sup>35</sup> C. Helen Brock, *Dr. William Hunter's Papers and Drawings in the Hunterian Collection of Glasgow University Library* (Cambridge, 1990), p. 11, H.73, letter to Mr. Underwood from William Hey, Leeds September 9 1766, regarding Hey's first publication 'An Account of and Extra-Uterine Foetus', *Medical Observations and Inquiries*, (1763) III, p. 341.

been able to identify the occupations of forty-two.<sup>36</sup> Hunslet, a village of 1,000 inhabitants to the south of Leeds (of whom eighty percent were yeoman clothiers)<sup>37</sup>, together with Holbeck, Marsh Lane and Mabgate in Leeds town, all areas recognised as significantly aligned to the Methodist movement,<sup>38</sup> had twenty-five patients. A further forty-five patients from Leeds inner township had occupations ranging from suppliers of provisions and durable goods such as watchmakers, shoemakers, basket makers, glaziers, tailors, pawn brokers, tobacconists, butchers, makers of pottery, innkeeper, lawyers, merchants, printers and a banker. Eighteen patients came from Hey's home village of Pudsey, and the remainder lived in the surrounding area of Leeds with occupations such as farrier, collier, fieldworker and extended clothing occupations such as stuff dresser and flax spinner. These kinds of patients are only what would have been expected, because Leeds inner and outer townships had few gentry folk and were full of the 'middling sort of people', who were for the main part self employed, producing in their own homes by 1770 100,000 pieces of broadcloth a year.<sup>39</sup>

. We have no evidence of what amounts Hey charged these patients for his services, but he did note in his Medical Commonplace Book 'it was sometime in the year 1780 when I resolved from that period to give no person whatever any credit',<sup>40</sup> a certain indication of bad debts. Some comparable detail is found in contemporary archives. Payment on a barter basis was probably common place, as can be seen from the Elmhirst ledger.<sup>41</sup> The diary of Mrs. Hall, a merchant's wife in Leeds entered a payment of four shillings 'paid to Mr. Billam for curing my ankle two years ago'.<sup>42</sup> The quality of lifestyle of Hey's early patients is reflected in the hospitality that they extended to him. He was often invited to take 'a dish of

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<sup>36</sup> W. G. Rimmer, 'The Industrial Profile of Leeds, 1740-1780', *Thoresby Society* (Leeds, 1967), 14, pp. 130-157, provides this detail from the register of poor apprentices between 1760 and 1779.

<sup>37</sup> *Ibid.*, p. 139.

<sup>38</sup> Rimmer, 'A Reappraisal', p. 195, noted that most adherents to Methodism in Leeds were of middle rank such as shopkeepers and trades people, but included a sprinkling from the better off families.

<sup>39</sup> R. G. Wilson, 'Georgian Leeds', in D. Frazer, ed. *A History of Modern Leeds* (Manchester, 1980), pp. 24-73.

<sup>40</sup> Hey, M S/1587

<sup>41</sup> Sigsworth and Swan, 'An Eighteenth-Century Surgeon and Apothecary: William Elmhirst', pp. 191-198.

<sup>42</sup> S. Brooks, *Some notes on the Hall Family* (Leeds, 1951), XLI, p. 333. This modest charge of four shillings for medical services to a wealthy woman is set beside an entry for the purchase of a concert ticket for ten shillings and sixpence, and the purchase of five yards of muslin for a gown at two pounds ten shillings.

coffee',<sup>43</sup> or tea and Hey also frequently refreshed his patients with wine or spirituous liquor, indicating that such beverages were already part of the household.<sup>44</sup> This is an indication that although his patients had the modest lifestyle of artisans, they also had a modicum of genteel taste and accoutrements. It is clearly evident therefore that in less than a decade Hey was thoroughly integrated within, and had made himself an indispensable part of, the medical stage in Leeds.

### 3.2 The Rise of Leeds General Infirmary

'As for Mr Hey, we cannot do without him' (W. Hey II, MS/504/7)

The year 1767 was an auspicious year in the progress of Hey's career because Leeds General Infirmary, the seventeenth in the series of twenty-eight voluntary infirmaries and hospitals founded in the eighteenth century, was established. Liberal subscription was the watchword of the philanthropic middle-class determination to alleviate suffering by charitable endeavour. The sensibilities of men and women across the denominational and social divides could be accommodated, offering them the allurements of participation in charity that supplemented the cumbersome archaic parochial relief. The desired features of such an organisation were set out clearly by Hey's brother John, who had preached a sermon for the benefit of Leeds Infirmary,<sup>45</sup> when he gave his address promoting Addenbrooke's Hospital in Cambridge in 1777.

What we want is some contrivance, which shall answer all the following purposes: -

Shall leave property secure, or even add to its security; shall leave men unconfined by civil laws as to providing anything for the poor beyond mere necessities; shall keep alive and nourish the natural power of benevolence, and yet prevent its being thrown away unthinkingly or abused ungratefully.<sup>46</sup>

<sup>43</sup> MS/567, Book 2, Case 90, p. 33, dated 13 June 1767.

<sup>44</sup> Ibid., Case 124, p. 152, dated September 1770.

<sup>45</sup> Leeds General Infirmary Minute Book (hereafter Minute Book) dated 3 July 1772 requests Rev. Dr. J. Hey to preach a sermon in Trinity Church, Leeds on 11 October 1772.

<sup>46</sup> J. Hey, *A Sermon Preached Before the Governors of Addenbrooke's Hospital on Thursday 26 June 1777* (Cambridge: N. P., 1777), p. 8.



John Hey failed to mention that the dedicated human surgical work undertaken by such men as his brother William was physically arduous, mentally and emotionally demanding work.<sup>47</sup>

Unlike some other provincial hospitals in the eighteenth century, Birmingham for example,<sup>48</sup> Leeds Infirmary had no protracted foundation or financial problems, nor conversely like Manchester, the tensions of rival medical dynasties, such as the White and Hall families.<sup>49</sup> Neither did it have the entangled foundation headed by a committee made up of aristocracy and ecclesiastical hierarchy that beset the Norfolk and Norwich Hospital.<sup>50</sup> The majority of Leeds townspeople were the middling sort of people, both men and women worked together in their own homes involved in all the aspects of cloth production, neither beholden to landlords nor large employers, and Leeds twice-weekly provision markets were reckoned to be the greatest markets in the north of England.<sup>51</sup> At the initial meeting of Leeds townspeople, held at the New Inn, Leeds on 20 May 1767 to consider the expediency of an Infirmary, it was unanimously agreed to found one.<sup>52</sup> The words, 'unanimously agreed', captured the essential spirit of the Leeds enterprise, suggesting that there was a concerted and determined effort by all concerned to make certain that it was a success.

Too often studies of the rise and success of provincial voluntary hospitals lack certain specificity. They take the form of social histories, relying heavily upon printed annual reports, often optimistic in nature, and upon the roles of the Trustees and Governors.<sup>53</sup> The calibre and quality of the medical staff has by contrast drawn scant attention from historians.

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<sup>47</sup> John Abernethy (1764-1831) was said 'to have had to frequently compose himself... as he lamented the possible failure of what he had been compelled to do by dire necessity and surgical rule'. Thornton, *John Abernethy*, p.144

<sup>48</sup> For detail see J. Reinartz, *The Funding and Founding of the General Hospital Birmingham, 1765-1790* (Warwick, 2003), and A. F. Wilson, 'The Birmingham General Hospital and its Public 1765-1779', S. Sturdy, ed. *Medicine, Health and the Public Sphere in Britain 1600-2000* (London, 2002) pp.85-106

<sup>49</sup> J. F. Pickstone and S. V. F. Butler, 'The Politics of Medicine in Manchester, 1788-1792: Hospital Reform and Public Health Services in the Early Industrial City', *Medical History* (1984), 28, pp. 227-249.

<sup>50</sup> Eade, *The Norfolk and Norwich Hospital*, p. 36.

<sup>51</sup> For detail see R. G. Wilson, 'Georgian Leeds', pp. 24-73, and K. Grady, 'Commercial Marketing and Retail Amenities 1700-1914', p.177 in D. Frazer, ed., *A History of Modern Leeds* (Manchester, 1980)

<sup>52</sup> Minute Book, p.1

<sup>53</sup> For example A. Borsay, *Medicine and Charity in Georgian Bath: A Social History of the General Infirmary 1737-1830* (Aldershot, 1999), M. E. Fissell, *Patients, Power and the Poor in Eighteenth-Century Bristol* (Cambridge, 1991), see also J. Woodward, *To Do the Sick No Harm: A Study of the British Hospital System to 1875* (London, 1974).

Leeds General Infirmary, like other similar institutions, has records of its funding, administration, rebuilding and further rebuilding, together with the co-partners of subscribers. A combination of these facts amounts to the story of a building and of an institution, formally speaking, but it does not throw much light upon the patients treated or upon the medical practitioners who treated them.

Hey's career was inextricably linked with Leeds General Infirmary, because of the forty-five years he spent as a surgeon working and teaching there, and thirty-eight of those years as its senior surgeon. Even after his resignation in 1812 he remained a consultant until his death seven years later. The proposal to establish an Infirmary had originated with Hey and 'he took a more active part in its establishment than any other individual'.<sup>54</sup> Yet in the list of founders the names of Dr. Kirshaw, the incumbent of the Parish Church in Leeds, Richard Wilson the Recorder,<sup>55</sup> Mr. Kenion, apothecary and Mayor at the time, the physicians Hird and Milner, together with many leading merchants, are far more prominent than Hey's, whose name comes low on the list, with his subscription of five guineas being one of the three lowest.<sup>56</sup> The fourteen other subscribers pledged a total of £519. At the next meeting held three weeks later to consider the practicalities of such an undertaking, Hey brought a letter from one of the trustees of Manchester Infirmary to enable him to answer questions regarding rules for governing such an institution. This meeting achieved further pledged subscriptions of £352. 10s. 6d., including £50 from Joseph Milner, the brother of Hey's friend Isaac Milner, and £50 that Milner brought from an anonymous subscriber.<sup>57</sup> The officials appointed were Thomas Lodge, a merchant, as treasurer, Robert Green as secretary, and five men from amongst the main subscribers as a committee. In view of the variety and wide spectrum of subscribers it was agreed that the Infirmary should be a general

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<sup>54</sup> MS/504/6. Hey was the only medical practitioner on the building committee and attended all the weekly meetings, see Leeds General Infirmary Archive Building Books I and II.

<sup>55</sup> Kirshaw and Wilson were both relatives of Hey's mother, Mary.

<sup>56</sup> Minute Book dated 20 May 1767.

<sup>57</sup> *Ibid.*, p. 2 It is possible that this bequest came from the Wilberforce family.

one. At the subsequent meeting on 9 July at the King's Arms, it was agreed to set up a temporary Infirmary in Andrew Wilson's house in Kirkgate at a rent of £16 per year.<sup>58</sup> And at the Golden Lion three weeks later the Infirmary rules were agreed. A parcel of land in the possession of the Wilson family to the west of the town was chosen for the site of the new building, and John Carr, the York architect prepared a design. Edwin Lancelles of Harewood laid the foundation stone in 1768. Annual sermons that encouraged, or possibly shamed, citizens into subscribing were held in all the surrounding Churches and Dissenting meetinghouses.<sup>59</sup> Boxes for subscriptions were taken into all the local inns on several occasions during the year and a special collecting plate was made.

At the meeting on 29 July nominations for medical officers were made. The two youngest physicians in Leeds, Hird and Crowther, were appointed since it was deemed that two physicians was the requisite number.<sup>60</sup> Billam was the only surgeon who offered his services. Richard Wilson, Leeds Recorder said 'as for Mr. Hey we cannot do without him'.<sup>61</sup> Rimmer<sup>62</sup> could not account for the way that Wilson appointed Hey.<sup>63</sup> It was proposed that there would be only three surgeons, however Kenion and Dawson each proposed their junior partners, namely Jones and Lucas. Kenion was the senior Leeds apothecary, and Mayor in 1767 but his junior partner Jones had not exhibited the skill of Lucas and Hey.<sup>64</sup> In order to avoid a contest between Jones and Lucas it was agreed that the four surgeons, Billam, Hey, Jones and Lucas be appointed, and when one of the original four left the number would revert to three. The Infirmary surgeons and physicians were reappointed annually and served in an honorary capacity; only the resident medical officer, the apothecary, received a salary. There is no evidence in Leeds to support Porter's comment that it was usual for a token honorarium

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<sup>58</sup> *Ibid.*, p. 3, see also Anning, *The General Infirmary*, Chapter 1.

<sup>59</sup> *Leeds Intelligencer*, 18 October 1768 announced £138 12. 5d. and in October 1769 that £151. 4. 8d. had been raised.

<sup>60</sup> Woodward, *To Do the Sick No Harm*, p. 25, Woodward identifies Hird and Crowther as Graduates of Edinburgh who were not entitled to legally practice physic in England until the Medical Act of 1858.

<sup>61</sup> MS/504/6.

<sup>62</sup> Rimmer, 'A Reappraisal', p. 202.

<sup>63</sup> Hey's mother Mary and Richard Wilson's mother Elizabeth were sisters.

<sup>64</sup> Jones resigned from the Infirmary in 1783 and his surgical training is unknown.

to be paid to surgeons and physicians.<sup>65</sup> Table 3B below indicates the length of service of Leeds Infirmary surgeons and physicians during the lifetime of Hey, and the working life of his son and grandson.<sup>66</sup> The long length of service in Leeds was not unusual, both White and Percival in Manchester had similar terms. And Edward Rigby served as a surgeon from 1771 to 1814, and then became a consultant like Hey, but a consultant physician, until 1821 at the Norfolk and Norwich Hospital.<sup>67</sup>

**Table 3B Infirmary Medical Officers During Hey's Lifetime**

Surgeons	Began	Service	Left	Physicians	Began	Service	Left
William Hey	1767	45	1812	William Hird	1767	14	1781
Francis Billam	1767	6	1773	James Crowther	1767	23	1790
Thomas Jones	1767	16	1783	William Fearn	1779	3	1782
James Lucas	1767	26	1793	Robert Davison	1782	18	1800
Patrick Strother	1783	3	1786	Joshua Walker	1782	35	1817
Maurice Logan	1786	26	1812	Benjamin Hird	1790	29	1819
Thomas Chorley	1794	41	1835	Robert Thorpe	1800	33	1833
William Hey II	1812	18	1830	Mr. Booth	1806	2	1808
Josias Stansfield	1813	6	1819	Richard Faber	1808	1	1809
Samuel Smith	1819	28	1847	Charles Carr	1810	14	1824
William Hey III	1830	21	1851	John Payne	1819	5	1824

Supporting staff, a matron, Mrs. May Turner, and an apothecary, Mr. W. Trant, were employed and the temporary Infirmary in Kirkgate was ready to receive patients by the first Friday after Michaelmas 1767.<sup>68</sup> Three patients, two men and one woman were admitted on 6 October 1767. Surprisingly a newspaper advertisement touted for patients. The Trustees 'desired all those who wish to be cut for the stone this season, to send in their details to Mr. Trant the apothecary before 15 November 1767', indicating that surgical procedures were to take place on private patients.<sup>69</sup>

Table 3C below details the names of apothecaries employed at the Infirmary during Hey's lifetime as well as their later qualifications.<sup>70</sup> Little is known of their prior experience

<sup>65</sup> Porter, 'The Gift Relation', *Hospital in History*, p. 153.

<sup>66</sup> These details are taken from the Leeds Infirmary Honours Board.

<sup>67</sup> Eade, *The Norfolk and Norwich Hospital*, pp. 200-201.

<sup>68</sup> Anning, *The General Infirmary*, p. 5.

<sup>69</sup> *Leeds Intelligencer*, 6 September 1767.

<sup>70</sup> These details have been drawn from the Minute Books

but Hey mentioned most of them in his case histories, in a not unflattering professional light.

**Table 3C Infirmery Apothecaries During Hey's Lifetime**

Name	Position	Age	Start	Finish	Salary	Later Position
W. T. Trant	Apothecary	19	1767	1770	£15	Druggist in Leeds
D. Joy	Ditto		1770	1773	£15	Apothecary in Leeds
A. Taylor	Ditto		1773	1774	30guin	Apothecary in Himsforth
A. Dempster	Ditto		1774	1774	£40	Discharged
W. Carr	Ditto		1774	1781	£40	Apprentice of W. T. Trant
J. Peacock	Ditto		1781	1785	£40	Apothecary in Driffield
J. Grice	Ditto		1785	1787		Apothecary in Dunmow
R. Hardcastle	Ditto	23	1787	1788		Died 1789
M. Graham	Deputy Ap.		1788	1789		Apothecary in York
J. Favell	Ditto		1789	1789		
T. Rusby	Apothecary	28	1789	1797	£40	Apothecary in Leeds
A. Cass	Ditto	21	1797	1802	£30	M.R.C.S. in Leeds 1826
L. Bennett	Ditto		1802	1803		M.R.C.S. 1804
T. Parkinson	Ditto		1803	1805		Apothecary in Leeds 1809
S. Hare	Ditto		1805	1808		M.R.C.S Leeds 1809, F.R.C.S. London 1852
M. Bentley	Ditto		1808	1810		M.R.C.S. 1811
J. Beckett	Ditto	21	1810	1813		M.R.C.S. 1815
D. Windross	Ditto		1813	1815		M.R.C.S. 1816
J. Greenwood	Asst/Apoth.		1813	1815	10guin	Apothecary in Halifax
J. Garlick	Apothecary	23	1815	1822	£100	M.R.C.S. 1817. F.R.C.S. 1843
J. Waiblinger	Asst/Apoth.		1815	1817		L.S.A. 1818

Endowed with generous subscriptions Leeds Infirmery became from the outset a significant consumer of commodities. At the first committee meeting it was agreed 'that the physicians and surgeons be desired to provide drugs and instruments',<sup>71</sup> and on 2 October 1767 a Provider was appointed.<sup>72</sup> In 1770 the trustees appointed a committee to buy drugs, with the resident apothecary empowered to buy odd items. Trant presented a bill for incidents paid on 28 April 1769 for £10 10s 5d, a significant sum considering that a previous bill, settled only three months earlier, had been for £3 16s 1d.<sup>73</sup> Provider's bills were combined with the Matron's bill for sundry items, for example their combined bill for December 1786 was £36 1s 7d, followed in January 1787 by a combined bill of £66 19s 10d. The druggist's bills were usually listed separately from those who supplied tow, trusses,

<sup>71</sup> Minute Book, entry dated 15 July 1767.

<sup>72</sup> A Provider (OED), was a person responsible for the provision of commodities for an institution. The Leeds Workhouse had a Provider and the role appears similar at the Infirmery although there is no official recognition of it in the rules and regulations.

<sup>73</sup> These and the following payment details are taken from Leeds General Infirmery Treasurers Cash Book ref. 53/1 to 53/6.

galley pots, vials and bottles. There are also rare references to the supply of instruments and in the early nineteenth century an operating gown for Mr. Hey.<sup>74</sup> There were no payments made to Hey for apothecary supplies or to the drysalter business, now run by Hey's brothers-in-law, for drugs.<sup>75</sup> Hey<sup>76</sup> nonetheless had a personal copy of the Infirmary Pharmacopeia. Payments made to druggists help to map a hitherto uncharted area of Leeds medical men, such as a payment made to John Myers for electrifying patients in 1769.<sup>77</sup> The Michaelmas payments (see Table 3D below) made in 1769 after patient no 882 was admitted, revealed the true cost of the drugs used at that time. Corbyn and Brown were national drug wholesalers<sup>78</sup> and Hardwick and Moore could have been likewise, but no records exist to prove the matter. The remaining three men were druggists in Leeds.<sup>79</sup>

**Table 3D**

Thomas Lund	£5 10s
Hardwick & Moore	£17 16s
Corbyn & Browne	£19 1s
John Wright	£17 13s 6d
John Rose	£20 13s 3 ½ d
<b>Total</b>	<b>£71 2s 9 ½ d</b>

The annual drug bill was the largest Infirmary expenditure, running by 1790 as high as £500, but by 1797 it had come down to £417 and the following year to £337, despite the treatment of a similar number of patients.<sup>80</sup>

There was one further employee of the new Infirmary, the porter, who was accorded a livery of 'surtout coat of blue cloth trimmed with orange',<sup>81</sup> and despite this magnificence

<sup>74</sup> Minute Book entry dated 29 March 1780, payment to Thomas Wigglesworth, 9s. for surgical instruments, and Matron's Account Book No 69 Ref. 55/1, dated March 1805 'One New Operating Gown for Mr. Hey £1 11s 3d'.

<sup>75</sup> *Leeds Intelligencer*, 9 June 1767, 'Yesterday at Calverly Mr. Radcliffe, drysalter at Pudsey to Miss Dolly Hey (Dorothy born 28 March 1741) daughter of the late Richard Hey of the same place, and at the same time and place was married Mr. Sharp, drysalter at Gildersome to Miss Sally Hey (Sarah born 1742), two most amiable young ladies with considerable fortunes'.

<sup>76</sup> MS/1587, Pharmacopeia in usum valetudinarii generalis Leodinensis, undated entry but prior to 1788.

<sup>77</sup> Minute Book, entry dated 18 October 1761, payment no 160 to John Myers £2. 3s. 4d.

<sup>78</sup> Wellcome, *The Corbyn Papers 1726-1910*, MSS/5435-5540, see also. Porter and Porter, 'The Rise of the English Drugs Industry: The Role of Thomas Corbyn', pp. 277-295.

<sup>79</sup> Enquires by Dr. Lesley Hall, Wellcome Unit London, Leeds Local Studies Library and the West Yorkshire Archives have failed to throw light on who the other drug partnerships were.

<sup>80</sup> S. T. Anning 'The Apothecaries of the General Infirmary at Leeds', *Medical History* (1961) vol. 5, p. 225.

<sup>81</sup> Minute Book, page dated 23 March 1772. The porter at the Norfolk and Norwich Hospital had similar blue livery, but trimmed with yellow, see Eade, *The Norfolk and Norwich Hospital*, p. 45.

also performed general duties as evidenced by Hey, who treated him for ‘an incarceration of a chronic hernia that came on as he was assisting the chimneysweepers’.<sup>82</sup> An ‘Elaboratorian’ to assist the apothecary and work in the laboratory was also appointed at Michaelmas 1773 at a salary of £8 per annum. Hey now had an unparalleled opportunity, supported by Lucas, to create a clinical environment similar to those they had both experienced in London. Hey’s position on the building committee, as the only medical man, ensured that his ideas were paramount. Surprisingly he did not add his name to those of Billam, Jones and Lucas in the critical letter sent to Mr. Carr, the architect, that complained ‘the room appropriated for operations we think very inconvenient and not by far so proper as that one that is the physician’s room...because it would be too narrow, the light too high and insufficient. In summer too hot...and the architect informed us of several inconveniences that would occur in winter such as the skylight being covered in snow etc’.<sup>83</sup>

The new Leeds Infirmary building opened in March 1771 with twenty-seven beds in six wards given the grandiose names of the Kings, Princes and Dukes wards for men, and Queens, Princess and Duchess for women. There was also a laboratory, an apothecary shop, a dead room, a brew house and a bathhouse with wooden pipes to carry the water from the well in the gardens. This poor water supply and smoking chimneys were problems that immediately arose, and John Smeaton F. R. S. (1724-1792) was brought in to adjust the design. By February 1772 the whole enterprise had cost £3,598. 3s, but with bills still outstanding of £757 18s. 3½d the Trustees had to institute loans that were not discharged for some years.<sup>84</sup> Additional wings to provide more beds were to be built in 1782 and a new attic ward for convalescent patients were constructed in 1784 and 1786. In 1791 the architect

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<sup>82</sup> MS/628, Book 6, Case 20 dated 13 November 1775.

<sup>83</sup> Anning, *The General Infirmary*, vol. 1, p. 5.

<sup>84</sup> The Building Books together with letters held in the Leeds Infirmary Archives detail the extensive financial organisation that went into the building of the Infirmary.

William Johnson designed a whole upper floor to the building, resulting in three additional spacious wards, and bringing the total of beds overall to 108.<sup>85</sup>

Letters to the Infirmary over the first six years are mainly concerned with the practicalities of construction and initial administration, and to some extent the organisation of the religious well-being of the patients.<sup>86</sup> There are rare complaints by subscribers that their recommended patients had not received their correct treatment, as well as a few that concern the non-payment of pledged subscriptions.<sup>87</sup> There are no records of patient care and surgical procedures, other than the names of patients admitted and discharged in the weekly ledgers. Even their condition or ailment is not entered. It is only from the case histories of Hey and a few cases of Lucas, that we can understand how surgeons worked in their emerging clinical environment.<sup>88</sup> Unfortunately, because there are no comparable archive sources, we have no evidence of the work of other surgeons, such as that of Gooch in the Norfolk and Norwich Hospital, or that of Edward Alanson in Liverpool.

The 1790 Manchester practitioner imbroglio<sup>89</sup> that caused Dr. Thomas Percival, an acquaintance of Hey, to write his groundbreaking work on medical ethics,<sup>90</sup> resulted from and publicly reflected the complexity of close professional working conditions within an institutional environment. A similar situation erupted in Leeds on 8 October 1779 when twenty-five committee members attended the meeting after the physician William Fearn was appointed raising the number of physicians to three. This caused Dr Crowther to declare to the Board that 'if Dr Fearn was chose Physician to this Infirmary the other physician and

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<sup>85</sup> The Johnson family of architects also designed Hey's house, Albion Place in 1793.

<sup>86</sup> Leeds General Infirmary Letter Book 33/1, 1767-1773

<sup>87</sup> Ibid., Letter dated 29 October 1773 from the Rev. Charlesworth of Halifax, regarding his recommended patient John Dodgson who had not received the electrical treatment recommended. This was because the electrical machine purchased on behalf of the Infirmary by Hey from Dr. Priestley had worn out. (See Treasurers Cashbook dated 29 September 1770)

<sup>88</sup> J. Lucas, 'On the Amputation of the Ankle with a Flap', *Medical Observations and Inquiries* (1775) 5, and Anning, 'A Medical Casebook of Leeds', p. 422.

<sup>89</sup> Pickstone and Butler, 'The Politics of Medicine in Manchester', p. 234 & pp. 240-243.

<sup>90</sup> T. Percival, *Medical Ethics* (London: Bickerstaff, 1803).



himself and Surgeons mean to resign, they being all present', which they did.<sup>91</sup> The surgeons wholeheartedly supported the physicians Hird and Crowther. This was more than serious, and the elderly surgeon Francis Billam offered to 'give his attendance till the next board meeting'.<sup>92</sup> Hey representing Jones and Lucas said that the surgeons would continue when the matter was resolved, which it was on 13 October 1779 with sixty-six members attending.<sup>93</sup> Other local surgeons Priestley, Faber, Strother and Barker aspired to obtain preferment onto the Infirmary Board during the disruption but the sixty-six preferred the status quo. Strother later secured an appointment for three years when Jones left in 1783. Fearne, who lived in Pontefract, remained a nominal appointee until his resignation on 6 November 1782 but the reason for his original appointment remains unknown.<sup>94</sup>

This brief overview of the early years of Leeds General Infirmary has shown the thorough involvement, at all levels, which Hey had, from managerial involvement in drawing up the rules,<sup>95</sup> organising and influencing the building committee, having a degree of control over the pharmacopoeia, to keeping a personal catalogue of the surgical instruments and medical books in the ownership of the Infirmary.<sup>96</sup> Certainly after 1779, despite his permanent lameness, Hey had almost forty years of un-challenged prominence as the Infirmary's senior surgeon, and not only as the senior surgeon in Leeds, but also in the north-west of England.

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<sup>91</sup> Minute Book, entry dated 8 October 1779.

<sup>92</sup> Ibid., entry 8 October 1779.

<sup>93</sup> Ibid., entry dated 13 October 1779.

<sup>94</sup> There seems to have been collusion between non-appointees of the Infirmary to obtain preferment especially between Fearne and Priestley. Fearne married Priestley's daughter in 1781.

<sup>95</sup> Minute Book, Entry 21 December 1770, 'Ordered that Mr. Barnard [Solicitor] and Mr. Hey to be desired to superintend the printing of the rules now agreed upon'.

<sup>96</sup> MS/1587, entry dated 19 June 1775, 'a catalogue of surgeon's instruments held in a closet at the Infirmary', and a similar catalogue of pamphlets and books together with their value and donor names up to 1781.

### 3.3 Prosperity and Adversity

Hey blossomed into maturity (Rimmer 'A Reappraisal', p. 203)

The substantial boost to Hey's career represented in his central role at the Infirmary was complemented by additional developments. In 1768, in conjunction with the principal medical men of Leeds Hey began a Medical Society, collecting on a continual basis medical books and articles, many of which were presented by the authors.<sup>97</sup> Hey also instituted a monthly meeting to discuss these publications, and the medical and surgical procedures advocated in them. This followed a pattern set by *Monro Primus* who formed an informal Society in Edinburgh in 1746 to meet at his house, where *Monro* encouraged the use of his library and anatomical preparations, and allowed students to read their dissertations prior to examination.<sup>98</sup> Medical societies took provincial root elsewhere as medical men sought greater clarity and coherence in the theories and practices of their craft. Matthew Flinders recorded that 'two physicians and six of us surgeons and apothecaries established a medical monthly meeting at the Red Cow, Donnington, to discuss medical publications and new procedures'.<sup>99</sup> Hey also began to develop friendships with a group of Leeds men on the periphery of medical practice.

Hey's ability to make and sustain exactly the right sort of friendships conducive to his aims proved a considerable career asset. In 1766 Miles Atkinson (1741-1811) was appointed the senior Anglican Curate to Leeds Parish Church and from 1769 became involved with spiritual care of the Infirmary patients. He became Hey's closest lifelong non-medical friend and was a significant link between Hey and his patients. A friendship also developed in 1769 with Joseph Priestley (1734-1804) who had been appointed the Dissenting Minister to the Mill Hill Chapel in Leeds in 1767. Priestley and Hey began natural

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<sup>97</sup> Pearson, *Hey*, p. 37 This laid the foundation of Leeds Infirmary Library, later Leeds Medical School Library.. By contrast Hey did not join Leeds Library that was also founded in 1768, until 9 September 1776 as subscriber no. 223.

<sup>98</sup> Wright St. Clair, *Doctors Monro*, p. 62. Hey could have been aware of this Society during his period as Donald Monro's pupil.

<sup>99</sup> Flinders, *Medical Journal*, entry dated 1 September 1796.

philosophy experiments together, particularly in the production and use of fixed air. Isaac Milner (1750-1829) who lived with Hey in 1770 for some months whilst Hey treated him for an 'over exertion of his studies' proved an able companion and assistant to Hey in his natural philosophy.<sup>100</sup> John Wesley visited Hey when he passed through Leeds, and although there is no evidence to show that Hey's friendship with Wesley had any influence on his numbers of patients, Wesley's medical publication *Primitive Physic* could have provided many conversational topics. Hey described his meetings with these groups of men as 'intellectual banquets, because their sentiments on religion, philosophy and politics harmonised'.<sup>101</sup>

Hey's public profile took on a further dimension in the first years of the 1770s by his two publications<sup>102</sup> in rebuttal of Priestley's *Appeal*,<sup>103</sup> both citing on their title page a text from the Old Testament 'I will also show mine opinion',<sup>104</sup> and from the New Testament, 'Speaking the Truth in Love'.<sup>105</sup> These publications clearly advertised Hey as a theological and intellectual luminary of the town and displayed his acute and erudite understanding of Christian theology. When Priestley's *History of Vision* was published, by subscription, in March 1772, Priestley credited Hey as a critical reviewer describing Hey as 'an ingenious surgeon and anatomist in Leeds'.<sup>106</sup> How widely Hey's reputation disseminated nationwide because of Priestley's recognition, or how it affected his provincial career, is questionable. However Hey's election as a Fellow of the Royal Society on 30 March 1775 set him apart from the other medical men in Leeds, none of whom, in Hey's lifetime, received such a distinction.<sup>107</sup> Hey's election did however draw him into connection with other Leeds men of

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<sup>100</sup> Pearson, *Hey*, vol. 2, pp. 116-118, Isaac Milner Later became Lucasian Professor of Mathematics at Cambridge.

<sup>101</sup> Pearson, *Hey*, p. 121

<sup>102</sup> W. Hey, *A Short Defence of the Doctrine of the Divinity of Christ* (Leeds: J. Binns, 1772), and, *A Short Defence of the Doctrine of Atonement for Sin by the Death of Christ* (Leeds: J. Binns, 1774).

<sup>103</sup> J. Priestley, *An Appeal to the Serious and Candid Professors of Christianity* (Leeds: N. P., 1771).

<sup>104</sup> *Book of Job*, Chapter 32, verse 10.

<sup>105</sup> *Letter of St. Paul to the Ephesians*, Chapter 4, verse 15.

<sup>106</sup> J. Priestley, *History and Present States of Discovery Relating to Vision, Lights and Colours* (London: J. Johnson, 1772), p. 793.

<sup>107</sup> Pearson, *Hey*, p. 40. Hey's election to the Royal Society was sponsored by William Hunter, who said that Hey had demonstrated all that was scientific in his profession, and by Priestley who said 'I wish I could say

science, such as John Smeaton F. R. S. (1724-1792) and Jeremiah Dixon F. R. S. (1726-1782). Hey was now surrounded and supported by an eclectic group of friends, he had publicly demonstrated his theological and scientific intellect, developed a substantial private practice, and, when Billam retired in 1773, was appointed as the senior surgeon at the Infirmary, achieving a seemingly unassailable medical position in Leeds. However, adversity came in an accidental way that he could never have expected, just by ‘injuring his right knee when he was getting out of a cold bath which was aggravated by his horse falling with him’.<sup>108</sup>

Mobility was an essential part of any Georgian medical practice, and Hey’s practice extended over a very wide area in the surrounding area of Leeds, inner and outer townships. The terrain was hilly, steeply inclined in parts, but there was the advantage of many paths and small roads that were well trodden by the clothiers on their twice-weekly visits to the cloth markets in Leeds.<sup>109</sup> William Carr, an Infirmary apothecary who later formed a Leeds apothecary practice, remarked in 1780, that ‘the business of a country surgeon will greatly depend on his riding about much, if he does that he will be fully employed, if he stay in the house he’ll not get employed in the country’.<sup>110</sup> Carr considered that care of a horse was essential, and that it was of the utmost importance to see to its well being, for he noted in his diary, that he must remember to carry ‘oatcakes [and] a pocket full of corn’ also that ‘one should give a horse a quarter of corn and the same quantity of bran each day’.<sup>111</sup>

After the 1773 accident his son said that his father ‘recovered so far as to be able to pursue his professional avocations without the regular use of a carriage’.<sup>112</sup> This comment could suggest that Hey used a carriage on an irregular basis prior to 1773. He used a carriage

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that one of the members in ten had equal pretensions to it’. Charles White and Thomas Percival of Manchester also added their sponsorship.

<sup>108</sup> Pearson, *Hey*, p.45

<sup>109</sup> See illustrations in G. Walker, *The Costume of Yorkshire* (London: T. Bensley, 1814). The Hey and Walker families were connected by their drysalting businesses.

<sup>110</sup> Diary and Notebook of William Carr, Surgeon-Apothecary in Leeds, Wellcome, MS/5203, p. 7.

<sup>111</sup> *Ibid.*, p. 4

<sup>112</sup> MS/502, p. 15

at the funeral of his son Robert Banks who died aged three in May 1774 for he wrote that 'Robert's nurse Betty rode with us in the carriage' and that the 'groom trotted the horses' when taking the nurse home the next day.<sup>113</sup> His knee injury would have made walking around the hilly parts of Leeds, and to the Infirmary arduous; Hey never mentioned that he was at times carried in a sedan chair, but this is entirely possible. Although life in Leeds carried on, Hey's mentor William Dawson, died in March 1777 leaving a professional gap in his life, and the husband of his eldest sister Rebecca died leaving her in distressed financial circumstances.<sup>114</sup> A chronic weakness in Hey's right leg<sup>115</sup> undoubtedly led to the reason why 'early in the year 1778', he lost control of his horse 'as he was mounting'. The subsequent fall, when the horse rolled on him, required a 'quiescent state over several weeks...and he never regained his power of walking'; this was an irredeemable injury, and the pattern of Hey's life was broken.<sup>116</sup> Pearson noted that in 1778 Hey's reputation 'stood high as an operating surgeon' and not only that but patients 'came from all over Yorkshire to put themselves under his care', and that Hey also 'frequently travelled considerable distances' to attend patients who were too ill to travel

Hey decided to consult in London 'those who were qualified to judge' the injury to his leg, presumably men such as Pott or Hunter. A full diagnosis was never determined and he had to accept 'that he would never again regain the power of walking'.<sup>117</sup> There was no suggestion of amputation, no mention of ulcers, open caries or relocation of joints, and we know that his knee could be flexed because he could 'to the end of his life ride on horseback occasionally in the town, and sometimes to the distance of about a mile [but]...he was never able to walk without a crutch...to the length of a street'.<sup>118</sup> A possible diagnosis, discounting

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<sup>113</sup> MS/628, Book 5, Case 38, dated 28 May 1774.

<sup>114</sup> Letter dated 27 July 1777, from John Hey to his sister Rebecca, the Hey papers Sidney Sussex College Cambridge.

<sup>115</sup> Ms/567, Book 4, case dated 28 October 1777, 'I could not kneel at this time because of my lameness'.

<sup>116</sup> Pearson, *Hey*, pp. 46-47.

<sup>117</sup> MS/502/15

<sup>118</sup> MS/502/16

infection, points to nerve damage, complete avulsion of the quadriceps, or even an undetected fractured neck of femur. Such injuries would have been impossible to diagnose in 1778, but if there were a fractured neck of femur the blood supply would have suffered impairment resulting in osteo-degeneration of the hip joint, and consequently lack of weight bearing ability and chronic pain.<sup>119</sup>

In the spring of 1778 Alice, Hey's wife, either had an eleventh child stillborn, or late gestation aborted<sup>120</sup> and continued to be seriously ill throughout the year.<sup>121</sup> A son, Samuel, died on 14 April 1778, aged three. In addition Hey had to contend with a number of costly and awkward family matters. His elder brother John was continually seeking an ecclesiastical appointment, not to mention a wife, to relieve his debt-ridden circumstances. Richard, his youngest brother, who had no personal income or employment, had failed his law examinations, and Hey was still supporting his sister Rebecca. Apart from Samuel, who was made the vicar of Little Easton, and gave a curacy to John, William was the major source of family income. Accompanied by Alice and four daughters he went first to London, and then to Bath and Harwich for convalescence, a costly excursion lasting five months. In Bath Hey became reacquainted with both John Arden, his former natural philosophy teacher at Heath School, and Sir John Pringle, whom he had encountered whilst at St George's. (See Chapter 2) Meanwhile John Pearson (1758-1826), Hey's only named surgical pupil, carried on the private practice and Lucas covered his Infirmary duties. Pearson, a York man, had only served four years apothecary apprenticeship in Morpeth, Northumberland prior to becoming Hey's pupil in June 1777, living in the Hey household until 1779.<sup>122</sup> Clearly it was a precarious time for the whole Hey family.

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<sup>119</sup> I am grateful to Professor A. Boylston, Senior Pathologist, St James University Teaching Hospital, Leeds, and to R. Haywood FRCS (Plast) for discussions on this issue.

<sup>120</sup> Pearson, *Hey*, p.47

<sup>121</sup> Letter dated 22 November 1778 from John Hey to his sister, the Hey Letters.

<sup>122</sup> Williams, *The London Lock: A Charitable Hospital for Venereal Disease 1746-1952*, p. 45. After leaving Hey in September 1780 Pearson went to St George's as a pupil of John Hunter, then accepted a post at the London Lock Hospital where he remained for more than forty years.

Hey returned to his practice in the autumn of 1778 after being 'persuaded to buy a second-hand post chaise'.<sup>123</sup> He used a carriage to visit his patients for the rest of his life, to which he was said to have 'with great reluctance acquiesced', but that he 'attributed in a great measure his good health and long life, as he was thus [by the use of a carriage] preserved from much labour and fatigue which he would otherwise have undergone'.<sup>124</sup> He found that his patient numbers soon began to increase, and that in fact his professional work 'was materially increased by the use of a carriage'.<sup>125</sup> The purchase and maintenance of a carriage was costly because taxes had to be paid. The ownership and regular use of a carriage and pair was a statement of wealth and status, but the status of a patient was also enhanced when a well-equipped carriage waited outside whilst they were attended by a medical practitioner.<sup>126</sup> Because no plans exist of Hey's Briggate premises, where Hey kept his carriage and horses until he moved to his new property Albion Place in 1794 is unknown. Albion Place had several stables, carriage sheds and living accommodation for equestrian attendants in addition to an apothecary shop, and rooms where patients were seen and treated.<sup>127</sup> Hey's family said Hey used carriage journeys to meditate on different subjects; from one milestone to another there was always one particular subject for meditation.<sup>128</sup> Hey also regularly took convalescent patients and visitors out with him in his carriage, had a copy of the *New Testament* with him at all times, and on occasion shared his private pew in church with patients.<sup>129</sup>

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<sup>123</sup> Letter dated 2 September 1778, from John Hey to his sister, the Hey Papers.

<sup>124</sup> M S/502/17

<sup>125</sup> Pearson, *Hey*, p. 51

<sup>126</sup> Loudon, *Medical Care and the General Practitioner*, pp. 119-125. See also D. King-Hele, *Erasmus Darwin: A Life of Unequalled Achievement* (London, 1999), p. 82, Darwin was said to have travelled 10,000 miles each year in his carriage visiting patients.

<sup>127</sup> WYAS, The Hey Papers, DB75/8

<sup>128</sup> Comment written in my copy of Pearson's *Hey*, presented by Pearson to William Gray of York the father-in-law of Hey's youngest son, Samuel.

<sup>129</sup> Pearson, *Hey*, p. 51

Hey's full maturity was born out of his physical adversity and his familial burdens. His elder brother John remarked, 'poor William I really pity him'<sup>130</sup>; a sentiment probably privately echoed in many homes, and between many of those who knew Hey. Whatever feelings Hey had were between God and himself, because the serious indisposition that Alice had must have been an added concern, at a time when he needed to rely on her wifely comfort most. The way that the youthful Pearson held the practice together deserved commendation, but it is Hey's resilience that is remarkable, enabling him, under severe handicap to bear these burdens, and even extend and improve his practice.<sup>131</sup> It was not to be 'poor William' at all, as later chapters, using the evidence in his Casebooks will reveal.

### 3.4 Hey's Professional Life at the Crossroads: Fortitude and Resolution

Though William Hey cannot be considered a great man, he stands out from the crowd. His career was at once both ordinary and unusual. (Rimmer, 'A Reappraisal', p. 214.)

In 1779 Hey published a pathological work, *Observations on the Blood*, which he had been working on for some years, which enhanced his national reputation because it clearly displayed his experimental and analytical abilities in scientific physiology.<sup>132</sup> 'It is of the utmost consequence' Hey remarked 'in the science of medicine that facts and supposition be kept as distinct as possible'.<sup>133</sup> But however learned this haematological study was it had little specific impact on his provincial career. On the surface his work seemed to carry on normally, but underlying turmoil is evident from the confusion in his compilation of Books 7 and 8, compounded by the fact that his pride and joy, eldest son Richard, was sent home from school accused of stealing, and became an un-articled apprentice to his father.

The precarious future of Hey's career, now that he was permanently lame, must have been of concern to his friends and to his family, the majority of whom not only relied upon him financially, but were also opinionated, even somewhat bigoted, leading Anglicans and

<sup>130</sup> Letter dated 6 December 1778 from John Hey to his sister, the Hey Papers.

<sup>131</sup> *The Gospel of St. John*, Chapter 5. Verse 8.

<sup>132</sup> W. Hey, *Observations on the Blood* (London: J. Wallis, 1779).

<sup>133</sup> *Ibid.*, p. 69.



Tories. Hey was certainly now in a vulnerable position and to maintain his status, as Rimmer put it, 'at the apex of the Faculty...he needed to identify with the prosperous ruling class of the town'.<sup>134</sup> His theological conviction could no longer maintain the open choice of dissenting religious expression if he was to remain an intellectual luminary and become part of Leeds civic life. In 1781 Hey decided to publicly set aside Methodism, but only after long and serious consideration.<sup>135</sup> Hey's two closest medical friends, Pearson, and Underwood, were lifelong Methodists, but Hey needed simultaneously, to retain the goodwill of the Infirmary subscribers and Trustees, who were drawn from across the denominational divide, to satisfy his professional need in the clinical facilities that the Infirmary provided, and preserve the level of his private practice. There was also the fact that in 1780 his brother John had now been appointed as the first Norrison Professor of Divinity at Cambridge University, followed by the award of two pecuniary good livings, the parishes of Passenham and Calverton. Samuel, his younger brother was establishing himself, as a serious Anglican divine at Magdalene College Cambridge, but his youngest brother Richard remained unqualified and unsettled, and their elder sister Rebecca remained in dire financial circumstances.<sup>136</sup>

There were therefore both private and public pressures, stemming from his medical and intellectual eminence in Leeds, which now bore upon the issue of his continuing commitment to Methodism. How politic was it for the brother of the new Cambridge Divinity Professor to remain a Methodist, and would his medical and civic status continue to prosper under that commitment? These factors, coupled with what appear to be genuinely severe doubts about the general direction and particular policies of Methodism, lead to Hey's highly public and visible confrontation with John Wesley, 'despite the bonds of long and

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<sup>134</sup> Rimmer, 'A Reappraisal', p. 207

<sup>135</sup> Pearson, *Hey*, vol. II, p. 122.

<sup>136</sup> Letters dated, 14 November 1780, 'I have been in a scrape certainly', 16 February 1781, 19 March 1781 and 21 August 1781, from John Hey to his sister, the Hey papers.

tender friendship'<sup>137</sup> at the thirty-eighth Annual General Conference, in Leeds on Tuesday 7 August 1781.<sup>138</sup> Hey's principal objection to the direction of the Methodist movement rested upon the sanctity of 'The Articles, Homilies and Liturgy of the Church of England', because he considered that the Methodists were irrevocably parting from them in seeking to appoint their own ministers.<sup>139</sup> Hey's opposition emerged in public counter-arguments, rousing 'indications of uneasiness ...among the preachers and Mr Wesley remarked "that as there was much other business before them, Brother Hey must defer reading the remainder of his paper"', but this opportunity never arrived, whence Mr Hey was accustomed to say that he did not leave the Methodists, they left him'.<sup>140</sup> This was indeed the case, insofar as it was Methodism that was changing, not Hey, and having made his choice Hey adhered to it absolutely for the rest of his life.<sup>141</sup> The period from the spring of 1778, when his second accident happened, to August 1781 when he confronted Wesley, was the watershed of Hey's life. Certainly from that date his career consistently became more eminent.

In the month following the Wesley confrontation Hey was elected onto the exclusive Tory, and Anglican dominated, Council of Leeds and later, in September 1786, appointed an Alderman. He had been asked to become an Alderman earlier but 'as he was much occupied ...almost oppressed by the engagements of an increasing business, he requested that he be excused till... Richard... should have completed his [medical] education'.<sup>142</sup> Despite his permanent lameness his professional career was in the ascendant. Hey, as was his way,

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<sup>137</sup> Pearson, *Hey*, vol. II, p.132

<sup>138</sup> Pearson, *Hey*, vol. II, pp. 134-142, 'Discourse Delivered in the Presence of Rev. J. Wesley by W. Hey, Leeds Tuesday 7 August 1781, see also ed., N. Curnock, *The Journal of John Wesley* (London, N. D.), p. 330.

<sup>139</sup> Pearson *Hey*, vol. II, p.136

<sup>140</sup> *Ibid.*, p.133

<sup>141</sup> W. Hey, 'Dying Advice to His Children, 15 October 1797', quoted Pearson, *Hey*, vol. II, appendix 2, pp. 240-245, and 'A Speech on the Catholic Question Delivered in Leeds Parish Church 23 February 1813' in *Ibid.*, 273-295.

<sup>142</sup> Pearson, *Hey*, vol. II, p.70

diligently began to prepare for his role as Mayor in 1787 by extending his political knowledge.<sup>143</sup>

Integrated as he now was into the mainstream of Leeds civic, political and elite intellectual life, Hey began to use his rising income, no longer needed or designated by obligation to support his family, to buy substantial properties in and around Leeds.<sup>144</sup> In 1783 he was instrumental in the foundation of a Philosophical and Literary Society,<sup>145</sup> drawing together not just scientifically minded Leeds townspeople but high profile Anglicans such as Rev. William Sheepshanks, the incumbent of St John's Church, a mutual friend of John Hey, Isaac Milner and the Rev. William Paley (1743-1805).<sup>146</sup> This society flourished until Hey was asked to join the Manchester Literary and Philosophical Society in 1787.<sup>147</sup>

### 3.4.1 Pupils and Apprentices

Leeds Infirmary did not accept fee-paying pupils or apprentices, in contrast to Newcastle Infirmary where apprentices were bound to the house apothecary, with the fees paid to the Infirmary.<sup>148</sup> In 1795, Manchester Infirmary issued invitations to potential pupils, and Bristol Infirmary a few years later accepted pupils at a fee of 150 guineas.<sup>149</sup> A surgeon's pupil had a higher status than that of an apprentice apothecary and did not carry the same legal constraints, because he did not have to live with his master, could leave if he chose, and the period of training had no set time but usually consisted of two or three years.<sup>150</sup> Hey often commented that his surgical procedures had been done with the consent of colleagues, moreover that dissections were done to enable the pupils to observe, a very telling phrase,

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<sup>143</sup>Ibid., pp. 51-54. The detail of Hey's civic life in Leeds falls outside the brief of this thesis, but it is interesting to note that the person from whom he sought legal and political advice, Edward Christian, was the brother of Fletcher!

<sup>144</sup>W Y A S, *The Hey Papers*, 75/5

<sup>145</sup>The titular designation of this embryonic society is significant, since it gave precedence to philosophical issues; precedence retained in the foundation, by Hey, of the present Leeds Philosophical and Literary Society.

<sup>146</sup>R. V. Taylor, *The Biographia Leodiensis* (Leeds: Simkin and others, 1865) p.235

<sup>147</sup>Pearson, *Hey*, p.54

<sup>148</sup>G. H. Hume, *The History of Newcastle Infirmary* (Newcastle, 1908), p. 99.

<sup>149</sup>Woodward, *To do the Sick no Harm*, p. 26.

<sup>150</sup>J. Lane, 'The Role of Apprenticeship', in eds. W. F. Bynum & R. Porter, *William Hunter and the Eighteenth-Century Medical World* (Cambridge, 1985), p. 82.

indicating that it was normal practice for a surgeon's pupils to be part of the Infirmary day-to-day business. The technical services and intellectual environment of an Infirmary was more conducive to medical training than an apothecary shop.<sup>151</sup>

There is no detail on when Hey, Lucas or Jones began to take pupils, but as early as 30 April 1773 the Trustees authorised 'a payment to the gentlemen of the Faculty for expenses incurred by the procurement of the body from York lately dissected at the Infirmary' to the amount of £1. 15s 0d.<sup>152</sup> This statement raises two questions. Why did the Faculty chose to procure a body, since a dead body served no purpose in the treatment of sick patients, and could only have been used to sharpen a surgeon's operative skills, or for teaching purposes? But why should the Infirmary pay expenses when it had no pupil fees, and its appointed surgeons were deemed professionally competent? Neither question can definitively be answered. The enigma is compounded because from 1771 the Board had problems disposing of the cadavers of poor inpatients even though anatomical preparations were kept for investigative and teaching purposes in the Infirmary. In 1790 Hey presented to the Trustees 'the anatomical preparations of the blood vessels of an adult subject' that had belonged to his late son Richard. 'The apothecary was directed to allow inspection of the said anatomical preparations to no one except in his province, and in the presence of some gentlemen of the Faculty.'<sup>153</sup>

Hey's colleague Lucas, wrote that 'a little time is usually allowed for a trial how they [the master and the apprentice] may accord in their dispositions towards each other...for many pupils would not have sufficient time for school learning'.<sup>154</sup> Lucas also offered comment about relationships and nepotism, for throughout Britain it was

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<sup>151</sup> Thomas Jones advertised for a pupil in the *Leeds Intelligencer* on 5, 12 and 19 December 1775 on the front page stating that a pupil would have the advantage of attending practice at the Infirmary. There was no similar advertisement by Hey.

<sup>152</sup> Minute Book dated 30 April 1773.

<sup>153</sup> *Ibid.*, for January 1790.

<sup>154</sup> James Lucas, *A Candid Inquiry into the Education, Qualification and offices of a Surgeon-Apothecary* (Bath, 1800), pp. 14-17.

commonplace for the sons of apothecaries to follow their fathers. 'When the apprentice is a relation, the necessary indenture should be with equal regularity framed; for what compensation can be made to a young practitioner for the stigma that may accompany neglect...in order to exclude disputation and preserve harmony'.<sup>155</sup> An insight into the way medical men informally brought on their sons amongst their friends in the medical profession can be observed in a letter to Hey from his former apprentice Richard Walker. Michael, the eldest son of Michael Underwood was sent to Hey to learn 'enough of pharmacy to be trusted alone'.<sup>156</sup> Walker subsequently said that he would be 'ready to receive him [Michael] upon such terms as we take other young men so that his father will be at no further expense', commenting also 'I believe him to be a very promising well-disposed youth, I only wish that his appearance was a little more manly'.<sup>157</sup> This is evidence that Hey engaged in reciprocal training with Walker, and with Underwood, who was a highly regarded London man-midwife at this time;<sup>158</sup> however Richard Hey was attached to the man-midwife Dr. Lowder,<sup>159</sup> a partner of Orme, who worked at the theatre in St. Saviour's Churchyard in Southwark,<sup>160</sup> for his midwifery training

No Leeds surgical pupils, apart from Pearson, in the first fifty years can be positively identified; however, some men who did not appear on the *Medical Register* of 1779, or in the *Leeds Trade Directories* of 1781, 1784, 1793 and 1798, are known to have had a medical association in Leeds, and could possibly have been surgical pupils at the Infirmary. (See Table 3D below.)<sup>161</sup>

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<sup>155</sup> Ibid., p. 18.

<sup>156</sup> Maloney 'Michael Underwood, a Surgeon Practising Midwifery from 1764 to 1784', p. 302. Michael Underwood had several children the eldest, Michael, who died young, is entered on the Register of the Society of Apothecaries of London, apprenticed to R. Walker, St. James St. London, on 3 August 1784.

<sup>157</sup> MS/1990/1, letter dated 22 October 1784 from Richard Walker, St. James Street, London, to William Hey in Leeds.

<sup>158</sup> Wallis & Wallis, *Eighteenth-Century Medics*, p. 611. Michael Blatchley, apprentice to Underwood July 1783 at £350 for seven years.

<sup>159</sup> Pearson, *Hey*, p. 17.

<sup>160</sup> Lawrence, *Charitable Knowledge*, appendix III, pp. 361-379.

<sup>161</sup> These details have been extracted from Wallis & Wallis, *Eighteenth-Century Medics*.

**Table 3D Possible Surgical Pupils in Leeds**

Name and Later Qualification	Known Active Dates
Obadiah Brooks, M.R.C.S.	1780-1847
John Halliley, Surgeon.	
Benjamin Musgrave, M.R.C.S.	1775-1822
William Petty, M.R.C.S.	1787-1825
William Price, M.R.C.S.	1785-1867
John Richardson, M.R.C.S.	1779-1826
William Royston, M.R.C.S.	1770-1825
Richard Salisbury, F.R.C.S.	1762-1829
John Simpson, M.R.C.S.	1765-1783
John Wade, F.R.C.S.	1768-1826
William Wildsmith, M.R.C.S.	1765-1826
Robert Wilson, M.R.C.S.	1774-1794
John Atkinson.	1800-1828

Hey's first mention of an apprentice in his Medical and Surgical Casebooks does not occur until 1766. (See Table 3E below). In this case Hey said 'my apprentice who bled her yr [the] first time, counted the pulse at 160'.<sup>162</sup> Three years later he again mentioned sending his apprentice 'with directions to bleed',<sup>163</sup> and a month after that he instructed 'my [Hey's] apprentice to stay with her [his patient] all night to see my directions complied with'.<sup>164</sup>

The actual term 'pupil' did not appear until October 1779, and then in the plural.

**Table 3E Medical and Surgical Casebook References to Assistant, Apprentice and Pupil**

Book	Case	Page	Date	Title Given
2	26	89	9 July 1766	My apprentice
3	22	99	5 May 1769	My apprentice
3	24	111	2 June 1769	My apprentice
3	32	139	20 Feb 1770	My apprentice
4	9	37	28 Aug 1771	Mr. Read
4	15	87	8 Jan 1772	My apprentice Mr. Lightbourne
5	12	73	29 Sept 1774	My apprentice
6	16	53	5 Oct 1775	My journeyman
6	29	127	8 June 1776	Mr. Walker my late apprentice
8		50	8 Feb 1777	Mr. Roebuck
8		62	4 Nov 1777	Mr. Pearson
8		72	25 April 1777	Mr. Pearson
8		130	25 Oct 1779	One of my pupils
8		147	Oct 1779	My servant assisted
8		170	21 June 1780	My pupils
8		10	July 1781	My pupils
8		19	19 Oct 1781	My son Richard
7		62	1782	My son Richard

<sup>162</sup> MS/28, Book 2, Case 26, p. 89, dated 9 July 1766.

<sup>163</sup> MS/628, Book 3, Case 22, p. 99, dated 5 May 1769.

<sup>164</sup> MS/528, Book 3, Case 26, p. 111, dated June 1769.

7		248	31 Mar 1785	My son Richard
9		126	9 Mar 1788	My son Richard
10		46	22 June 1791	My son William
11		112	27 Mar 1797	Mr. Brougham, my assistant
11		178	26 Dec 1797	Mr. Brougham
11		210	27 Sept 1798	Mr. Paley
11		230	16 Nov	Pupils and staff
12		15	10 June 1799	Mr. Paley
12		176	October 1799	Pupils attended

There are only fourteen occasions in the Midwifery Casebooks when Hey mentioned an assistant, and eight of these were in respect of his son William, and none can be identified as a possible Infirmary pupil. The word apprentice never appears, and the word journeyman appears only once in 1779. (See Table 3F below.) There is therefore nothing to suggest that Hey set out to teach midwifery, other than to his sons.

**Table 3F Midwifery Casebook References to an Assistant**

No	Book	Case	Date	Reference
1	1	24	5 Dec 1760	I sent her...emulsion with laudanum
2	1	74	15 Mar 1766	I sent her a julep
3	2	126	11 Feb 1771	Mr. W. [Walker] applied a clyster
4	4	246	28 Nov 1779	My journeyman had sent the wrong medicines
5	6	311	7 April 1786	I sent the laxative julep
6	7	338	17 Sept 1790	My son (William) visited
7	8	375	October 1794	My son introduced a tent of lint
8	8	379	12 Nov 1794	W. H. Jnr. Visited
9	8	387	9 Sept 1795	My son had been called in
10	8	392	22 Oct 1796	I desired Mr. Brougham, my pupil
11	8	400	17 June 1796	My son had seen the woman
12	9	441	14 Jan 1801	I desired my son William to attend
13	10	450	6 July 1802	My son was called
14	10	468	23 Dec 1804	My son had visited

Hey articulated few apprentices and no comment can be found on his teaching prowess or actions as an apothecary master. (See Table 3G below) There was a gap of fifteen years between 1772 and 1787, and only nine over the whole forty-year period. Walker, the son of a Leeds druggist obtained appointment, as Apothecary to The Prince of Wales, after seven years as Hey's apprentice. Hey's apprentice Timothy Lightbourne, indentured in June 1772, was already living in the Hey household as an apprentice in January of that year, when he became seriously ill with putrid fever. His life was saved when Hey experimented with a fixed air clyster made directly from oil of vitriol poured onto chalk to try to alleviate what

appeared to be his terminal decline. Priestley requested an account of Lightbourne's illness and recovery, which he included in his paper on airs that he submitted to the Royal Society in March 1772.<sup>165</sup>

**Table 3G Hey's Indentured Apprentices 1759 – 1804**

Name	Date	Fee	Term	Later Career
Richard Walker (1750-1817)	1765	£40	7 yrs	Apothecary to the Prince of Wales
Timothy Lightbourne	27 June 1772	£140	5 yrs	Not known
William Sharp (1765-1817)	22 June 1787	£140	3 yrs	M.R.C.S. Wandsworth London
John Jowett	1 Sept 1790	£150	6 yrs	Not known
John Burnett	7 Oct 1791	£150	4 yrs	M.R.C.S. Golden Sq. London
Robert Paley (1782-1847)	18 Nov 1796	£150	5 yrs	M.D. Ripon Yorks
William Lunn	5 Nov 1800	£100	3 yrs	M.R.C.S. Dock St. Hull
Robert Houseman	1 Feb 1803	£150	5 yrs	Not known
Henry Parker	2 Aug 1804	£150	7 yrs	Not known

A comparison of the above fees paid to Hey, and other practitioners in Leeds detailed in Table 3H below reveals the high fee that Hey could command.

**Table 3H Apprentices Attached to Other Infirmary Surgeons**

Surgeon/Apothecary	Apprentice	Year	Term	Fee Paid
Francis Billam	Joseph Baxter	1762	3	£50
	Thomas Bickendike	1764	5	£50
	Thomas Carter	1779	5	£31
	William Wood	1780	7	£53
Thomas Jones	James Bradley	1780	4	£84
James Lucas/Dawson	Francis Caley	1770	4	£100
	Maurice Logan	1771	4	£105
	Benjamin Hird	1782	2	£50
	Charles Carr	1785	3	£105
	Gertrude Wood	1789	7	£155
	John Rider	1792	4	£150
Maurice Logan	John James	1789	5	£105
	William Taylor	1794	5	£105
	William Rutter	1795	3	£105
	John Charlesworth	1801	4	£105
	John Johnson	1804	4	£126

Hey's role as a medical practitioner who trained and inspired many apprentices and pupils did not fulfil the promise of his student days. There are various reasons why this could have occurred. Apprentices normally lived with their master and the Hey household, until 1794, was in the old apothecary shop premises in an increasingly crowded part of central Leeds. After the serious illness of the second apprentice Lightbourne in 1772, Hey's own

<sup>165</sup> MS/628, Book 4, Case 15, dated 8 January 1772.



illnesses in 1774 and 1778, the illnesses and deaths of Hey's infant children Robert and John in 1774, Samuel in 1778 and Elizabeth in 1783, not to mention Alice Hey's year long indisposition in 1778, it may have been just more than either Alice or William could cope with as a family to have apprentices living in. But, conversely there must have been staff competent to deal with the day-to-day apothecary business.<sup>166</sup>

Pupils were different because contractual arrangements between pupil and master at private practice level, albeit that the Infirmary was used for teaching purposes, did not require domestic arrangements, and Table 3 E clearly indicates that Hey did have pupils in 1779, 1780 and 1781, in addition to Pearson. There was also the fee consideration. I have noted the sibling drain upon his finances, but he did have private income, and after 1781 enough surplus from investments and earnings to start a significant property portfolio. Hey returned from London 'with the habits and feelings of a gentleman', and gentlemen did not advertise their status, which is what an artisan or craftsman did by taking apprentices. However once Hey had settled into his civic role and was part of the mainstream Anglican culture in Leeds he devised a way to teach and attract pupils in the London manner

### 3.5 Anatomy Lecturing

*I believe the London Practitioners would be very sorry that those in the country should be, in this respect put upon a level with them* (Richard Walker, letter to W. Hey dated 8 April 1785)

Hey's own experience of anatomical training had convinced him of its value and necessity for the rising specialty of surgery. Increasing numbers of surgical procedures were taking place in the various new infirmaries and hospitals nationwide, but London and Scottish anatomy training was expensive. I have demonstrated that informal anatomical training was taking place in provincial infirmaries, but a provincial surgeon could not advertise to formally teach anatomy; the monopoly was held in London and Scotland. A lucrative 'cartel' existed,

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<sup>166</sup> The 1801 Leeds Census revealed eight adult male 'gentlemen' living in Albion Place, leaving aside Hey and his three unmarried sons there may have been four 'pupils or apprentices' in the Hey household at that time. *1801 census of the Parish of Leeds*, transcribed by B. Jones (Leeds, 1996), p.38

with some of the spin-offs that usually surround cartels, in this case the possible procurement and sale of preserved body parts. The evidence from Richard Walker's letters to Hey reveal that Hey decided to tout for anatomical pupils and needed to be officially recognised nationally as a Teacher of Anatomy. This was a seriously upward movement in the career of a provincial surgeon, and one not found in the extant archive sources, such as they are, of any other provincial surgeon. But why did Hey reach this momentous decision? Lawrence has explored the tensions that existed in London in the 1770s and 1780s, concluding that the Company of Surgeons had entered a state of 'torpor' and had 'numerous irregularities, neglect and apathy in all their duties'.<sup>167</sup> After William Hunter died in 1783, John Hunter moved their Anatomy School from Jermyn Street to 12 Leicester Fields, but the buildings were not completed until 1785.<sup>168</sup> During these two disruptive years, the anatomical training offered may have fallen below previous standards. When Hey's son Richard went to St. Thomas's Hospital in London for surgical and anatomical training in 1785 matters still awaited appropriate regulation.<sup>169</sup>

Hey decided that he could provide anatomical training, and to achieve this ambition he needed influential London contacts, drawing firstly on his friendship and professional relationship with Walker.<sup>170</sup> Walker's reply to Hey dated 1 April 1785 is hesitant in tone, albeit that he found Hey's proposal desirable. Walker had put Hey's proposal to formally teach anatomy in Leeds to London practitioners, who responded with the disadvantages that would ensue, which would more than counterbalance the utility of the scheme. Walker commented,

Perhaps indeed suspicions of this nature may have their origin in envy and selfishness, as I believe the London practitioners and teachers would be very sorry that those in the country should be, in this respect put upon a level with them, and will consequently be backward to support any measure that

<sup>167</sup> Lawrence. *Charitable Knowledge*, p.88

<sup>168</sup> Peachey, *A Memoir of William & John Hunter*, pp. 180-182.

<sup>169</sup> Leeds General Infirmary, 196/1 W. Hey letter to Richard 22 September 1785, and two letters quoted by Hey II in MS/504-1 included in Pearson's, *Hey*, pp. 16 & 17.

<sup>170</sup> Letters written by Richard Walker to William Hey in Leeds, one in 1784 and two in 1785, MS/1990/4,

may hereafter supersede the necessity of young men coming to town in quest of anatomical knowledge<sup>171</sup>

Walker went on to say that, if anatomy could be acquired in the country the London Schools would be ruined, realizing that the argument was essentially pecuniary, and that other controversial items of law and professional competence would arise.

If arguments of this kind seem trifling it would be no easy matter for a judge to dispose of the bodies of convicts to proper people where they might be delivered only to such anatomical teachers as are recommended or licensed by the Surgeons Company. Every man who calls himself a Lecturer could not have the best claim, nor is it to be supposed that every man would be perfectly qualified to instruct others.<sup>172</sup>

A recognised Lecturer in Anatomy up to 1785 was a role that had been filled by few men, each of them significant practitioners. The title of 'Lecturer' must have carried enormous status and prestige to be so closely guarded by the London practitioners, and Walker told Hey that he must not expect any assistance in his scheme from the Faculty in London. As Lawrence has explained the teaching of anatomy, even in London, during this period was a much-debated subject, let alone elsewhere, constrained as it was by the available numbers of cadavers.<sup>173</sup>

Conversely how would Hey's scheme have been received in Leeds? There is no comment whatsoever within the Infirmary Minute Books, and it would surely have needed compliance from the Trustees and Subscribers to change the status of the Infirmary from a charitable institution to an anatomy school. Hey may have intended to develop an entirely separate anatomy school unattached to the Infirmary, and by this date he certainly had suitable properties. There is little doubt, evidenced by the detailed Infirmary dissections within Hey's Casebooks, that they were carried out primarily as a foundation for the twin discipline of surgery. Indeed surgical pupils could not be taught correctly without anatomy,

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<sup>171</sup> This quotation is taken from letter ref. MS/1990/3.

<sup>172</sup> *Ibid.*, MS/1990/3

<sup>173</sup> Lawrence, *Charitable Knowledge*, pp. 194-211. Lawrence explores the grey area of the dissection of 'hospital corpses', that is those cadavers not actually designated for dissection, for teaching purposes.

neither could they be taught how to practice an operation without a cadaver. The same situation existed in every provincial Infirmary or Hospital where pupils were attached to surgeons. From this viewpoint, it would seem that Hey was merely seeking to legalise and extend what in effect was taking place all over Britain.<sup>174</sup>

Hey was undaunted by Walker's reply, and he evidently wrote back to Walker in what must have been fairly persistent terms, because Walker replied with a short one-page letter on 7 June 1785, suggesting that if Hey wished to pursue the matter he would need to take it up at parliamentary level.<sup>175</sup> Hey did so by calling upon his allegiance, and enduring friendship, with William Wilberforce, the Member of Parliament for the Leeds area.<sup>176</sup> Wilberforce was at this time indebted to Hey as his family medical adviser, because of his own and his mother's poor health and chronic eye conditions.<sup>177</sup> At Hey's request Wilberforce presented a Bill, the second he presented (the first having been thrown out by the House of Lords), having first taken advice on the concurrence of the London practitioners of anatomy. Wilberforce had his Bill worded by the Solicitor General, and corrected by the Attorney General and presented to Parliament in April 1786. This Bill proposed that Judges, in order to increase the number of bodies available for anatomical dissection, should make available the bodies of felons as well as those of murderers. The Bill did not address the provision of provincial anatomy schools. Lord Loughborough, who 'boldly asserted that it was the project of an inexperienced youth unacquainted with the law', rejected the Bill in May, when it arrived in the House of Lords.<sup>178</sup> Wilberforce's laudable aspirations on behalf of Hey were dealt a blow he could have not expected. The denial from Lord Loughborough was political,

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<sup>174</sup> For comment see, Richardson, *Death, Dissection and the Destitute*, pp. 31-72.

<sup>175</sup> MS/199/4.

<sup>176</sup> Hey's involvement with Wilberforce on Civic and Political matters falls outside the brief of this thesis.

<sup>177</sup> MS/628, Book 9, p.41

<sup>178</sup> Letter from Wilberforce to Hey dated 13 July 1786, Wilberforce Letters, Bodleian Library, Oxford, D15, Folio 40.

due to the fact that he was 'a bitter opponent to the particular lawyer [the Solicitor General] who adhered to Mr. Pitt', rather than to the actual content of the Bill.<sup>179</sup>

Walker's letters to Hey are unique, and have a startling significance because they open a window upon a world of provincial medical training in the last quarter of the eighteenth century that scholars have hitherto ignored. They expose the frustrations that must have been felt by many provincial surgeon-apothecaries who attempted to legitimise and bring professionalism into their roles as anatomy teachers in provincial medical institutions.

However, despite Hey's doubts on the quality of London anatomical training at the time his son Richard was in London and his desire to provide such training in Leeds, Richard became an accomplished medical practitioner. When he 'returned to Leeds he was well qualified to assist his father... and took his share of the anxieties and fatigues of an extensive practice... [his] father often expressed his astonishment at the vast quantities of knowledge which his son had collected during his residence in London'.<sup>180</sup> Richard was able to take a full part both in the private practice and cover Hey's work at the Infirmary during Hey's first term as Mayor of Leeds from September 1787 to 1788.<sup>181</sup> During his first term as Mayor Hey recorded only one medical and surgical case history, an epidemic of peripneumony, but paid no attention to public health.<sup>182</sup>

Hey's medical colleagues, whom he did not specifically identify, did not support the extraordinary degree of zealous piety that he brought to his first civic duties, and he felt let down.<sup>183</sup> The degree of opposition to Hey's stance on the absolute observance of the Sabbath and the Third Commandment, based on King George III's Proclamation of 1 June 1787,<sup>184</sup> was so great that a mob of Leeds townsmen, which must have included many patients, burnt

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<sup>179</sup> R. I. Wilberforce & S. Wilberforce, *The Life of William Wilberforce*, p. 115.

<sup>180</sup> Pearson, *Hey*, vol. II, p. 72.

<sup>181</sup> For details see MS/268/3.

<sup>182</sup> MS/628, Book 9, p. 126, dated 9 March 1788.

<sup>183</sup> Pearson, *Hey*, vol. II, p. 13.

<sup>184</sup> *Ibid.*, p.6

his effigy and 'stabbed his carriage horses' causing degeneration in Alice Hey's health.<sup>185</sup> From this time forward Hey's son William said that his father encountered a degree of envy because of his celebrity, from one particular un-named surgeon, and two un-named physicians in Leeds.<sup>186</sup> The reason his son gave was that Hey was frequently called to consult in medical cases in addition to his surgical work and midwifery private practice. Despite this derogatory attitude, Hey was said to have held these medical colleagues in his daily prayers and continued to work alongside them regardless of their hostility.<sup>187</sup>

In March of 1789 Richard Hey died. It was so unexpected that the date of his marriage to Mary, the eldest daughter of Hey's sister Rebecca was fixed. Richard's death was the deepest sorrow of Hey's life.<sup>188</sup> His second son William began serving an indentured apprenticeship to his father in 1787 aged fifteen, and Hey's Casebooks include William's attendance on private patients to a greater degree than Richard.<sup>189</sup> He is first mentioned by Hey in the case of a regular midwifery patient,<sup>190</sup> who later died from what appeared to be blood poisoning. When Hey realised her situation was serious he called the physician, Dr. Davison to absolve William from blame.<sup>191</sup> From 1792-1794 William had surgical training in London at St. Bartholomew's Hospital, and this time Hey did not question the anatomy training. William was made a member of the College of Surgeons in 1794. In 1796 he became the first partner that his father took, though not an equal partner until 1809.

There were other positive elements that affected Hey's career as the decade of the 1780s drew to a close. His association with Priestley continued, and the paper he sent to Priestley on the Aurora Borealis was published in the 1789 edition of *Philosophical*

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<sup>185</sup> Ibid., p. 30.

<sup>186</sup> MS/504/1, p. 16.

<sup>187</sup> Ibid., p. 17.

<sup>188</sup> Pearson, *Hey*, vol. II, p.72

<sup>189</sup> Ibid., p. 73. Hey's three youngest sons were Anglican priests.

<sup>190</sup> MS/567, Book 7, Case 338, dated 17 September 1790.

<sup>191</sup> MS/628, Book 10, p. 48, dated June 1791.

*Transactions*. In February of that year Hey was made an honorary member of the Royal Medical Society of Edinburgh, despite never publishing a paper in Scottish journals.

### 3.6 Hey's Mature Years

*Hey's goal was not to amass wealth in this world but to gain everlasting life in the next*

(Rimmer, 'A Reappraisal', p. 205).

Hey survived his thwarted anatomy scheme, his traumatic first mayoral term, contained the negativity from his professional colleagues and his unquenchable personal grief and lived on with the daily penance of his painful lameness and increasing religious conscience. Hey's business acumen enabled him, from the 1780s to buy, build, refurbish and rent out residential, agricultural and commercial properties, small and large, on a regular and continuing basis. Many of his Leeds patients, in the later years, may therefore have also been his tenants. Between the years 1778 and 1790 Hey recorded 162 medical and surgical cases that included patients from Hull, Ripon, York, Richmond, North Allerton, Catterick, Coln in Lancashire as well as from Bradford, Halifax, Huddersfield and Wakefield, including the Wilberforce family, Lord Gordon, Lord Gage and Lord Stourton. The building of his new house, Albion Place, with its two-acre garden in 1794 signalled his reaching the pinnacle of provincial professional medical life. Hey had an intense involvement with the new Church of St. Paul's built in Park Square in 1792 by Miles Atkinson from subscriptions, extending his role as a prominent Anglican in this new upper class area of Leeds. Rimmer estimated Hey's practice had a net annual profit of £1,784 in 1796, which rose consistently to £3,428 at his death in 1819.<sup>192</sup> Hey's probated will revealed an estate of £35,000 and substantial property and chattels. There is no comparable income or probated will of other Leeds practitioners, just as there is no detail of their patient workload.

From the 1790s his midwifery patients included those of a more aristocratic nature, yet he continued to treat poor women and assisted young men-midwives in a consultant

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<sup>192</sup> Rimmer, 'A Reappraisal', pp. 208-9.

capacity. Lady Johnstone's <sup>193</sup> delivery was entered in the Casebooks in 1802 and another titled Lady, Lady Elizabeth Lowther some seven years earlier. <sup>194</sup> Childbirth by its very nature requires local availability, but in the same period, although not included in his midwifery cases, Hey delivered the children of Henry Lascelles, Edward on 13 July 1796, and Edwin on 25 December 1799, and in January 1802 he attended the first delivery of Lady Mary York, the sister of Henry Lascelles, bringing with him Nurse Waddington, who is not mentioned in his Casebooks, staying for four days at Harewood House. <sup>195</sup> Mary had eloped with Whittel Sheepshanks, the brother of Rev. Sheepshanks. Hey had treated the Sheepshank family for decades, and Whittel, twice Mayor of Leeds, was granted a Royal License to assume the Arms of York. Interestingly there is no fee paid to Hey in the Harewood archives but in Lady Mary's diary she recorded that 'Mr Hey always stayed to dinner'; Hey could have had no more illustrious cases locally. <sup>196</sup>

In 1800 Hey was amongst the first Fellows to be elected to the Royal College of Surgeons both in England and Ireland, and as the century turned his second term as Mayor passed uneventfully. The first decade of the new century was marked by a series of high-profile public dissections on the bodies of malefactors for the benefit of the Infirmary, culminating in the dissection of the Yorkshire witch, Mary Bateman in 1809. <sup>197</sup> In 1803 Hey's son William performed the dissection (advertising his skill) while Hey gave the anatomical lecture. <sup>198</sup> From 1796 William II had serious health problems extending over several years, and Hey was accused of nepotism for retaining his position as senior surgeon, until William could take over, to the detriment of younger surgeons, who were not named but could only have been Logan and Chorley. Hey replied that it would impede publication of a second edition of his surgical work if he resigned his position, and that because the Infirmary

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<sup>193</sup> MS/567, Book 10, Case 447.

<sup>194</sup> MS/567, Book 9, Case 374.

<sup>195</sup> MS/567, Book 10, Case 446.

<sup>196</sup> I am grateful to Karen Lynch of Harewood for these details from the Lascelles archives.

<sup>197</sup> J. Davies, *Life and Character of Mary Bateman the Yorkshire Witch* (Leeds: E. Baines, 1809).

<sup>198</sup> Pearson, *Hey*, p. 57.



had ten times the number of surgical patients as it did medical ones, his expertise was essential.<sup>199</sup> Hostility towards him continued<sup>200</sup> particularly from the physician Joshua Walker. William succeeded his father as senior surgeon at the Infirmary in 1812 and later trained three of his sons to become surgeons: William (1796-1875), also a surgeon at Leeds Infirmary; John (1802-1836), who showed exceptional medical promise, died aged thirty-four; and Richard (1803-1860), who went on to become a surgeon in York.

Despite hostility and institutional jealousy, Hey remained at the end of his life as he began, 'head and shoulders above the rest'.<sup>201</sup> At a metropolitan level he accepted criticisms of his 'anatomy of the parts concerned in the femoral hernia' in his *Practical Observations in Surgery*, published in 1803 with equanimity, and set about clarification in a second edition. The critical clarification to settle controversy surrounding his identification of this hitherto unrecognised type of femoral hernia afforded Hey the opportunity to dissect in 1805 in London, at the invitation of Mr. Abernethy, Sir Everard Home and Sir Astley Cooper. Hey returned again in 1808 to demonstrate 'before a numerous and most respectable assembly of the anatomists and surgeons in the metropolis'.<sup>202</sup> Hey's successful dissection on this occasion was 'carried on without intermission from afternoon to between two and three o'clock in the morning, by no means to the satisfaction of Charles [Sir Charles Bell] who was candle holder on the occasion'.<sup>203</sup> Interestingly these dissection dates coincide with two of the public dissections that Hey did for the benefit for Leeds Infirmary, suggesting that he honed his skills before his London visits. On other critical matters national practitioners sent him preserved body parts for comparison, which he graciously accepted and used.<sup>204</sup>

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<sup>199</sup> MS/505, p. 22.

<sup>200</sup> MS/505, p. 11.

<sup>201</sup> Rimmer, 'A Reappraisal' p. 214.

<sup>202</sup> Pearson, *Hey*, Some account of the professional writings, pp.12-13

<sup>203</sup> B. Cooper, *The Life of Sir Astley Cooper, Bart. Interspersed with Sketches from his Notebooks of Distinguished Contemporary Characters* (London: N. P., 1843), pp. 57-59.

<sup>204</sup> W. Hey, letter to Mr. Carwardine dated Leeds 4 October 1809, Royal College of Surgeons, London, ref. A. L. 6. Hey.

Benjamin Bell was to comment a few decades later in his review of Hey that 'Hey was, as a professional man, really in advance of his time and contributed largely towards the improvement of practical surgery... [And] Hey if I mistake not was quite on a level with the best of them'.<sup>205</sup> Bell went on to cite Cheselden, the Hunters, Sharp, Pott, Abernethy, Astley Cooper and John and Charles Bell; a roll call of the nation's most illustrious eighteenth-century surgeons of 'special attainments in their profession and strong individuality of character' immediately following his comments on Hey.<sup>206</sup>

Hey published two further editions of *Practical Observations in Surgery* in 1810 and 1814. In 1815 his son William published an account and some conclusions on the puerperal fever epidemic that struck Leeds from 1809 to 1812. It was considered that this publication was deliberately produced to re-establish William's reputation after his absence from December 1812 until November 1814, immediately after he replaced his father as senior surgeon.<sup>207</sup> In 1816 Hey published an article on the transmission of syphilis across a placenta that included cases from the outset of his working life.<sup>208</sup> Both these significant contributions to clinical medicine exhibited Hey's continuing scientific approach to his profession in the seventh decade of his career. In his last few years various memorials marked his pre-eminent professional and civic status in Leeds; a painting commissioned by Lady Lacelles, and two sculptured busts. Immediately after his death a statue was commissioned from Francis Chantry paid for by public subscription, the first statue of any Leeds citizen. In deference to the large number of subscriptions given by Dissenters, the original plan to place it in the Parish Church was changed, and Chantry created a niche for it in the Infirmary.<sup>209</sup>

What then were the main reasons for Hey's successful and, by provincial standards, lucrative career? The foregoing account of Hey's career suggests that a combination of

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<sup>205</sup> Bell, 'The Life, Character and Writings of William Hey of Leeds', p. 1061.

<sup>206</sup> *Ibid.*, pp.1061-1062

<sup>207</sup> W. Hey, *A Treatise on the Puerperal Fever, Illustrated by Cases* (London: Longman and others, 1815)

<sup>208</sup> W. Hey, 'Facts Illustrating the Effects of the Venereal Disease on the Foetus in Utero', *Medico-Chirurgical Transactions* (1816), pp541-550.

<sup>209</sup> *Leeds Intelligencer* 5 April 1819.

personal, professional and religious-political factors were conducive to his success. He was a highly trained medical man at an auspicious time for Georgian provincial medical practice, and he made the most of his opportunities. He displayed endurance and leadership, yet also the ability to respond to, and bond with, his lesser-qualified colleagues, and stoically refused to allow physical disabilities to limit development of his skill. His professional skill was complimented by acute, yet natural, managerial ability and business acumen enabling him to fully benefit from the institutional dimension of his career. His assimilation to the upper levels and complexities of medical, civic and religious life in Leeds enabled him to extend and maintain confidence and reputation, despite some later malice. . He maintained sound judgements on civic advancement, political sensitivity, and religious commitments, as well as displaying interests in many aspects of contemporary natural philosophy. He gave enormous diligence, energy and loyalty to his personal obligations, in the face of adversity and sorrow. He supported his brothers until they achieved financial independence, helped his widowed sister, and paid meticulous attention to the medical training of his two elder sons, suggesting that the overall contentment, prosperity and advancement of his family was paramount. These qualities were additionally extended by his attentiveness to the work and achievements of others, such as the eclectic group of scientist-intellectuals, politicians, theologians and radical thinkers connected to Leeds: Wesley, Priestley, Smeaton, Dixon, Atkinson, Wilberforce and Milner were all men regarded as some of the most significant of the age, and Hey moved among them all as an equal. Abiding, it could be said imperishable, memories of Hey remain as one of the great Georgian surgical and obstetric provincial practitioners.

## Chapter 4                    Medical Variety and Surgical Innovation

Most accounts of provincial practice in the eighteenth century suggest that the ordinary practitioners, the apothecaries and surgeon-apothecaries advanced little, if at all in competence...such advances were...largely confined to London...here and there a few exceptional practitioners stood head and shoulders above the rank and file. John Huxham and William Withering in Physic, Charles White and William Hey of Leeds in surgery...they were part of a new elite. (I. Loudon, 'Provincial Medical Practice in Eighteenth-Century England', *Medical History* (1985), 29, p. 2)

Hey's Medical and Surgical Casebooks display above all the diverse working life of a Georgian practitioner. This chapter will focus upon his working life as a 'new elite' medical and surgical practitioner, in both his private and his institutional practice. Hey's working approach remained essentially eclectic, and despite the fact that circumstances from time to time concentrated his deliberations on one particular ailment, no ailment or surgical procedure is emphasised over any other. His sixty year career extended over a period that saw the medical practitioner's role change from one who merely treated an ailment, disease or injury, to one who tried to overcome an ailment by uncovering and eliminating its origins, or by surgically removing presentation symptoms. Bound into these circumstances, as Hey's Casebooks reveal, was the frustration that a medical practitioner felt in his inability, by the facilities available to him, to treat ailments successfully. And Hey, at times, even questioned the judgement of God in cases of extreme pain and premature death.

The content of Hey's Medical and Surgical Casebooks has massive potential, making a fully representative selection impossible, and rendering any selection inevitably partial. A second obstacle is the lack of comparable archive material, and consequent dearth of secondary scholarship. For quantity of extant medical case histories some comparison could be considered to the medical case histories of Andrew Duncan. However, Duncan admitted 'it is but fair to mention that the histories of the cases taken at the admission of the patients

were not taken up by myself [Duncan]'.<sup>1</sup> Neither do Duncan's medical cases contain the type of autopsy found in some of Hey's medical cases, nor did Hey feel it appropriate to forward any of his case histories to Duncan for publication in the journal *Medical Commentaries*.<sup>2</sup> The 300 patient and payment details in the account book of the Lancashire physician Richard Loxham (1725-1791) are comparable in that they cover the middle decades of the eighteenth century, but they are business financial records only, and contain no treatment procedures.<sup>3</sup> The entirely domiciliary practice ledger of Benjamin (1716-1784) and William Pulsford (1736-1765), covering the years 1757 to 1765, does contain some clinical detail in addition to financial, and social detail, however, as Loudon pointed out in his survey of the Pulsford ledger there are only five operations.<sup>4</sup> Hey's Casebooks serve to illuminate the broader issues, and show that a healthy scepticism was prevalent in Hey's determination to successfully implement new theories and jettison the old ways, often in the face of recalcitrant, disdainful and hesitant colleagues. The languishing states of some eighteenth-century chronic conditions predisposed melancholia and dejection, but Hey appeared to see through the attendant effects and seek out the root cause and recognised state of the ailment that he was treating and included hardly any comment, even recognition, of melancholia. Some theorising arose out of arbitrary curiosity and novelty; Hey's early medical articles clearly display this feature. His case histories also display the prevailing Georgian preoccupation with bodily emissions and excretions, and the fashionable therapies of phlebotomy and electrification. And throughout his Casebooks Hey continually charted an

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<sup>1</sup> A. Duncan, *Medical Cases Selected from the Records of the Public Dispensary at Edinburgh with Remarks and Observations: Being the Substance of Case-Lectures During the Years 1776-1777* (Edinburgh: N. P., 1781), p. 4. Indeed Duncan drew his case histories and lectures from a variety of sources including seventy volumes purchased at 7 guineas from John Murray, the London Bookseller, in 1772.

<sup>2</sup> Hey's name is mentioned only once in *Medical Commentaries* (1784), vol. 9, p. 326, in a case by Thomas Jones entitled 'A Case of a Flap Operation United by the First Intention by Thomas Jones, late of Leeds General Infirmary'.

<sup>3</sup> S. King and A. Weaver, 'The Medical Landscape in Lancashire 1700-1820', *Medical History* (2000), vol. 44, pp. 173-200, citing on p 183 the Account Book of Loxham, Liverpool Record Office, ref. DD Pr/25/6.

<sup>4</sup> Loudon, 'The Nature of Provincial Medical Practice in Eighteenth-Century England', p.15. Although in this publication Loudon credited Hey as a 'new elite' practitioner he did not discuss Hey's clinical work, or compare it to the work of others.

enthusiastic use of a cornucopia of materia medica, stimulants and intoxicants, however, although he gave the administered dosage, it is difficult to judge the strength and potency of the drugs that he used.<sup>5</sup>

This chapter will firstly consider the medical variety of Hey's practice and highlight his early types of case history. This will be followed by a discussion of some cases in Book 6; a book that covers the middle of Hey's working life. Evidence from Book 6 also pertains to the way that Hey reflected back to earlier cases when he came across a similar condition, and the way that this revived interest caused him to compose 'Remarks' that consolidated his findings. Also contained within Book 6 is Hey's account of Leeds' experience of the nationwide 1775 influenza epidemic. This section will conclude with examples of the later years of Hey's practice and a summary of one of his most complex and thoughtfully written case histories, that of Nathaniel Row.

The chapter will then move to a brief survey of Hey's Medical and Surgical 'Remarks' exhibiting the reflective, analytical nature of his journal, as he considered the bearing of his medical and surgical experience upon particular problems and procedures. Hey's surgical innovation will be illustrated by his treatment of skull lacerations and fractures, highlighting his development and alternative use of a small head saw. The chapter will close with a discussion on Hey's foray into the advancing prospect of invasive surgery by his extirpation of cancers on female mammae. This will lead into a discussion of Hey's method of healing and his identification of the congenital predisposition of some types of cancer. This chapter will demonstrate that one locus of Georgian clinical knowledge still lay with individuals who were the precursors of institutionalised medical observations and surgical procedures; there was a qualitative difference between the vivisection aspects of innovative invasive human surgery and the concerted and agreed deliberations founded upon

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<sup>5</sup> An analysis of this aspect of Hey's manuscripts falls outside the brief of this thesis, but evaluation of his pharmacological usage is worthy of in-depth research, since such detail over six decades is rarely found elsewhere.

experiments using preserved human body parts and inert, soulless products of nature. I shall include a number of concise versions of Hey's medical and surgical patient case histories, to reveal both the clinical content and the realistic rendition of the patient practitioner relationship encounters. Tables will be used throughout to provide summary and general views of selected Casebook material.

#### 4.1 The Variety of Hey's Practice

*I entered upon the profession of surgery in 1759.* (W. Hey, *Observations in Surgery*, p. 6)

Hey's bare declarative statement of surgery, as a 'profession' reveals neither the variety nor extent of his medical practice. His sixty years of general practice and his forty-three years as the senior Infirmary surgeon are only partially represented by the 577 medical and surgical case histories that have survived in his manuscripts, in the additional cases in his publications, and in the publications of others. These display one general arc of development: Hey's initial case notation began with a person with a particular ailment; at the end of his working life it is the ailment alone which was the object of his deliberation, and patient's personality is submerged under the clinical detail.<sup>6</sup> The extensive variety of his writing over the forty-eight years that his surviving Medical and Surgical Casebooks cover provides absorbing detail.

In his first decade Hey recorded 181 cases, almost a third of the total surviving number of 577; twenty of which included a post mortem. The lack of an Infirmary until 1767, and a possible lower caseload as Hey built his practice up, suggests that the cases in Book 1 may be a higher proportion of his actual workload, than those recorded in the later Books. Three main types of ailment emerge from Book 1, infections, epidemics and fevers; these ailments make up some sixty cases. The next largest groups are twenty-three various hernias, and twenty-one accident cases. The balance of the cases could be said to be

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<sup>6</sup> For example see MS/628, Book 1, case 51, pp.171-177, a lithotomy case where the extensive pre- history and feelings of the patient are significant, and MS/628, Book10, pp217-228 also a lithotomy case where the account of the patient's operation is clinical and objective.

curiosities, for example a case of a subcutaneous insect, a neonate with a harelip and a scattering of gynaecological cases. Throughout Hey counted pulse rates per minute and noted pulse levels by words such as rapid, hard, soft and like a thread to chart the progress of an ailment

### Detail of Cases in Book 6

Book 6 extends from May 1774, just after his first leg accident, to July 1777 a few months before his second, and is the last Casebook to have case numbers. This Book reflects the type of practice Hey had developed after twenty years, and can be considered as a fair representative of his whole years of practice. There are forty cases in this book, fifteen of which are Infirmary cases. When sorted into type they show a predominance of accidents, head and eye conditions while the remainder are an eclectic assortment of ailments (See Table 5A below).

**Table 5A Case Histories Included in Book 6**

Case	Page	Inf	Date	Name	Condition	Hey's Comment
1	1		1/1775	A farrier	Tumour on wrist	Cured
2	2		6/1775	Children	Asthma infantum	
3	3		6/1775	Mr. Collinson	Affection of the Brain	Case imperfect
4	5		6/1775	Old man	Cataracts	Cured by couching
5	7	Yes	5/1774	A boy	Incurable amaurosis	Bad symptoms
6	9	Yes	3/1769	A woman	Fistula Lacrymalis	Cured
7	12			A man	Phymosis of penis	Observation
8	13			A poor woman	Prolapsed uterus	
9	17		7/1775	A maiden	Stomach ulceration	Supposed
10	22	Yes	8/1775	Mr. Crompton	Bladder ulcer	Remarks
11	30	Yes	7/1775	Old man	Gunshot eye wound	Singular disease
12	37	Yes	9/1775	A Barber	Lockjaw after a fight	Fatal
13	41		7/1775	A woman	Diseased eye	Extirpated
14	42	Yes	9/1775	2 children	Poisoned by deadly nightshade	Effects
15	46	Yes	9/1775	A man	Dislocated os humeri	Reduction
16	50		10/1775	Mr. Hepworth	Lithotomy	Good effects of warm bath
17	59		10/1775	Mr. Lambs	Blood in urine	
18	64	Yes	9/1775	Carter boy 4	Amaurosis	Cured
19	66		8/1775	Mrs. Fulnick	Strangulated femoral hernia	Unsuccessful operation
20	79	Yes	11/1775	Mr. Renton	Strangulated scrotal hernia	Cured by bleeding
21	81	Yes	11/1775	A man	Nose bleed petechia	Dissection
22	93		11/1775	Various	History of catarrhal fever/ Nov 1775	
23	97		12/1775	Miss L.	Asthmatic patient	Sudden death
24	99		2/1776	Miss Harrison	Scalded trachea	
25	100		4/1775	Mr. Pollard	Petechial fever	Cured
26	102		5/1775	Mrs. Dean	Peripneumony	Epidemical 6 cases



27	120		7/1775	Mrs. Richardson	Eustachian inflammation	Fatal
28	122		5/1776	Mr. Scholes	Inflammation of internal ear	
29	124		6/1776	Mr. Wilson	Gout in head	Fatal
30	131	Yes	7/1776	A 10 year old boy	Enlargement of tibia	Rendered thin
31	134		7/1776	A man aged 45	Compound fracture of leg	Bones sawn off
32	136		5/1776	Mrs. Tatlock	Ulcer of the bladder	Cured
33	139		6/1776	A man aged 60	Scrotal hernia	Cured
34	144	Yes	5/1777	Mr. Robinson aged 19	Universal anasarea	Cured
35	147		1/1777	Joseph Lee	Lithotomy	
36	155		1/1777	Mr. Jennings	Aneurysm of brachial artery	Cured
37	159		1/1776	Mr. B.	Scalp laceration	
38	162		7/1777	A child	Preternatural knee joint	
39	163	Yes	7/1777	Miss Neild	Fractured skull	No concussion
40	164	Yes	7/1777	A cloth presser	Accident to skull	Cured

The following review of some examples from Book 6 serve to illustrate the versatility required of a typical provincial surgeon-apothecary, who had the dual roles of private practice and an infirmary appointment in the middle of the 1770s.

### Eye Ailments

Eye ailments formed a significant part of a Georgian medical practitioner's and an itinerant's workload, and as such provided a steady source of income. Dr. Hilmer, an itinerant oculist, provided Hey with a sample of a small round needle in 1768 that Hey used to couch cataracts for the rest of his working life.<sup>7</sup> Hey compiled cases of various types of eye condition together, but they had not occurred consecutively. This is an indication that his interest, from time to time, settled on one particular ailment.<sup>8</sup> In the first case dated 22 June 1775 Hey had couched both eyes of a man who had been blind for three years. 'The left cataract was firm and was removed whole, but the right was softer and suffered my [Hey's] needle to pass through it.'<sup>9</sup> The man had had a 'watery and irritable state', for some time in his eyes that had caused Hey to be apprehensive of success. However the man's sight 'gradually returned'. Later in October Hey noted that the man could now 'make his own market, and can

<sup>7</sup> Hey, *Observations in Surgery*, p. 50, see also H. Corlett, 'No Small Uncertainty: Eye Treatments in Eighteenth-Century England and France', *Medical History* (1998), vol. 42, pp. 217-234.

<sup>8</sup> MS/628, Book 6, Cases 4, 5 & 6.

<sup>9</sup> *Ibid.*, Case 4, p. 5.

walk anywhere without a guide', which had greatly improved his standard of living.<sup>10</sup> The following case is one that Hey had treated a year earlier.<sup>11</sup> The patient was a boy, who had had the condition 'gutta serena', another word for amaurosis or loss of sight, for three months.<sup>12</sup> Hey considered whether the boy had 'some compression on the brain', because he had delirium, and treated him with leeches and then for six to eight weeks with an electrical machine; neither treatment was successful. When Hey saw the boy again in the spring of 1775 he advised treatment with mercurial medication, but his parents refused.<sup>13</sup> Hey followed with detail of a second boy who had a similar condition, but who likewise was dismissed as incurable, with possible 'compression on the brain'.<sup>14</sup>

Hey now referred back to the spring of 1769<sup>15</sup> when he had treated a young woman, Judith Ward, in the temporary Infirmary for a Fistula Lacrymalis.<sup>16</sup> At this time Hey surgically 'opened the sack', but this opening proved insufficient, and because 'the patient refused to submit' to a second attempt, Hey merely dressed the wound. When he saw the patient five years later, he included her case because she had recovered. He added comments on two other patients; the first was a ten-year-old girl, who had contracted smallpox. Hey surgically treated her eye by opening the infected lachrymal sac to allow the pus to drain. Five years later Hey found she had also been cured. In the second case in 1775, Hey released the accumulation of pus in the lachrymal sac by gentle pressure of his hand, and dressed the wound with a 'compress of lint and soft linen cloth...bound upon a linen roller' achieving a successful cure. Hey then commented on the method of Gooch who advocated the use of a tool, that Gooch described as 'a steel bow', to surgically release an accumulation of pus. Hey

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<sup>10</sup> Ibid., p. 6.

<sup>11</sup> Ibid., Case 5, p. 7, dated May 1774.

<sup>12</sup> Quincy, *Medical Dictionary*, p. 50, in this condition the pupil of the eye is enlarged and motionless. See also W. Hey, 'An Account of the effects Electricity In the Amaurosis', *Medical Observations and Inquiries* (1776) vol. 5. pp. 1-28, and Priestley, *History and Present States of Discovery Relating to Vision*, p. 793.

<sup>13</sup> MS/628, Book 6, Case 5, p. 8.

<sup>14</sup> Ibid., p. 8.

<sup>15</sup> Ibid., Case 6, p. 9, dated spring 1769.

<sup>16</sup> Quincy, *Medical Dictionary*, p. 346 & p. 472, an un-natural opening, or fistula in the lachrymal gland, frequently associated with smallpox. This condition often became chronic leading to a major abscess, permanent disfigurement and eventually blindness.

found that manual pressure released the pus without irritation, and caused less distress to the patient.<sup>17</sup>

Hey was continually refining his methods to cure this condition and in a later book, in 1785, Hey wrote *Remarks on Fistula Lacrymalis* concerning mainly his criticism of new treatment methods published by Mr. Wathern, and followed with three case histories of the condition.<sup>18</sup> A full account of the eye disease suffered by William Wilberforce and his mother was also included at this time, indicating a revival of his interest in the condition. Hey referred to correspondence he had had from his former apprentice Mr. Walker, who said that the London surgeons' condemnation of Wathern's new type of operation, where a small pipe was inserted into the nostril to allow the perpetual tears to flow through the nose instead of down the cheek was 'intoto'.<sup>19</sup>

#### An Accident Case

An interesting accident case is one of a barber who was brought into the Infirmary on Thursday 14 September 1775, two weeks after he had been involved in a fist fight, because his jaw had become locked and his spine rigid.<sup>20</sup> He had only a slight wound on the upper part of his nose and had had no bad symptoms until a week after his fight when he displayed 'running at nose and eyes...and began to complain of a little stiffness in his jaws'.<sup>21</sup> Hey wrote a concise account of the symptoms and cause of his ailment prior to admission in the Infirmary. The barber's wife was a 'chairwoman', and she had consulted their local surgeon-apothecary who had gone through the usual procedure of purging and bleeding. A consultation between the Infirmary physicians and surgeons reached no diagnosis. They continued with a regimen of warm baths, liniments, plasters, and a free use of opium;<sup>22</sup> but to

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<sup>17</sup> Ms/628, Book 6, Case 6, p.9 to 11, Benjamin Gooch was the senior consulting surgeon of the Norfolk and Norwich Hospital in 1775.

<sup>18</sup> MS/628, Book 9, pp. 38-40.

<sup>19</sup> Ibid., p. 43, letters dated 16 Feb. 1786 and 30 May 1786.

<sup>20</sup> MS/628, Book 6, Case 12, p. 37.

<sup>21</sup> Ibid., p. 37.

<sup>22</sup> Ibid., p. 39.

no avail, and the man died. Mr. Jones, the surgeon who had agreed his admission 'declined examining the body after death'. Hey wished that he had 'opened the cranium in time', before the body was taken for burial.<sup>23</sup> Hey wrote the case up as one of opisthotonos (tetanus), a condition invariably fatal at that time, and the reader becomes aware of his more experienced and perceptive, almost certainly fatal diagnosis, as well as his reticence to expound his opinion in the face of his colleague's uncertainty.<sup>24</sup>

### An Epidemic

Book 6 contains an account of the 'epidemic of catarrhal fever or influenza that struck Leeds in November 1775'.<sup>25</sup> Whilst Hey's manuscripts provide searing detail of this virulent epidemic in Leeds, they do not reveal that it was endemic all over England.<sup>26</sup> John Fothergill requested practitioners to report their observations on this epidemic to him and these were later published.<sup>27</sup> Some of the published findings concurred exactly with Hey's observations, yet others seemed more concerned with veterinary aspects. Dr. Ash in Birmingham also noticed, as Hey did, putrid bodily emissions and termed the condition 'a terminal mortification of the bowels'.<sup>28</sup> In London Dr. Heberden noticed that his patients had 'great giddiness and internal pain in the head', and Dr. Haygarth in Chester, who considered that the ailment was 'epidemical catarrh', noticed that it was most prevalent between 15 and 25 November.<sup>29</sup> In Blandford Forum, Dr. Pulteney observed that his patients 'could not lie

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<sup>23</sup> Ibid., p. 40.

<sup>24</sup> Quincy, *Medical Dictionary*, p. 617.

<sup>25</sup> MS/628, Book 6, p. 87.

<sup>26</sup> For a general analysis of influenza in Georgian Britain see M. DeLacy, 'Influenza Research and the Medical Profession in Eighteenth-Century Britain', *Albion* (1993), vol. 25, pp. 37-66, 'The Conceptualisation of Influenza in Eighteenth-Century Britain: Specificity and Contagion', *Bulletin of the History of Medicine* (1993), vol. 67, pp. 74-118, and 'Nosology, Mortality and Disease Theory in the Eighteenth Century', *Journal of the History of Medicine and Allied Sciences* (1999), vol. 54, pp. 261-284.

<sup>27</sup> Letters commenting on the influenza epidemic that occurred in London and elsewhere at the end of the 1775', *Medical Observations and Inquiries* (1784), vol., vi, pp. 348-403.

<sup>28</sup> *Medical Observations and Inquires*, p. 377, Ash letter dated 8 December 1775.

<sup>29</sup> Ibid., p. 349, Heberden letter dated 16 December 1775 and p. 389, Haygarth letter dated 25 November 1775.

down in bed', and in Dorchester Dr. Cumming recorded that even horses were affected and 'that one of his gentlemen had lost six dogs by it'.<sup>30</sup>

Hey visited his first victim of the epidemic on the 16 November 1775. He then began to notice that from

the 19<sup>th</sup> to 29<sup>th</sup> the disease was exceedingly prevalent, scarce a family escaped, and not many individuals. The weather during this period was cold and often foggy, but without much frost. The wind was easterly (chiefly south east), and very piercing. On the 29<sup>th</sup>, after a copious rain in the forenoon, the weather became on a sudden, remarkably warm, the thermometer rising ten degrees (viz. from 42 to 52). The wind shifted to the west... and many became worse after this alteration of the weather.<sup>31</sup>

This detailed weather report related climatic change to the progress of the epidemic, then proceeded to notation of the symptoms..

A running of a thin acrid fluid from the nose and eyes, a cough, shiverings, pain and giddiness in the head, pain in the limbs with the usual symptoms of fever...pain in the globe of the eyes...headache sometimes violent and a troublesome giddiness...pulse hard and full...the patient often complained of pain along the sternum as well as a soreness in the throat and the cough was very tearing at night.<sup>32</sup>

Hey recorded a graphic description of the texture and offensive nature of his patients' sputum, and the colour and aroma of their urine and bowel evacuations and bled each of his patients two or three times recording a full account of how their blood settled and crusted in dishes.<sup>33</sup> He treated his patients with an 'antiphlogistic diet, plentiful plain water, barley water, balm tea and cool air'. His medications were 'antimonial powder, James's powder and a tartar emetic with a little tincture of opium'.<sup>34</sup> He found that if a 'moist breathing sweat with clamminess' came on, the patient seemed relieved 'with puking now and then'. However, 'the pain in the side was sometimes very violent', in what he termed 'inflammatory

<sup>30</sup> Ibid., p. 403, Pulteney letter dated 18 December 1775 and p. 357, Cumming letter dated 25 December 1775.

<sup>31</sup> Ibid., p. 87. See also Riley, *The Eighteenth-century Campaign to Avoid disease*, p.52, for comment on climate predisposing ailments.

<sup>32</sup> Ibid., p. 88.

<sup>33</sup> MS/628, Book 6, p. 89.

<sup>34</sup> Ibid., p. 90.

pleurisy'. He administered 'pectoral linctus<sup>35</sup> or emulsion without opium'<sup>36</sup> to alleviate the persistent cough. The Leeds epidemic persisted until Christmas, a 'few became consumptive and some asthmatic persons had the infection throughout the winter months'.<sup>37</sup> Hey's clinically comprehensive account of this viral flu epidemic is remarkable, given that the majority of practitioners involved in treating this epidemic nationwide were physicians. Indeed eminent men at the summit of their careers such as Sir John Pringle and Sir George Baker were treating patients in the London epidemic, and sent their comments to Fothergill. However their possibly edited, published accounts<sup>38</sup> appear merely anecdotal when compared to Hey's comprehensive detailed case histories, which detail climatic conditions, symptoms and treatment in comprehensive fashion.

### Clinical Environments

The following two cases from Book 6, Mrs Haley and Joseph Lee, serve to illustrate the difference between Hey's observation of a patient with a medical condition, Mrs Haley, and a medical condition existing in a patient, namely Joseph Lee. Mrs. Haley of Fulneck near Pudsey was afflicted with a chronic femoral hernia, which had become strangulated.<sup>39</sup> Hey wrote fourteen closely written pages in his account of Mrs Haley, and this case history provides a good example of Hey's surgical relationship with a private patient, where his concern centred as much on the patient as upon the presenting condition. Mrs. Haley's chronic hernia had become acute six days before Hey was consulted when a painful tumour had appeared in her right groin. Her local apothecary, Mr. Waiblinger, had purged her to no effect, then two days later called in Dr. Crowther who had again purged her, administered emetics, clysters, restricted her to a fluid diet and bled her. Hey's account begins with the

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<sup>35</sup> Hey's recipe for pectoral linctus can be found in the Pharmacopoeia Section of his Medical Commonplace Book ref. MS/1587.

<sup>36</sup> MS/628, Book 6, p. 91.

<sup>37</sup> Ibid., Case 22, dated 25 December 1775 & Case 23 dated 2 February 1776.

<sup>38</sup> *Medical Observations and Inquiries*, p. 348, Pringle letter dated December 1775, and p. 352, Baker letter dated December 1775.

<sup>39</sup> MS/628, Book 6, Case 19, pp. 66-78 dated 28 August 1775.

pre-history up to the time he first saw her on 28 August. He was called because a tobacco clyster had made her exceedingly sick, and caused a great deal of pain in her bowels.<sup>40</sup> On arrival Hey recorded that he did a full body examination. He determined that the hernia 'had been formed some years ago, and now and then became painful...and discharged a little matter by the navel'.<sup>41</sup> His vivid description of her bodily condition concluded that it was 'most probable that the head of the colon alone constituted the hernial tumour'.<sup>42</sup> He then went on to say that 'the case was embarrassing upon the whole', but without explaining the reason for this embarrassment.<sup>43</sup> He began by purging his patient because he 'thought it improper to perform an operation which seemed so likely to prove needless'.<sup>44</sup> Hey remained overnight in Pudsey, and the next day he found that her condition had deteriorated. 'As soon as the proper dressings could be prepared I performed the usual operation'<sup>45</sup> and found that dark coloured pus had burst through the wall of the colon and that there was gangrene in the strangulated part of her intestines.<sup>46</sup> He dressed the wound with a plug of lint and then gave her thirty drops of opium, remarking that although his patient 'had borne the operation with great fortitude' she was overcome by 'continual agonies of death...and died in the evening'. Hey wondered whether it would have been more prudent to introduce a cannula of lead or ivory into the wound to allow drainage instead of a plug of lint, which in effect had prevented drainage. He commented 'how fallacious was the present case...it seems as if one bad symptom in strangulated hernias should outright [out-weigh] all the favourable ones'.<sup>47</sup> Hey's somewhat obscure eighteenth-century terminology nevertheless indicates how easily a surgeon could be deceived by a patient's history and presentation into thinking that he could

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<sup>40</sup> Ibid., pp. 66-68.

<sup>41</sup> Ibid., pp. 69-70.

<sup>42</sup> Ibid., pp. 70-71.

<sup>43</sup> Ibid., p. 72.

<sup>44</sup> Ibid., p. 73.

<sup>45</sup> Ibid., p. 74.

<sup>46</sup> Ibid., p. 75.

<sup>47</sup> Ibid., pp. 76-78.

achieve a cure, only to be thwarted by one bad symptom, and this could explain his use of the word 'embarrass' when writing up his notes.

The case of Joseph Lee on whom Hey performed a lithotomy operation, is accorded seven pages of text, and in contrast to the previous case it begins with no pre-history at all, and the first sentence takes the reader straight into the operation.<sup>48</sup> 'On 27 January 1777 I cut Joseph Lee aged 55, for the stone at 2-30pm. I used my compound forceps but could not lay hold of the stone readily'. Hey then said that he had tried to extract the stone with his 'right lateral forceps' but failed again, and then successfully removed it by using his 'common forceps'. He then wrote an account of the type of wound, how he dressed it, the level of opium given and the amount of blood lost.<sup>49</sup> Not until the next day did he mention Mr. Lee's condition, which he said appeared to be 'very poorly'. Hey did not even mention that the patient was in the Infirmary, but because he mentioned Mr. Carr,<sup>50</sup> who was the Infirmary apothecary at that time it appears that Mr. Lee was an inpatient. There are daily post-operative clinical details, but the case is devoid of patient personality. On 14 February Hey said that 'the wound looked clean... [and] my journal of the case ceases here',<sup>51</sup> presumably because the ailment no longer held any interest for him, evidence that as early as 1777 for Hey the 'clinical' aspect of the Infirmary was supplanting the personal history notation of the patient.

There are only two years between the previous example of Mrs. Haley and the case of Mr. Lee, but the approach and moreover the way the case history was compiled is startlingly different, posing a difficult question concerning what caused Hey to adopt a more strictly clinical approach. A full answer would require a complete chronological review of all Casebooks, a task beyond this thesis. A tentative answer could suggest that the Infirmary environment proved to be the initial factor, because the developing routines of colleague

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<sup>48</sup> Ibid., Case 35, pp.147-154.

<sup>49</sup> Ibid., p. 148.

<sup>50</sup> Ibid., p. 149.

<sup>51</sup> Ibid., p. 153.



consultation, teaching of pupils and treatment instructions given to resident nursing staff would have all been primarily related to the ailment, and its progress, and only secondarily to the patient that the ailment had afflicted.

#### 4.1.1 Examples of the Nature of Hey's General Practice in the Later Years

Two examples from the practice daybook compiled by William Hey II about the time he became a partner to his father in 1796, serve to illustrate the additional ledgers that Hey kept.<sup>52</sup> The first is a drug chart, probably one of the first extant, extending over three months for what appeared to be diagnosed as opisthotonos (tetanus), but from the symptoms given could equally well have been meningitis.<sup>53</sup> (Death did not occur so it was probably the latter.) In the middle of June a nine-year-old girl received a contusion on her leg at the same time as she had contracted a cold. Her neck stiffness and other symptoms could have indicated either of the conditions. Hey did not at first see the patient but sent medicines. Hey II saw her on 11 July and from that time regularly recorded treatment procedures until her recovery. The interesting part of this account is not her recovery detail but the chart of opium administered (see illustration 4.1) during the treatment period. The daily amounts of opium prescribed, given the age of the patient, seem excessive, and readers can but ponder on the potency, strength and residual effects. Whether this chart was compiled for billing purposes only, or was a standard form of procedure within the practice, its rarity makes it an outstanding sample of eighteenth-century general practice. Secondly an account four years later also compiled by Hey II of inoculations for the Cowpox (see illustration 4.2) has the same rarity.<sup>54</sup> Throughout Hey's case histories there is a sprinkling of smallpox cases, but this is the only evidence of inoculation procedures; although at the end of the chart there is the comment 'see the book entitled inoculation vaccinae'. The interesting fact on this chart is that patient 'no 1' was Hey II's own son aged three months, who died shortly afterwards.

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<sup>52</sup> MS/268/3, p. 37 dated 19 June 1796.

<sup>53</sup> Ibid., p. 45.

<sup>54</sup> Ibid., p. 76 dated 1800.

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Account of the Quantity of Opium taken in the last Case, & of the Times in which it was taken.

N<sup>o</sup>. Tho' the opium was sometimes given in a solid form, it will be always mentioned in the liquid for the sake of uniformity; reckoned <sup>29</sup> 20 Drops for a Grain.

From July 11 <sup>th</sup> To	12 <sup>th</sup> taken	Gutt <sup>o</sup>
12 -	13 -	100
13 -	14 -	80
14 -	16 -	50
16 -	18 -	230
18 -	19 -	0
19 -	21 -	100
21 -	22 -	340
22 -	26 -	220
26 -	Aug <sup>r</sup> . 2 -	900
Aug <sup>r</sup> . 2 -	4 -	2400 <sup>of</sup> <sub>ict<sup>r</sup> ad</sub>
4 -	5 -	600
5 -	9 -	0
9 -	13 -	660
13 -	19 -	1200
19 -	23 -	1200
23 -	27 -	1200
27 -	Sept. 13 -	1200
Sept. 13 -	10 -	800
10 -	17 -	800
17 -	End of Sep <sup>r</sup> -	800

~~30~~ 317 grs - latt<sup>r</sup> End of Sep<sup>r</sup> - 14080 =  
 29.. 2.. 40 or 3j. Zij. 4. 44 solid opium.

# Inoculations for the Cow Pox.

1800

1. Richard Hey At. 3 Mo. inoculated on  
Sept. 18<sup>th</sup> — No eruption — slight fever — consi-  
derable inflammation followed by ulcers  
when 4<sup>th</sup> scab came off.

Inoculated for small Pox Nov. 7<sup>th</sup> — one of  
the punctures inflamed; but died away  
abt. the 3<sup>rd</sup> day.

2. Mas<sup>r</sup>. Rangleley At. 5 Mo. inocul. Sept. Oct. 3<sup>rd</sup>  
no eruption — very slight fever —

3. Mr. W. Gubharts b. At inocul. Oct. 11<sup>th</sup>  
no eruption — no fever

4. Mr. R. Pullan's b. At inocul. Oct. 18<sup>th</sup>  
no eruption — no fever

5. Miss M. A. Atkinson At inoc. Oct. 18<sup>th</sup>  
no eruption

6. Mr. Bordingley's S<sup>d</sup> At inoc. Oct 25  
no eruption —
7. Mr. Miles Atkinson's S<sup>d</sup> At. inoc. Oct 27  
no eruption
8. Mr. Preston's S<sup>d</sup> At. inoc. Oct 27  
no eruption
9. Mr. Hutchinson's Jr. At. inoc. Oct 30  
failed - inoc. 2<sup>d</sup> time Nov. 12.
10. Mr. Pinnington's S<sup>d</sup> inoc. Nov. 4  
failed - inoc. 2<sup>d</sup> time Nov. 12<sup>th</sup> - failed in  
one arm.
11. Mr. Westwoods S<sup>d</sup> inoc. Nov. 4  
failed - inoc. 2<sup>d</sup> time Nov. 12, failed again  
in one arm.
- Mr. Margreaves's Son Nov. 12 At. 1 1/2  
shield + 6 weeks

see the Book, entitled  
Inoculationis vaccinae

Both these charts evidence continual surveillance in patient care and practice procedure of some thoroughness, and are testimony to the clinical efficacy of Hey's practice.

### The case of Mr Row

The case of Nathaniel Row exemplifies both Hey's patient practitioner relationship and his application of a new surgical technique, the relief of Popliteal Aneurysms.<sup>55</sup> It stands alone; Hey included no others within his Casebooks of this condition, though there is one item in the Anonymous Medical Notebook of a comparable type.<sup>56</sup> Hey first attended Row in July 1799 and described him as 'a stout middle-aged man who lived in Filey', who, in the previous winter had 'greatly exerted himself saving people from a shipwreck'.<sup>57</sup> Row had noticed no particular injury from this exertion but because 'a considerable swelling in the ham' of his left leg came on, he consulted two Scarborough surgeons, Mr. Watson and Mr. Willis, who failed to reduce the swelling and called Hey to Scarborough. Hey found that Row had 'an obstructed state of the veins on the integuments' in his left leg, which Hey 'punctured with a couching needle'. Fluid, as well as florid blood issued out, and Hey considered that the Popliteal Vein had burst, requiring amputation, because otherwise the leg would mortify.<sup>58</sup> The pain endured by Row in the weeks prior to the operation had caused him 'to take seventy drops of laudanum at bedtime', but after the amputation he was free of pain and recovered well.<sup>59</sup> This is a short fairly matter-of-fact account, which appeared to have been written-up into Book 11 sometime before the second account in Book 12.

Row's situation became more serious some three months later when he came to Leeds to be fitted for a wooden leg. When Hey saw him in a follow-up appointment Row said that he felt the journey had caused him discomfort in his right leg. A very telling phrase now

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<sup>55</sup> MS/628, Book 11, pp. 261-265 & Book 12, pp. 1-32.

<sup>56</sup> MS/559, Anonymous Collection of Medical Notes, pp. 242-246. The Case of John Hall aged forty-three, admitted to Leeds General Infirmary as a patient of Mr. Logan on 19 May 1809 and operated on for Popliteal Aneurysm, written in the hand of William Hey.

<sup>57</sup> MS/628, Book 11, pp. 261-265.

<sup>58</sup> *Ibid.*, p. 263.

<sup>59</sup> *Ibid.*, p. 265.

indicates as much of Hey's recording as of the patient's condition. The record, clearly retrospective, provides Hey's initial judgement, his honest recognition of its inadequacy, and the dependence of the initial judgement on Hey's estimation of the person and character of the patient. 'I felt the pulsation of the femoral artery rather more distinctly than is usual, but I attributed this to the size and stoutness of the subject, and knowing Mr. Row to be a timorous man I probably paid less attention to his fears than I should otherwise have done'.<sup>60</sup>

Some days later after the artificial leg had been ordered, Hey re-examined the patient, and found an enlargement of the artery, 'a tumour about one and a half to two inches in length and about the thickness of a finger'.<sup>61</sup> At first unwilling to do a second amputation, Hey suggested to Row that he knew of an operation to tie a vein below such a tumour that had been 'recommended by the late Mr. Hunter'.<sup>62</sup> Timid Nathaniel Row 'was so much affected' that he wanted to return at once 'to the comfort of his friends' in Scarborough. Hey told him that in his opinion undue exertion might 'hasten a rupture of the vein', and that the journey might be better avoided.<sup>63</sup> Row, after 'thinking more calmly decided to send for his brother and a female relation to act as nurse, and to remain in Leeds under my care'. Hey hesitated because he wanted his son William to return from Bath to assist him, rather than Mr. Logan, a young Infirmary surgeon, 'but there was so evident an increase of the tumour in the course of three days that I thought it my duty to proceed immediately'.<sup>64</sup>

Hey performed the operation in Row's lodgings in Call Lane, Leeds. He placed him 'on a small bed near a window...with Mr. Row in a prone position'. When the incision was made 'the vein and artery were so closely united by cellular membrane that it required great care to separate them...by using a blunt silver director', and Hey could not determine if the

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<sup>60</sup> MS/628, Book 12, p. 1.

<sup>61</sup> Ibid., p. 2.

<sup>62</sup> See Allen, Turk and Murley, *The Casebooks of John Hunter* for Hunter's Popliteal operations and dissections, case22, pp18-22, case25, pp21-22, case40, pp36-38 and case62, p. 318 & note 62

<sup>63</sup> MS/628, Book 12, p. 4.

<sup>64</sup> Ibid., p. 5.

tumour 'was formed by a dilation of the artery or the vein'.<sup>65</sup> The state of the vessels below the tumour caused Hey to judge it proper to attempt an examination of the vessels above it. Hunter's method was to investigate the state of the artery above the swelling, before he cut into the tumour, and 'slacked the tourniquet off to see if any arterial blood came by the lower orifice'.<sup>66</sup> Hey questioned whether making Row's operation more severe could be justified, if an amputation was inevitable.<sup>67</sup> But he determined to enlarge his original incision and found 'a dilation of the vein...in such close contact with the artery that we could not by any gentle or prudent method make a separation between them...and proceeded to tie the vein below the tumour. I put a ligature made with ten threads of thick silk (called by the haymakers stoved silk) around the vein, an inch below the inferior part of the tumour'.<sup>68</sup> The wound was then dressed and closed and fifty drops of opium administered.<sup>69</sup>

Having written ten pages of text up to this point Hey then deliberated in 'Remarks' over two and a half pages upon his reservation concerning whether 'a ligature put upon a vein would have the same effect in destroying a vein', and whether in fact the limb could be saved. The depth of Hey's preparation and concern is revealed by his comment that he had 'examined an excellent anatomical preparation of these blood vessels, made by my late son Richard, before I went to my patient's lodging'.<sup>70</sup> Post operatively Row, 'went on favourably for a fortnight',<sup>71</sup> apart from some wound inflammation. On 'Wednesday 27<sup>th</sup> I was called in haste at 6am on account of a haemorrhage'.<sup>72</sup> The quantity of blood lost seemed great, but could not be measured since it had soaked into the bed. Before the bleed Mr. Row had felt a stretching sensation about the wound, which returned later in the day. A tourniquet was placed around his leg in readiness to prevent a further haemorrhage, however one occurred

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<sup>65</sup> Ibid., p. 6.

<sup>66</sup> Allen, Turk and Murley, *The Casebooks of John Hunter*, case 22.

<sup>67</sup> Ibid., p. 7.

<sup>68</sup> Ibid., p. 9.

<sup>69</sup> Ibid., p. 10.

<sup>70</sup> Ibid., p. 12.

<sup>71</sup> Ibid., p. 13.

<sup>72</sup> Ibid., p. 15.

around 7 o'clock that evening.<sup>73</sup> Hey considered the blood lost to be arterial rather than venous this time, 'as it lay coagulated upon the folded sheet', and managed to weigh most of it to find that about '21 or 22 ounces had been lost'.<sup>74</sup> Mr. Row was given 'gruel made warm with brandy and nutmeg', but his anxiety was considerable and he expired two hours later.<sup>75</sup>

The course of Hey's private and institutional professional life had carried on during his treatment of Mr Row and there was one midwifery case that occurred three days before Row's fatal haemorrhage that may have added to his concern. There is little more alarming than a sudden massive blood loss, even to an experienced practitioner. Hey had attended the delivery of Mrs Wilson, the wife of the Hunslet Dissenting Minister, in a normal birth, as all her previous ones had been, but this time her placenta had separated, either as the child emerged from her uterus, or in the time immediately before, because he recorded that 'the child's body was covered...and I do not remember ever to have seen so large a quantity of blood expelled along with a child'.<sup>76</sup> Hey remained with her as her blood continuously flooded, her life perilously in danger all that day and the next. His account has the immediacy of being written at the time and clearly displays alarm. Mrs Wilson's danger would have been well known amongst the large numbers of Hunslet Dissenters, and to have a second high profile patient suffer a haemorrhage the following day may have dented his reputation.

The case history of Mr. Row is all the more remarkable when set within the whole context of Hey's practice because in addition to the prehistory, the pre-operative doubts, the lengthy operation and postoperative care detail, Hey now wrote an account of the dissection he performed on the day after Row's death. The tumour when dissected appeared 'equal in size to a hen's egg...[or] not exceed [ing] the size of a Golden Pippin apple'. On a deeper dissection of the leg Hey found that Mr. Row's 'disease was an aneurysm and the vein was

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<sup>73</sup> Ibid., p. 17.

<sup>74</sup> Ibid., p. 18.

<sup>75</sup> Ibid., p. 19.

<sup>76</sup> MS/567, Book 9, Case 427 dated 23 November 1799.



not at all dilated, but on the contrary contracted'. The artery had ruptured in two places.<sup>77</sup> Hey concluded with a second set of 'Remarks' beginning 'this fatal termination gave me great uneasiness, as the disease might have been cured'. The nub of Hey's remorse and self-recrimination was that he had mistaken the artery for the vein. In his frustration he wrote of the 'impossibility on discovering the true state of the vessels by such examination as the operation had afforded'.<sup>78</sup> He went on to question why the amount of blood lost, that was not excessive, came to cause Mr. Row's death.<sup>79</sup> Beginning with the comment 'such a series of unfavourable circumstances have rarely, if ever occurred, in the whole course of my practice',<sup>80</sup> Hey concluded the case on a remorseful note. Had he performed a full-body dissection, he may have found that Mr. Row's arterial problems were probably an underlying atheromatous condition such as Hunter found in dissection of patients after Popliteal Vein operations.<sup>81</sup> Hey referred to Hunter's operation in a case published by Mr. Home, and determined to perfect his operation technique, if he had another opportunity to perform the same procedure.<sup>82</sup>

The case of Mr Row has singular importance for several reasons. It has absolute verisimilitude, the apprehension of both a patient and a surgeon, and their hopeful anticipation for the outcome whilst aware of the danger. It also has practical innovation, because Hey was aware of Hunter's tie-off procedure and was willing to apply it as the most up-to-date procedure known. But within this the enormous difficulty arose of simple discrimination between vein and artery, which a practitioner of Hey's experience should have been aware of, but it was not that simple, because the pathological condition of the tumour obscured identification. Hey had written a pathological work on blood and should have been

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<sup>77</sup> Ibid., pp. 19-23.

<sup>78</sup> Ibid., p. 26.

<sup>79</sup> Ibid., p. 28.

<sup>80</sup> Ibid., p. 29.

<sup>81</sup> Allen, Turk and Murley, *The Casebooks of John Hunter*, case22, p20 and case25, p22.

<sup>82</sup> See also MS/559, Medical Notes on Popliteal Aneurysm, written in the hand of Hey, pp. 242-246, and MS/573, Notes on the diagnosis of Popliteal Aneurysm by John Pearson and Sir Everard Home, p. 74. .

aware of the difference between arterial and venous blood, yet he was thwarted and mistaken, resulting in remorse and self-recrimination. However, observation of blood after it was drawn was quite different to blood welling into a wound. The point here is that Hey's skill, ability, training, and sensitivity to the patient was denied success because he was confronted with an observationally obscure and complicated pathological presentation. The great significance of this case is that we can clearly see that Hey was aware of the insufficiency of current knowledge and procedure, and the depth of his skill lay in his recognition of this insufficiency. He was honestly self-critical, yet also frustrated because he knew that anatomical knowledge was not enough and his invasive surgical procedures were limited by the lack of pathological understanding.

We may deepen this analysis by envisaging the concrete circumstances of its occurrence. In 1799 Hey was sixty-three and four decades into his practice. He could only stand with the aid of a crutch, presumably held under his left arm to allow ease of movement for swift cutting actions with his right arm and hand. Row was not a charity patient, and his operation did not take place in the, by 1799, vastly expanded clinical environment of Leeds General Infirmary, but in lodgings in Call Lane, a far from salubrious or genteel area of Leeds, but rather a closely packed group of cloth workers' habitations backing onto the busy waterway of the river Aire. Row's timorous personality, supported only by a brother and a female relative, was matched by Hey's doubts and lack of support of his newly qualified surgical son. The operation took place on Wednesday 19 November 1799, when the days were short, and the sufficient light needed would have likely required many candles and fire. The atmosphere would have been rife with the heat, odours and miasma of close human living. As Row was placed in the prone position, eye contact would have been limited, but the small domestic bed was probably greatly inferior to the infirmary-operating table with its firm straps to hold a patient still. Logan was present, but the isolation of the Infirmary's clinical environment, and experienced ancillary staff, was lacking as Hey and Logan dealt with a

patient distraught with pain and copious blood loss in a setting ill -equipped to cope with either. This scenario could have been played out in countless towns and cities, as operations of varying degrees of severity were performed on non-charity patients in similar circumstance, insofar as the leading edge of invasive surgery occurred in such domestic habitations.

The extensive, probing narrative of Row's case history, which appears to have been written up all at one time, is indicative of the many facets of Hey's approach to his work. It is a measured account, obviously written up after the event, and in many ways unflattering, as Hey undoubtedly realized. It is nonetheless an early kind of evidence-based medicine, a focused observation of clinical signs and their symptomatic significance. It also revealed attendant levels of uncertainty, the patient's trepidation and Hey's awareness of it, which added poignancy to Hey's remorse. Emergently invasive techniques were applied in difficult domestic circumstances where observational discernment failed accurate discrimination. Invasive surgery was progressing, but Nathaniel Row died, and William Hey clearly felt and registered his death.

This opening analysis of the variety and innovation of Hey's surgery spanning four decades, concluding with the case of Nathaniel Row, can provide but a sample of the excellence of Hey's work. The variety of his practice covered the whole spectrum of ailments and accidents that afflicted Georgian men, women and infants. There was variety also in the environment of these encounters, some within the bounded setting of the Infirmary, just as many in domestic habitations, and in the personalized and impersonal aspects of the case compilation. We can learn of his often-critical approach to instrumental and procedural innovation, and his acute observation and comprehensive response to epidemic disease. One of the most rewarding aspects arising is the capacity, in many cases, to register the personality of Hey's patients, an aspect so rarely found in published edited case histories.

#### 4.2 A Survey of Some of Hey's Remarks on Medical and Surgical Procedures

*Our wisdom is to confess our ignorance and to improve our knowledge of the limits of*

*human understanding* (W. Hey, 'Does the Mind Always Think', unpublished paper

presented to Leeds Philosophical and Literary Society, 31 March 1784, p. 8)

In the last half of the eighteenth century there were thousands of medical practitioners, with varying degrees of ability, some who consistently self educated, others who used their existing skills to provide a worthwhile but unadventurous medical service. The medical publications of the period display the need that existed for a forum in which to debate and standardise theories and to set down successful practices that could be followed. There were practical developments and discoveries that caused readjustment and some questioning of existing knowledge and procedure. But change was not taken lightly and Hey's 'Remarks' form a part of this phenomenon of change and existing tradition. There are fewer particular sets of 'Remarks', in the Medical and Surgical than in the Midwifery Casebooks, but all the 'Remarks' fall into a category of discriminating enquiry and intense concentration upon a given subject at a particular time. In a reference to an entry into a Commonplace Book, Hey revealed that it was his custom to write such deliberations, but that he did not transpose all of them into his Casebooks.<sup>83</sup> It follows therefore, that those that he did include bore some significance.

The first set of 'Remarks' concern Delirium,<sup>84</sup> and precede and follow obscure delirium cases that occurred in an epidemic of an indeterminate type of Rheumatic Fever in Leeds in the summer of 1771. Hey remarked that he had 'no less than five cases', but that it was 'difficult to form any precise idea of the operation of nature'.<sup>85</sup> From Hey's account of the symptoms 'fever... rambling speech... head and neck pain... some became maniacal', it is

<sup>83</sup> MS/628, Book 4, p. 103, this is a different book to the Commonplace Book Ref. MS/1587, and is not extant.

<sup>84</sup> MS/628, Book 4, pp. 56-58, dated October 1771.

<sup>85</sup> *Ibid.*, p. 56.

possible that a type of encephalomyelitis arose as a secondary ailment of the disease. Such complications were not normally recognised in Hey's time. Hey was unable to satisfactorily account for the Delirium and considered it prudent to record his unsatisfied queries for future reference.<sup>86</sup>

There are two early sets of 'Remarks on Strangulated Hernias' that both follow a case history.<sup>87</sup> The first is a case of strangulated femoral hernia and the second a case of strangulated scrotal hernia. Throughout the Casebooks (which we know are not complete), there are some sixty cases of strangulated hernias, together with a great amount of deliberation including additional cases, in Hey's published work, where 125 pages are devoted to the subject. These early 'Remarks', whilst not representative of his conclusions on the subject, offer early theories that he continued to build upon. Strangulation in all types of chronic hernias was, as Hey remarked in his first comment in his publication, 'a frequent disease and one which requires great and speedy attention'.<sup>88</sup> Often by the time a medical practitioner was called the condition had so deteriorated that it was 'irredeemable'; females were the worst offenders, Hey noted, because they concealed a chronic condition out of modesty.<sup>89</sup>

Hey reached three salient conclusions in the 'Remarks': firstly that 'a free exhibition of opium did not remove the strangulation [but] relaxation was produced'; secondly, that examination of the tumour through the abdominal wall did not always reveal the true state of the strangulation.<sup>90</sup> This opinion arose because in the first case he had 'discovered that the unevenness proceeded from the fat which lay upon the outside of the peritoneum the sign therefore...is equivocal'.<sup>91</sup> He concluded thirdly that bowel obstructions occurred in

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<sup>86</sup> Ibid., p. 58, dated 8 February 1772.

<sup>87</sup> Ibid., pp. 70-71 after Case 12, pp. 59-70, dated 24 November 1771 and pp. 102-106 after Case 16 dated 11 May 1772.

<sup>88</sup> Hey, *Observations in Surgery*, p. 105.

<sup>89</sup> Ibid., p. 106.

<sup>90</sup> MS/628, Book 4, p. 71.

<sup>91</sup> Ibid., Case 12.

strangulations because he noted that excrement discharged after the operation had been 'lodged many days [and was] hard as walnuts'.<sup>92</sup>

The second set of 'Remarks' after a scrotal hernia case concern pathological and anatomy issues. For example Hey referred to the way his patient's blood settled and formed a crassamentum.<sup>93</sup> The timing of this opinion, 17 May 1772, was two weeks before he conducted experiments on blood with Joseph Priestley.<sup>94</sup> Hey concluded that the way blood clotted 'greatly confirms my theory of the blood',<sup>95</sup> which was that 'there is a remarkable difference in the appearance of the blood which is drawn at different periods of a violent inflammatory disease'.<sup>96</sup> Anatomically Hey questioned how the 'spermatic vessels are connected by a loose cellular substance [that] is capable of becoming a strong membrane'. Then went on to say 'Mr. Underwood informs me that Dr. Hunter has seen the spermatic vessels much separated by a hernial sac...see remarks in my Commonplace Book'.<sup>97</sup> The case notes compiled before and after this set of 'Remarks' concerned a patient whose strangulated hernia Hey had relieved by an operation, but whose chronic hernia was not reduced. Hey devised a truss consisting of a steel plate covered in cork and stuffed 'as a bolster', which had to be put on carefully 'with a piece of leather by way of guard to the hernia'.<sup>98</sup>

There are three sets of 'Remarks on Retention of Urine',<sup>99</sup> but more than twenty such cases are included in the Casebooks, and in his published work Hey devoted fifty pages to the problem. There are many more cases where urine retention occurred, but Hey restricted his

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<sup>92</sup> Ibid., p. 69.

<sup>93</sup> Ibid., p. 103.

<sup>94</sup> Hey, *Observations on the Blood*, p. 27.

<sup>95</sup> MS/628, Book 4, p. 104.

<sup>96</sup> Hey, *Observations on the Blood*, p.28

<sup>97</sup> Ibid., p. 103, this set of Remarks does not appear in the extant Commonplace Book Ref. MS/1587, but Hey's comment is a clear indication that he consulted Underwood on anatomical matters as well as midwifery and childhood ailments.

<sup>98</sup> Ibid., p. 110.

<sup>99</sup> MS/628, Book 4, pp. 166-167, Book 6, pp. 35-36 and Book 8, pp. 127-128.

'Remarks' to 'those cases which do not arise from palsy, from accidents or from substances causing a mechanical obstruction of the urine as stones do'.<sup>100</sup>

The first set of 'Remarks'<sup>101</sup> follow a fatal case of an old man who had had chronic retention over some years. Hey noted 'of this retention the pathognomonic symptom is the praeternatural fullness or hardness of the bladder'.<sup>102</sup> Although the man had emptied his bladder, as he thought, by quantities 'a chamber pot full of clear lemon coloured urine', at night and Hey had drained 'near a wine quart of urine' by day,<sup>103</sup> there was, Hey concluded, a continual build-up 'from the tension of the penis which was never flaccid'. In a previous case, that became fatal, Hey remarked that the urine had become an involuntary discharge with pus. Hey then set out his best method of introducing 'the point of the catheter thro the prostate', in precise manipulative terms. The handle of the instrument was to 'be drawn upwards just as the catheter's point is advanced to penetrate the gland'.<sup>104</sup>

In the second set of 'Remarks' Hey concluded that urine retention usually occurred in elderly men, a point on which he elaborated in his later publication. The condition was invariably chronic, but highlighted by incidents such as that of 'Mr. H. who had been under my [Hey's] care for four years...having drunk more ale than usual at a town meeting' which resulted in Mr H's urine having to be drawn by catheter for 'near three weeks, 17 days'.<sup>105</sup> Although death was the eventual result of chronic urine retention, Hey did not appear to have considered any underlying pathology, or that urine retention was often an effect of the pathology and not the true cause of death, though later he would consider deeper lying causes in his published work.<sup>106</sup> Hey's 'Remarks' on urine retention within his Casebooks appear therefore to be preliminary findings, and assume no firm theories or decided practices.

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<sup>100</sup> Ibid., Book 6, p. 35.

<sup>101</sup> MS/628, Book 4, pp. 166-167.

<sup>102</sup> Ibid., p. 166.

<sup>103</sup> Ibid., Case 35, p. 162.

<sup>104</sup> Ibid., p. 167.

<sup>105</sup> MS/628, Book 6, p. 36.

<sup>106</sup> Hey, *Observations in Surgery*, p. 429.

By contrast the three sets of 'Remarks', all in one book, on prolapsed vaginas, a topic on which Hey did not publish, appear quite decided.<sup>107</sup> They seem to have arisen from the case of a woman with a chronic prolapsed vagina who sent for Hey when he was already attending another patient. Another practitioner 'Mr. C. was sent for', and Hey went along as soon as he was free to find that Mr. C. was under the apprehension that the prolapsed vagina was in fact a face presentation of labour.<sup>108</sup> Hey, apparently not wishing to embarrass his colleague said that he 'told the gentleman that as the pains were slight we would give the poor woman an opiate and leave her a while. As we walked to the town I gave my opinion of the case. I record this anecdote as it shows how far ignorance may go in an old practitioner'. Hey considered that a pessary could have rectified the situation, but his patient refused and her uterus eventually became 'turned up-side-down'. He went on to comment that a pessary was often unnecessary when only 'the anterior part of the vagina had prolapsed'.<sup>109</sup> Hey then identified two further types of prolapsed vagina, where the rectum protruded into the vaginal wall, and where a full bladder protruded likewise. To contain these two conditions he recommended a soft type of pessary in the first case and in the latter 'an elastic vegetable bottle' for a pessary.<sup>110</sup> He recognised that the first indication that this condition was about to arise was a 'bearing down' sensation even though there were no labour pains.<sup>111</sup> These short 'Remarks' on prolapsed vaginas are decisively written, and indicate that Hey had confidence in his ability both to diagnose and contain the condition.

The set of 'Remarks on the Formation and Cure of Cartilaginous Substances within the Joints' are far more clinical in nature.<sup>112</sup> This condition is clearly defined as separate from the condition 'Internal Derangement of the Knee Joint', which Hey is first credited with

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<sup>107</sup> MS/628, Book 6, p. 13, p. 29 & p. 86.

<sup>108</sup> Ibid., Case 8, p. 13. The practitioner was Michael Cottam

<sup>109</sup> Ibid., p. 16.

<sup>110</sup> Ibid., p. 86.

<sup>111</sup> Ibid., p. 29.

<sup>112</sup> MS/268, Book 7, pp. 172-175.



identifying.<sup>113</sup> At the time of writing these 'Remarks' in 1784, Hey said that such Cartilaginous Substances had not been well described by any other author, and thought that his observations may throw some light on the subject.<sup>114</sup> He began with the fact that he had not known them to occur 'except after a sprain or contusion when they arise within twenty-four hours'. He considered that because these substances resembled, when touched, small pieces of bone they had previously been accepted as such. Hey then set out the case of a little boy whose knee felt 'as if some small bones like barley corns' had formed, followed by the case of a man whose elbow felt as if a 'piece of bone had broken off'. It was Hey's opinion that contrary to bone it was 'fluid formed as a result of the trauma concreted into a cartilaginous mass... [that] often was found adhering by a pedicle'.<sup>115</sup> He went on to say that if his view proved imperfect in this assumption then the method proposed by 'Mr. Ford in *Medical Observation* 5<sup>th</sup> vol. was likewise imperfect'. Ford advocated the surgical removal of these substances; Hey did not agree and considered that they were 'capable of dissolving completely' making an operation to remove them unnecessary, even foolhardy, because the operation could have proved fatal.<sup>116</sup> Hey justified this observation with further case histories as he also did in his published work.<sup>117</sup> This kind of prudent deliberation is again characteristic of his cautious approach to surgical procedures.

The set of 'Remarks on the Extirpation of Cancerous Excrescences by Caustic' also demonstrates this cautious approach.<sup>118</sup> In the eighteenth century the primary seat of a tumour could not always be determined with certainty. Hey noted that often a surgeon's expectation of the surgical removal of a cancer was 'frustrated by a morbid affection of the lymphatic and other vessels'. He then referred to 'irregular practitioners' who asserted that 'cancerous tumours have roots or suckers... without the removal of which no perfect cure can

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<sup>113</sup> Sir D'Arcy Power, 'Eponyms: William Hey of Leeds', *British Journal of Surgery* (1922), p. 480.

<sup>114</sup> MS/268, Book 7, p. 172.

<sup>115</sup> *Ibid.*, p. 173.

<sup>116</sup> *Ibid.*, p. 174.

<sup>117</sup> Hey, *Observations in Surgery*, p. 343.

<sup>118</sup> MS/268, Book 7, pp. 193-199.

be accomplished'. The caustic remedies that these irregular practitioners used to eliminate these 'roots' were often the subjects of ridicule by 'regular practitioners',<sup>119</sup> but Hey said that he had successfully used them to treat a patient.<sup>120</sup> He concluded these 'Remarks' with a footnote dated two years later, to the effect that he had continued to be successful in healing 'diseased lips lately with arsenic [but that the] sub-maxillary glands' had still contained the disease.<sup>121</sup> Hey's caution in trying topical remedies first before embarking upon drastic surgery saved his patient the pointless agony of an operation.

There appears no distinct set pattern to these Casebook 'Remarks', and they do not form a fully determined set of practices to be followed in all future cases. However they gain coherence when read in conjunction with his later published work, appearing then as sets of relevant reference notes and preliminary comments, many of them surviving un-contradicted by his later, developed and extended published views. We learn of conditions which Hey, after experience, could treat with a confidence reposed in existing remedies and his experience of their use, and encounter precise surgical-manipulative detail in the deployment of a much-used instrument. Hey's prudent resort to surgery is evident and then only after appropriate chemical application indicating that, for Hey, major surgical procedures were actions of necessity rather than preference, undertaken only as conditions demanded and not otherwise. The 'Remarks' certainly constitute a more generalized reflection upon particular sets of surgical experience leading up to his later published conclusions and contain great potential interest for the historian.

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<sup>119</sup> Ibid., p. 195.

<sup>120</sup> Ibid., p. 186, Mr. Hutton had a cancerous tumour of the eyelid removed in the summer of 1784.

<sup>121</sup> Ibid., p. 199, comment dated 4 October 1786.

### 4.3 Hey's Treatment of Skull Lacerations and Fractures

It must be evident to everyone who considers the great advantages which we receive from those strong coverings with which our all-wise Creator has surrounded the brain that no portion of them ought to be removed in the treatment of injuries of the head from external violence, unless such removal is necessary for the cure of the patient.

(W. Hey, *Observations in Surgery*, p. 1)

A surgeon's needs, like those of any other craftsman or artist, are twofold, his hands and the tools particular to his trade. A personal, particular design or refinement of a tool is a concrete example of his vision and identity. Interestingly although Hey referred to 'our all-wise Creator', and to his design of the human skull, he made no mention of the human head being the guardian place of the soul, mind, or human consciousness and restricted his deliberations to the anatomical practicalities involved in skull-vault injuries. As an established set of surgical procedures head surgery has a pre-history, was regarded as a specific craft, and as such had specifically designed tools. I shall consider these aspects as well as some anatomical detail at the level understood by Georgian surgeons, for there was no fully codified and functional analysis of the parts of the human brain. It is important to note at the outset that an accidental trauma to the skull is not the same as a pathological disturbance to the contents of the skull caused by elements unrelated to an accidental injury. It is equally important to recognize conversely that an accidental injury can in turn cause a pathological problem that can lead to a chronic condition. A survey of the head injury cases in Hey's Casebooks and published *Observations*, together with his 'Remarks' on the treatment of head fractures, offers a rare insight into the way a provincial eighteenth-century surgeon such as Hey developed and refined the particular surgical procedure of invasive head surgery.

Hey's treatment of head injuries, his re-invention and development of the straight and curved bladed small head saw, together with the side issue of the alternative use of the saw for cleaning out leg bone caries, forms a coherent and significant episode in the story of

Georgian surgical practice. At the time Hey was a medical and surgical pupil in London Percival Pott, the renowned teaching surgeon, had recently recovered from a compound leg fracture, a type of fracture which became eponymous, being known as 'Pott's Fracture'.<sup>122</sup> Posterity has accorded Hey, a provincial surgeon, a comparable accolade, because Hey's development and redesign of the small saw to treat certain types of head fractures and leg bone caries, has become known as 'Hey's Saw'. Hey did not publish his surgical cases until 1803 when he had been in practice for forty-four years and had an eminent reputation. By that stage of his career he felt confident enough to write a damning condemnation of Pott's method of removing entirely a section of scalp in head injuries on his opening page.<sup>123</sup> This was followed by a long quotation from Pott's publication, and then continued with criticism of Pott over the following several paragraphs.<sup>124</sup>

Trepanation of the skull vault was a surgical procedure that every competent Georgian surgeon was expected to have mastered. It was a relatively standardised procedure with specifically designed tools. It was the only surgical procedure that was usually performed upon an unconscious patient, who had an invisible disease, and who could not give his conscious consent. In Hey's time several recognized circumstances determined that surgical intervention into the skull vault should be considered. Shock was not a word used to describe the condition of the patient, but the word concussion had been used to describe a comatose condition following a head injury for over a hundred years.<sup>125</sup> Fixed pupils, an insensible or comatose state, palsy, spasms or convulsive seizures and sometimes vomiting were understood to indicate a possible bleed inside the skull vault, if they occurred following an injury to the head.<sup>126</sup>

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<sup>122</sup> Pott's accident occurred in January 1756. His horse threw him causing a compound fracture above the ankle where the bone had come through the integuments; Edward Norse set the bone and prevented the amputation of Pott's leg.

<sup>123</sup> See also Bell, 'The Life, Character and Writings of Hey', p.1071

<sup>124</sup> Hey, *Observations in Surgery*, p. 1 ff. Hey did not accord other surgeons similar criticism.

<sup>125</sup> OED, concussion, 1696, concussion of the brain is made from an external cause.

<sup>126</sup> Pott, *Chirurgical Works*, section II, pp. 27-81.

Survival rates from head injuries and surgical procedures following head injuries were dire. Heister said ‘the surgeon can hardly ever be certain of the success of this operation [Trepanation] the disorder generally turning out worse than its symptoms indicate; and therefore we need the less wonder that most patients miscarry after the use of the Trepan, not from the operation, but the violence of their disorder and the injury received’.<sup>127</sup> Later in 1773 Bromfeild advised caution, ‘the use of Dover’s powder...a warm bath [and] a free use of opium’ in the first instance to see if ‘the concussion’, as Bromfeild termed it, would be relieved without surgery.<sup>128</sup> This management of the condition was sensible up to a point, though if there had been a bleed immersion in warm water could have accelerated it.

All medical practitioners in the eighteenth century, not just surgeons, were accustomed to wounds from deliberate and accidental causes becoming infected. In fact they thought it a necessary part of the healing process. The management of infected wounds, and more importantly the prevention of abscess formation from retained coagulated blood, or pus, were of prime consideration, but unless totally unavoidable, an invasive wound was not made. Open lesions to the skull could also be caused by disease, such as syphilis and meningioma, and by bone necrosis from exposed skull bone, but if Hey treated any of these conditions he did not include them, neither did he include a head injury caused by a gunshot.

#### 4.3.1 Surgical Tools used in Head Injuries

The words Trepan and Trepine to describe a surgical tool that makes a circular hole into the skull are interchangeable. The older word is Trepan, derived from a Greek word meaning to bore or to turn.<sup>129</sup> Trepine, from the Latin meaning three arms, began to be used when a more sophisticated tool with three arms to support a centre pin was devised.<sup>130</sup> The crown headed Trepan, and Trepine, were in common surgical use from the seventeenth century in England. An illustration from Heister (see illustration 4.3) is probably a type of Trepan Saw

<sup>127</sup> Heister, *A General System of Surgery*, p. 357.

<sup>128</sup> Bromfeild, *Chirurgical Observations*, p. 14.

<sup>129</sup> The first English use of the word was in AD1400, OED.

<sup>130</sup> The first English use of the word was in AD 1628, OED.

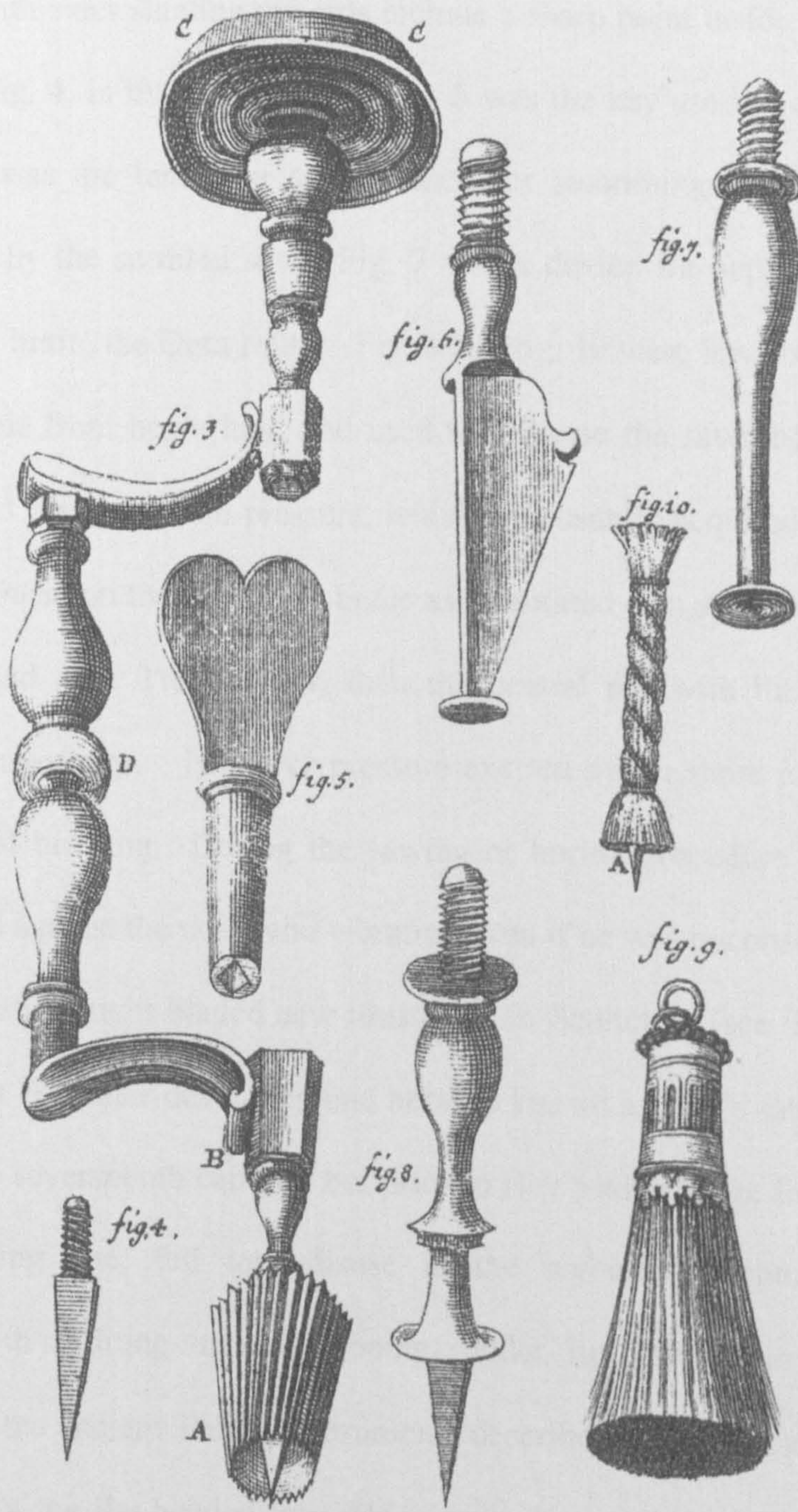


ILLUSTRATION 4-3

used by Hey.<sup>131</sup> The various parts of the Brace, A B C D with a crown head serrated to form a round hole with sides slanting inwards include a sharp point inside the crown that could be removed (see fig. 4, in the illustration). Fig. 5 was the key used to elevate the medallion of bone. Fig. 6 was the lenticular scalpel used for smoothing the sharp inner edge of the aperture made by the serrated saw. Fig. 7 was a device for suppressing the pulped outer covering of the brain, the Dura Mater. Fig. 8 and fig. 10 were lancets for perforating and fig. 9, a brush, made from hog's hair, and used to disperse the sawn bone dust. Using such a Trepan required firm and even pressure, which was usually acquired by the surgeon placing his chin or forehead on the top of the brace as he rotated it in an even manner. If a Trepine was used instead of a Trepan Saw, then the central pin with the crown head was self-supported by three arms. However pressure exerted by the three feet upon the head could cause additional bruising. During the sawing or boring procedure the patient's ears were usually plugged against the noise and vibration even if he was unconscious.

The small straight bladed saw illustrated in Scultetus (see illustration 4.4), was the type of saw that Hey later developed and became known as Hey's saw. This flat-headed saw was used in the seventeenth century, but prior to Hey's adaptation, following his observation of Cockell using one, fell into disuse in the eighteenth century.<sup>132</sup> Heister credited Scultetus<sup>133</sup> with refining and developing, under his teacher in Padua, Fabricius ab Aquapendente, the ancient Trepan instruments described by Celsus, although Paré and Croce also noted use of the flat-headed saw. This saw had a serrated edge on one side of the blade with small evenly distributed teeth. It was used by alternate to and fro movements. Both

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<sup>131</sup> MS/1587, Medical Commonplace Book, the catalogue of surgical instruments dated 19 June 1775 contains two sets of spring trephines with perforators, lenticulars, forceps, elevators, keys, brushes and scalpels.

<sup>132</sup> C. J. S. Thompson, 'The evolution and development of surgical instruments', *British Journal of Surgery* (1939), p. 459

<sup>133</sup> Heister, *A General System of Surgery*, part II, Chap. xll, p. 378. Although Heister's publication went through many editions and translations the section on head injuries had no variation.

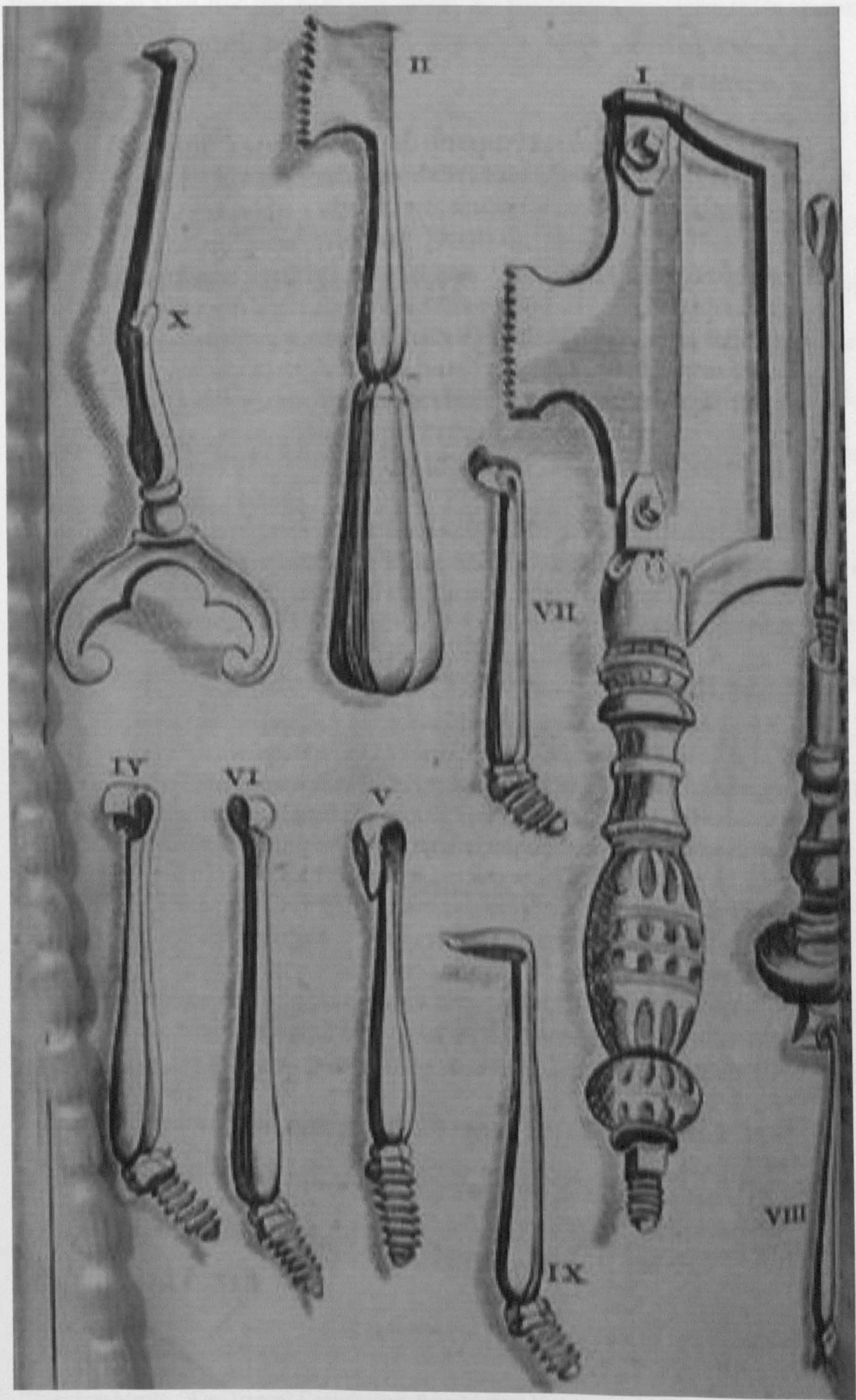


ILLUSTRATION 4.4



these types of head saw, but more particularly the flat headed saw, were made sharper as the production of purer steel developed in the eighteenth century.<sup>134</sup>

The use of both types of saw challenged the competence of the surgeon's manual dexterity, albeit that in most circumstances the patient, unlike other operations, was usually unconscious. The technique required was very different to the swift sawing of a limb bone in an amputation, and the area in which the surgeon worked was extremely small in comparison. It needed as much light as possible, though candle grease dropping into the wound would have been very hazardous, and also various supportive tools. The surgeon would additionally need a sharp scalpel to cut the scalp, retractors to hold it back, elevators and spring forceps to remove bone splinters, and lint dressings to absorb the blood, as well as competent assistance. The scalp has a profuse blood supply and when lacerated bleeds copiously. Often in the eighteenth century an incision was made and then left to dry out while scar tissue formed partly on the edges of the wounds to stem blood flow. This was achieved by pressing dry lint onto the edge of the wound. The skull was then opened without blood seeping into the cranial vault. Incisions were usually made in a cross shape, except by Pott who advocated total removal of the portion of scalp above the injury.<sup>135</sup> The second step was to scrape the bone clear of tissue and to lift the periosteum, usually with a scraper. Paré was said to have kept the nail on his little finger long for this purpose.<sup>136</sup>

There are varying types of skull fracture: a linear or crack; an open or compound fracture with more than one crack; and a depressed fracture, with splinters or fragments of bone possibly penetrating inwards into the skull vault. In a linear fracture, if the surgeon found no area that shone with a blue colour through the skull, that he knew indicated the presence of fluid blood, manual penetration was not required. A compound fracture

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<sup>134</sup> J. Kirkup, 'The Evolution of Cranial Saws and Related Instruments', eds., R. Arnott, S. Finger and C. U. M. Smith, *Trepanation: History, Discovery, Theory* (Amsterdam, 2003), p. 298.

<sup>135</sup> Pott, *Chirurgical Works*, Chapter I, Injuries on the Head, p. 6.

<sup>136</sup> Graham Martin, 'Why Trepan? Contributions from Medical History and the South Pacific' *Trepanation: History-Discovery-Theory*, p. 336.

involving more than one crack likewise did not usually require Trepanation, unless the other symptoms indicated that a possible bleed had drained to a part away from the actual crack. In these two instances before the surgeon closed the incision into the scalp, he knew that any fluid or coagulated blood lying between the scalp and the skull, should be removed. If blood was allowed to remain it could disintegrate into pus forming a subgaleal abscess usually within five to seven days. Such a situation occurred in 1776 as Hey said, 'to his no small mortification'.<sup>137</sup>

If a surgeon found a depressed fracture he had no option, if he was to save the patient's life, but to remove the damaged area of bone splinters and fragments, as well as inspect the interior of the skull vault for other damage. The skull bone has no nerve or blood supply therefore sawing into the bone does not cause pain. Immediately below the skull bone the brain is covered with three inner membranes, the outer or Dura Mater, which is thick, the middle Arachnoid, and the inmost Pia Mater, which is thin. Each of these membranes has a complicated nerve and blood supply. If the surgeon found the Dura Mater to be pulped, it had to be removed; otherwise it would become a nest for infection to begin. A pulped area of Dura Mater never repairs itself, but a small bruise would eventually heal as in a normal body bruise. A damaged Dura Mater often grew a fungus during the healing process. Skull bone left exposed to the air with no covering scalp, would dry out, become necrotic and fall out.

The eighteenth-century surgeon was aware that it was essential to remove blood reservoirs and bone splinters, and that he had to allow for drainage of pus and the reduction of a fungus over a lengthy period. The bone of the skull does not usually re-grow but a callous gradually heals over in superficial calcified layers, (see the case of Christopher Topham below). The eighteenth-century surgeon was often disappointed that his skilful technique was rewarded by death, but he had no way of understanding what lay deep beneath the superficial injury. There could also be undetectable bleeds from Sub-Arachnoid

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<sup>137</sup> MS/628, Book 6, case 37, p. 161.

aneurysms, and bleeds deep within the brain that the surgeon would only find when a later dissection was carried out.

The following table (Table 4B), includes all the cases of Head Surgery that Hey included in his Medical and Surgical Casebooks, with the last two appearing only in the last two editions of his published work. The successful outcome of his surgical procedures, after the first four fatalities, appears overwhelming, especially in later years, but it should be borne in mind that there could well have been many other un-successful cases that Hey chose not to include.

**Table 4B Hey's Cases of Head Surgery**

Book	Case	Page	Name	Date	Injury	Operation Type	Result
3	11	48	Popplewell	4/1768	Compound	Trephine	Fatal
3	22	99	Watson	1769	Compound	Trepan	Fatal
3	28	125	A Boatman	1/1769	Depressed	Trephine	Fatal
5	4	29	Boy aged 10	3/1774	Depressed	Trephine	Fatal
5	6	46	A young man	6/1774	Depressed	Trephine	Cured
8		33	Kaye	9/1776	Depressed	Trephine	Cured
6	37	159	Mr. B.	1776	Compound	Removed without Trepanation	Cured
6	39	163	Neild	1777	Depressed	Removed without Trepanation	Cured
6	39	164	A man	1777	Compound	Removed without Trepanation	Cured
6	39	165	A man	1777	Compound	Removed without Trepanation	Cured
8		152	Buck	3/1780	Depressed	Trephine & Circular Saw	Fatal
8		171	Godwin	7/1780	Compound	Removed without Trepanation	Cured
8		239	Topham age 12	4/1780	Depressed	Convex Hand Saw	Cured
8		260	Foster	5/1781	Depressed	Trephine	Cured
7		131	Fletcher	4/1780	Depressed	Convex Saw	Cured
11		38	Dodgson	7/1794	Depressed	Trephine	Cured
12		59	Wood	8/1800	Depressed	Straight Saw	Cured
Pub	4		Dickinson age 12	3/1808	Depressed	Hey's Saw	Cured
Pub	5		Denison age 4	8/1809	Compound	Hey's Saw	Cured

There are five cases in Book 8, with the saturated period of interest, seven years from 1777 to 1784. Interestingly Hey's copy of Sculetus's work has written on the flyleaf in Hey's hand 'No. 8' (see illustration 4.5), indicating Book 8.

One of Hey's younger sons John, born 8 March 1777, suffered a very serious head injury when 'he was about six years old' (circa 1783).<sup>138</sup> In his obituary of John, Hey recounted some detail of John's injury, describing it as 'a violent blow upon the head which

<sup>138</sup> Hey, *Tracts and Essays*, p. 349.

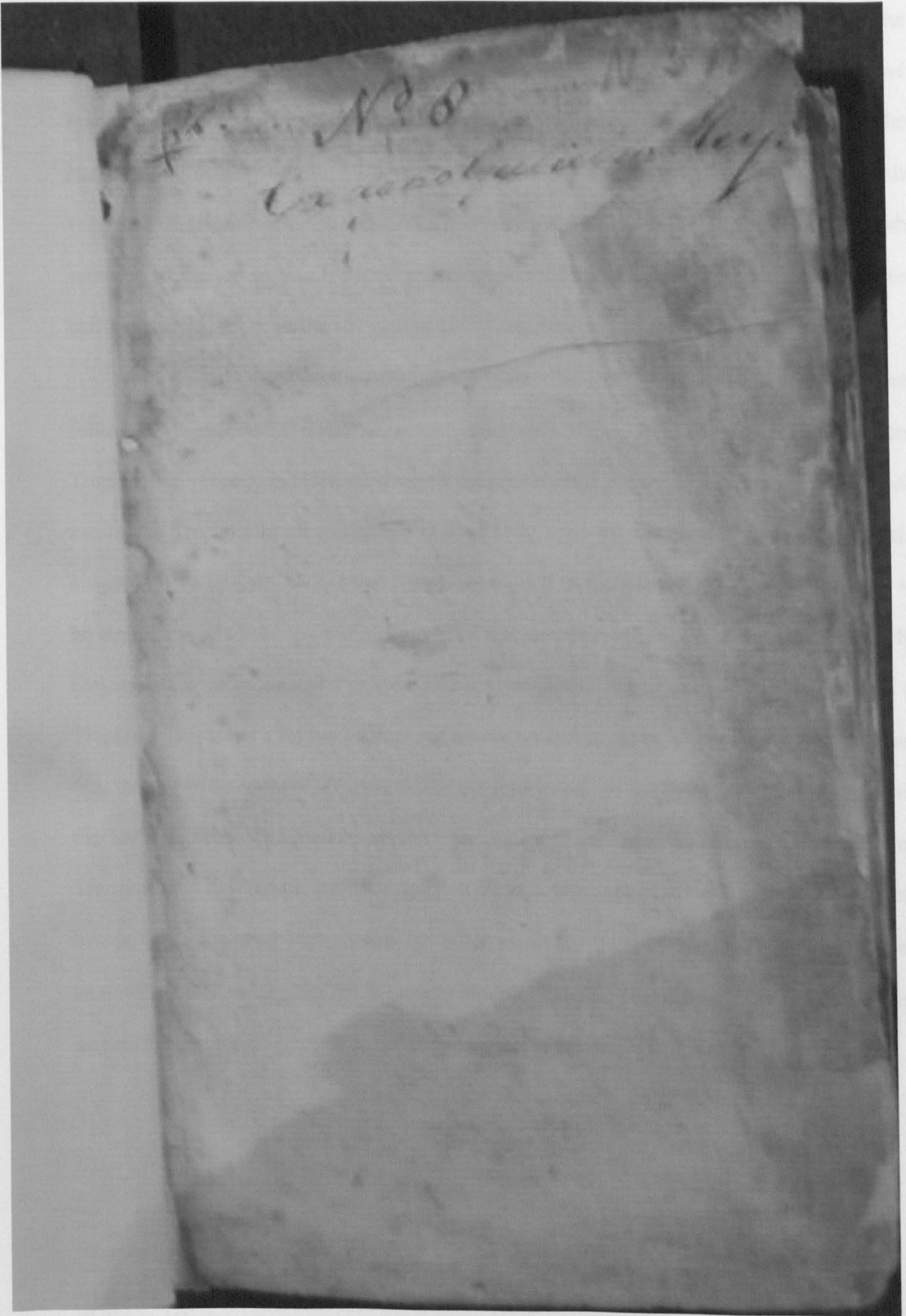


ILLUSTRATION 4.5

separated part of the scalp from the bone'.<sup>139</sup> This injury would have occurred around the time that Hey was formulating his deliberation, 'Remarks on the Treatment of Head Fractures'.<sup>140</sup> John survived and there is no detail of any opening of his skull vault, but he had a lasting debility due to enlarged neck glands and persistent violent headaches. This suggests that an undetected internal bleed had occurred. John was sent for a long period each summer, to the sea or to an 'inland watering place' on account of his poor health;<sup>141</sup> his childhood and short adult life (he died in 1801) was blighted by this injury.

Hey's early unsuccessful cases, in the years 1768 to 1774, as Table 4B indicates were followed by successful ones, suggesting that with experience he was able to master Trephination procedures. Despite this evident success Hey began to question the impractical use of the Trephine in all cases, and said in 1777 'it is of great consequence to have this surgical query settled...should the Trepan be applied in fractures of the skull where there is no depression of the bones, nor symptoms of a compression of the brain'.<sup>142</sup> He was clearly seeking more sophisticated methods to alleviate head trauma than the drastic use of a Trephine. This is but a further example of his continuous quest to improve surgical technique. Hey then considered that 'Mr. Pott thinks the injury done to the Dura Mater is the source of the bad symptoms which come on some time after the accident and urges the necessity of Trepanning'.<sup>143</sup> What neither Hey nor Pott were able to establish on a living patient, were bleeds inside the skull vault, below the outer meninge, the Dura Mater. Whereas Pott was anxious to have an opening ready for any blood to emerge, Hey on the other hand could see no justification for what might never happen.

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<sup>139</sup> Ibid., p. 350.

<sup>140</sup> MS/268, Book, Book 70.

<sup>141</sup> Hey, *Tracts and Essays*, p. 351. John died on 14 January 1801.

<sup>142</sup> MS/628, Book 6, Case 39, p. 164.

<sup>143</sup> Ibid., p. 165.

In the summer of 1777 in a case of a compound fracture to the forehead Hey decided not to use the Trepan saw, and merely dressed the outer wound.<sup>144</sup> Less than three years later, possibly the case that was to influence, not only Hey's, but also that of other surgeons' treatment of head injuries from then onwards occurred.<sup>145</sup> Mr. Buck, a fifty-one year old gentleman who lived in Bradford was thrown by his horse, suffered a head fracture, and walked a quarter of a mile before he became insensible. A Bradford surgeon treated him by bleeding (a basinful), purging and vomiting, and removed a portion of his scalp. Twenty hours after the accident Hey was called and found a complicated fracture 'extending along the right branch of the lambdoidal suture from near the vertex of the mastoid process. A large triangular piece of bone was removed by the forceps alone, from the lower part of the right parietal bone. Underneath this portion the Dura Mater was much damaged and covered with coagulated blood'.<sup>146</sup> It was an extensive injury and Hey applied the Trephine below the lambdoid suture, but could not however remove all the fractured bone. Hey had with him 'a convex saw with which I took out the piece of bone very conveniently as I could carry it close to the muscles...and take out a piece of bone with an acute angle'. Hey included in his case history a drawing of the bone fragment, and said that such a 'shape and size could not have been removed with the Trephine'.<sup>147</sup> The Dura Mater was much damaged, nevertheless as Hey wrote 'after the operation Mr. B walked back to his lodging room supported by two assistants.'<sup>148</sup> The operation was not performed in Leeds General Infirmary nor in the 'lodging', therefore this comment suggests that Hey used a room in his private practice as an operating room. Hey visited his patient on the second and the fourth day at the patient's lodging, but he died after 'a paralytic attack on the fourth day'. The following successful head injury case, that of Mr Godwin of Halifax, may suggest that Hey's skill in head injuries

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<sup>144</sup> Ibid., p. 165.

<sup>145</sup> MS/268, Book 8, p. 152 dated 13 March 1780.

<sup>146</sup> Ibid., p. 153.

<sup>147</sup> Ibid., p. 154.

<sup>148</sup> Ibid., p. 155.

was recognised outside Leeds, and his reputation could well have been boosted by the cure of Godwin without surgical intervention.<sup>149</sup>

Hey's first known successful case of the use of the small head saw, is that of twelve-year-old Christopher Topham, the son of the Sheriff's Bailiff in Leeds, who had had a brick deliberately thrown at his head. Three versions of Christopher's injury have survived, and although there are trivial variations in the text of each version the variations are of little consequence.<sup>150</sup> Hey was not consulted until four days after the accident had happened. Peacock, the Infirmary Apothecary said that Hey first made a longitudinal and a transverse incision, in a cross shape, and laid open the skull, where he found an oval fracture three inches long and one and a half inches in breadth. The bones had been driven inwards and the Dura Mater lacerated.<sup>151</sup> Peacock said that 'the bones were removed by use of a circular saw of late invention', whereas Hey said that he had removed the bone 'with the convex handsaw'; both accounts indicating that Hey had modified the saw blade from a straight to a convex or semi-circular head. Hey noted that this particular type of fracture could not have been satisfactorily treated by the use of a Trepine. There was copious bleeding from the temporal artery and as the healing began Hey noted that a fungus grew 'about the size of a nutmeg'.<sup>152</sup> Peacock referred to this as 'granulations began to rise'. This fungus was almost reduced by the 7<sup>th</sup> of May, just over two weeks after the operation, but the wound took ten weeks to heal. Hey did not mention a prosthesis, but from Peacock we know that the boy had 'to wear a plate of tin over the wound to defend it till the callus was grown firm'.<sup>153</sup> In his Casebook Hey included a drawing of the incised bone, which was included as Plate 2 in his published work.

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<sup>149</sup> MS/268, Book 8, p. 171, Case dated 14 July 1780.

<sup>150</sup> MS/268, Book 8, p. 239, Hey, *Observations in Surgery*, p. 12. and Anning 'A Medical Casebook', p. 423.

<sup>151</sup> *Ibid.*, Anning, p. 423.

<sup>152</sup> MS/268, Book 8, p. 242.

<sup>153</sup> Anning, 'A Medical Casebook', p. 249.

Despite criticism of Hey's first published edition with regard to other ailments and surgical procedures, such as his identification of 'Femoral Hernias', no similar criticism had been received on his head injury cases. He therefore did not alter them but in fact included two additional cases. The first case, that of a twelve-year-old boy, who was working in a coal pit when a fall of coal hit his head and 'a piece of coal had entered and remained fixed betwixt the cranium and the Dura Mater'.<sup>154</sup> Hey removed the coal by the use of his 'convex saw' and dressed the wound with 'ligatures and plasters'. The boy was soon walking about the Infirmary and was discharged as cured after a stay of fifty-four days.<sup>155</sup> In the second case a four-year-old boy, a member of the wealthy Denison merchant family had been hit in the head with a metal quoit. Hey said this injury was caused in play, but it was a very severe injury and cracked the front of the boy's skull 'to the orbits of the eyes'. The boy was clearly not a charity patient, but nevertheless he was treated in the Infirmary for a week. Hey 'after enlarging the wound so as to expose every part of the fracture... separated the broken pieces from the sound bone by means of the small saws'.<sup>156</sup> This comment is extremely interesting because it reveals Hey's multiple usages of small saws, undoubtedly of assorted design. Hey went on to comment upon the 'eminently useful...small saws' indicating his confidence in their various forms to adequately enable him to deal with all types of surgical head procedures. Hey's account of this case, whilst self-congratulatory in the use of his personally designed small saws, also reveals his anxiety for his patient. The boy's life had been in serious danger until the fungus arising on the Dura Mater had subsided and the discharge had ceased. We should also remember that Hey was aged seventy-four when he performed this delicate surgery.

Perhaps the cure rate (seventy-five percent), of this group of head fracture cases obscures a number of unsuccessful cases that Hey did not record. It is inconceivable that he

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<sup>154</sup> Hey, *Observations in Surgery*, 1810 edition, p. 1, dated 12 August 1809.

<sup>155</sup> *Ibid.*, p. 20.

<sup>156</sup> *Ibid.*, p.21



treated such a small number of head injuries especially when he had redesigned such an innovative surgical tool. It is also surprising that he made no mention of derangement of mind, epileptic seizures or melancholia, apart from comments in the obituary of his son, as an after effect of head trauma. Hey's precise notation of these cases therefore indicates a primary intention to record instrumental innovation in surgical procedures, where success in terms of patient survival was the outcome. The following review of his 'Remarks on Fractures of the Skull' will tend to confirm that his primary focus of interest was indeed upon the actuality of surgical procedure and technique.

#### 4.3.2 Summary of Hey's Remarks on Fractures of the Skull <sup>157</sup>

In 1782 after compiling head cases for five years Hey recorded eleven pages of 'Remarks on Fractures of the Skull'. <sup>158</sup> These unpublished 'Remarks' are fundamental to the understanding of both Hey's argument against Pott and his development of the straight bladed saw and are comparable to a textbook instruction. Hey began by stating that the subject of skull fractures had 'been so largely and judiciously discussed that there seems little to be done for improvement', but he went on to say that 'the loss of the natural coverings of the brain have not been sufficiently attended to'. He considered that preservation of the integuments was far preferable to their destruction as recommended by some of the best writers. In his published version of these 'Remarks' he clearly accused Pott of destructive measures, but he did not include Pott's name in his manuscript. From his own experience Hey considered that until an incision had been made what was underneath the scalp was hidden, so to cause a wound by completely removing a section of the scalp that would create a wound, which would need considerable time to heal, afforded no advantage whatever. <sup>159</sup> Also until the exact location where the circular saw needed to be used was revealed, it was unwise to destroy any part of the scalp, because nothing could cover the open area of the

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<sup>157</sup> MS/268, Book 7, pp. 70-81 written July 1782.

<sup>158</sup> MS/268, Book 7, p. 70.

<sup>159</sup> Ibid., p. 72.

skull afterwards. Hey knew that an exposed open area of skull bone would inevitably become necrotic.<sup>160</sup>

Hey then set out his standard procedure, evolved he said 'over many years', without giving the earliest specific date.<sup>161</sup> He first made an incision in 'the most suspicious part', and if he found that 'the peri-cranium was still adhering to the bone', all that was needed was to remove any blood then reunite the wound. If he found that the peri-cranium was detached, and there was a fracture in the skull bone he made a simple incision and turned the integuments back and supported them whilst he removed such portion of bone that he considered was required.<sup>162</sup> He placed lint between the scalp and the Dura Mater to sop up fluids. Hey particularly said that he rarely found any occasion to cut away permanently any part of the scalp and 'would advise every surgeon to be cautious of destroying any part of the scalp'.<sup>163</sup>

Hey referred to the tools that he used and praised the Trepine tool, which he considered an excellent instrument, although he noted that there were many cases where it could not be advantageously used.<sup>164</sup> He then described 'an old instrument long since laid aside, and now become almost unknown, I mean the convex-edged saw. A figure of this instrument may be seen in Scultetus'. Hey said he had seen such a type of instrument 'in the hands of Mr. Cockell an ingenious surgeon at Pontefract, who said it was of his own invention'.<sup>165</sup> The date that this event occurred is not stated. Hey then wrote that he had repeatedly made use of such a saw and found it of great utility<sup>166</sup> 'when the longitudinal enlargement of a fissure would be preferable to a circular opening, or when that part of the fractured bone which must be removed is sufficiently large to evacuate the matter, the

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<sup>160</sup> Ibid., p. 73.

<sup>161</sup> Ibid., p. 74.

<sup>162</sup> Ibid., p. 75.

<sup>163</sup> Ibid., p. 76.

<sup>164</sup> Ibid., p. 78.

<sup>165</sup> Dr. William Cockell was active as a surgeon-apothecary, and later as a physician in Pontefract, taking apprentices from 1762 to 1787. Cockell is mentioned by Hey in one midwifery case, MS/567, Book 7, Case 352, dated 12 Feb. 1793.

<sup>166</sup> MS/268, Book 7, p. 79.

convex-edged saw will be found a more commodious instrument than the Trephine'. More significantly Hey deliberated that when a narrow edge of bone remained within a wound the Trephine saw was of no convenient use. Hey then wrote exactly how he applied this newly devised saw.

Along the course of the fissure, but when another direction must be taken I first make a mark by drawing the saw repeatedly towards my hand over the part intended to be sawed. When the mark is sufficiently distinct and is deep enough to retain the edge of the saw I move it backwards and forwards as in the common act of sawing, beginning at the most distant part of the directing mark and retiring a little at every alternate motion. I examine from time to time as usual with a toothpick, and direct the saw agreeably.<sup>167</sup>

These words are almost the same as in his published work, but in that work Hey laid additional emphasis upon raising depressed fragments of bone and allowing for the discharge of blood or matter.<sup>168</sup>

### 4.3.3 Illustrations of Hey's Saw

Hey placed different illustrations of his saws in the first and third editions of his surgical publication. In the first edition Hey said that the three saws illustrated (see illustrations 4.6) were two thirds of their actual dimensions. Regrettably Hey gave no detail on which particular design of the saw he preferred for each surgical procedure, indeed as noted above he indicated that he was accustomed to use various designs of the saws during his operations. Hey said that the saw first used by Cockell, the central one in the illustration, had 'a semi-lunar edge with two heads' but he began to use both curved and straight-edged saws.<sup>169</sup> The two straight saws shown without handles were made to Hey's design in London by the surgical instrument maker J. H. Savigny. The straight saw stem was split to allow the one sided blade to be fitted at right angles secured by two screws. Hey later replaced the

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<sup>167</sup> Ibid., p. 80.

<sup>168</sup> Hey, *Observations in Surgery*, p. 8.

<sup>169</sup> Thompson, 'Evolution and Development of Surgical Instruments', p. 459. This thesis centres upon Hey's redevelopment of the small-headed saw, but Thompson places it, without undo comment in the chronological development of all surgical instruments.

screws with rivets.<sup>170</sup> The saws depicted in Hey's third edition (see illustration 4.7) vary considerably, appear more sophisticated and made of finer metal. The central double-headed saw has a designed handle with the metal stem fixed into it. The blade of the saw is riveted to the stem and the serrated head appears to have longer and sharper teeth. The right hand of the head is two thirds of a circle and the left hand edge has a gentle curve. The two blades, one minus a stem has a straight edge and the other one has a pronounced curve to the edge of its blade. Hey recorded that these particular saws were made for him in Leeds by the clockmaker William Bowling of the same spring steel that was used to make clock springs.<sup>171</sup> The teeth, he noted were 'set off as the workmen express it, they cut a bone with ease'. Hey then remarked the largest one was one inch and three eighths in breadth which was sufficient for a division of the tibia bone.<sup>172</sup>

Four saws that were used by Hey (see illustration 4.8), held in the Royal College of Surgeons, have a direct provenance. They were presented to the Museum in 1905 by Hey's great-great grandson, the surgeon Edward Atkinson, and have no identification marks. The two on the left hand side measure respectively, seven and a half inches, and seven and five eighths inches, in total length including the handle. The blades have the appearance of finely honed steel and each have one straight and one round edge. The handles are of hardwood and the blades are riveted finely onto the stem.<sup>173</sup> The two saws shown to the right hand side are of earlier but unknown date. The heavier bone handled double-headed saw has three screws holding the blade to the stem. The slender double-headed saw on the far right could be of an intermediate date, possibly around 1798.<sup>174</sup>

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<sup>170</sup> A. H. G. Doran, *A Descriptive Catalogue of Surgical Instruments in the Museum of the Royal College of Surgeons of England* (London, 1922), p. 56.

<sup>171</sup> *The Leeds Trade Directory* for 1798 lists William Bowling as a watchmaker working in St. James Street, Leeds, and his kinsman Thomas Bowling of Bridge End, Leeds as a tinplate worker. For a discussion on the metal refinement achieved by artisans working individually see M Berg, *The Age of Manufactures, 1700-1820* (London, 1994), p.261.

<sup>172</sup> Hey, *Observations in Surgery*, p. 10.

<sup>173</sup> Doran, *Catalogue of Surgical Instruments*, p. 59.

<sup>174</sup> *Ibid.*, p. 63.

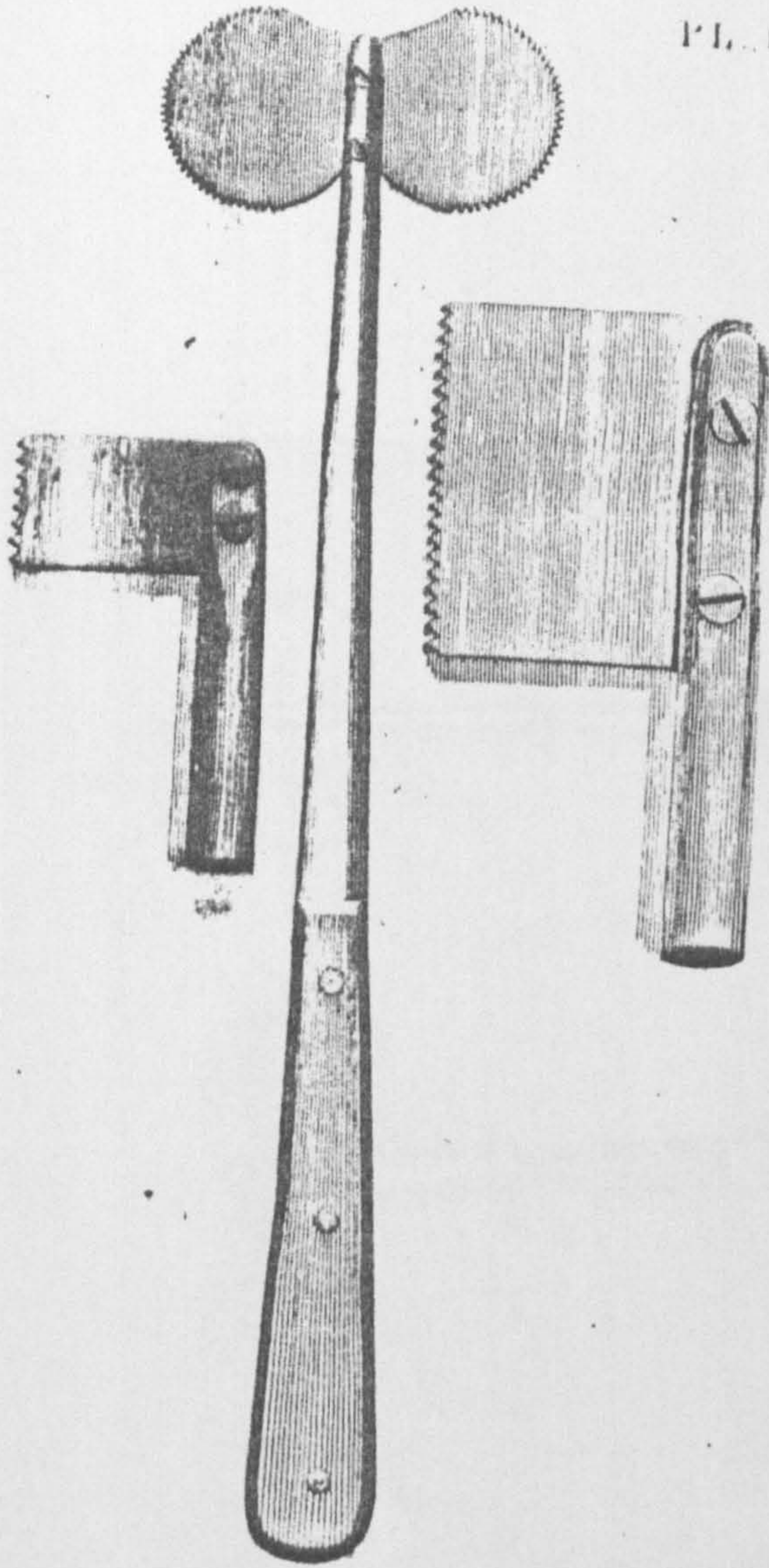


ILLUSTRATION 4.6

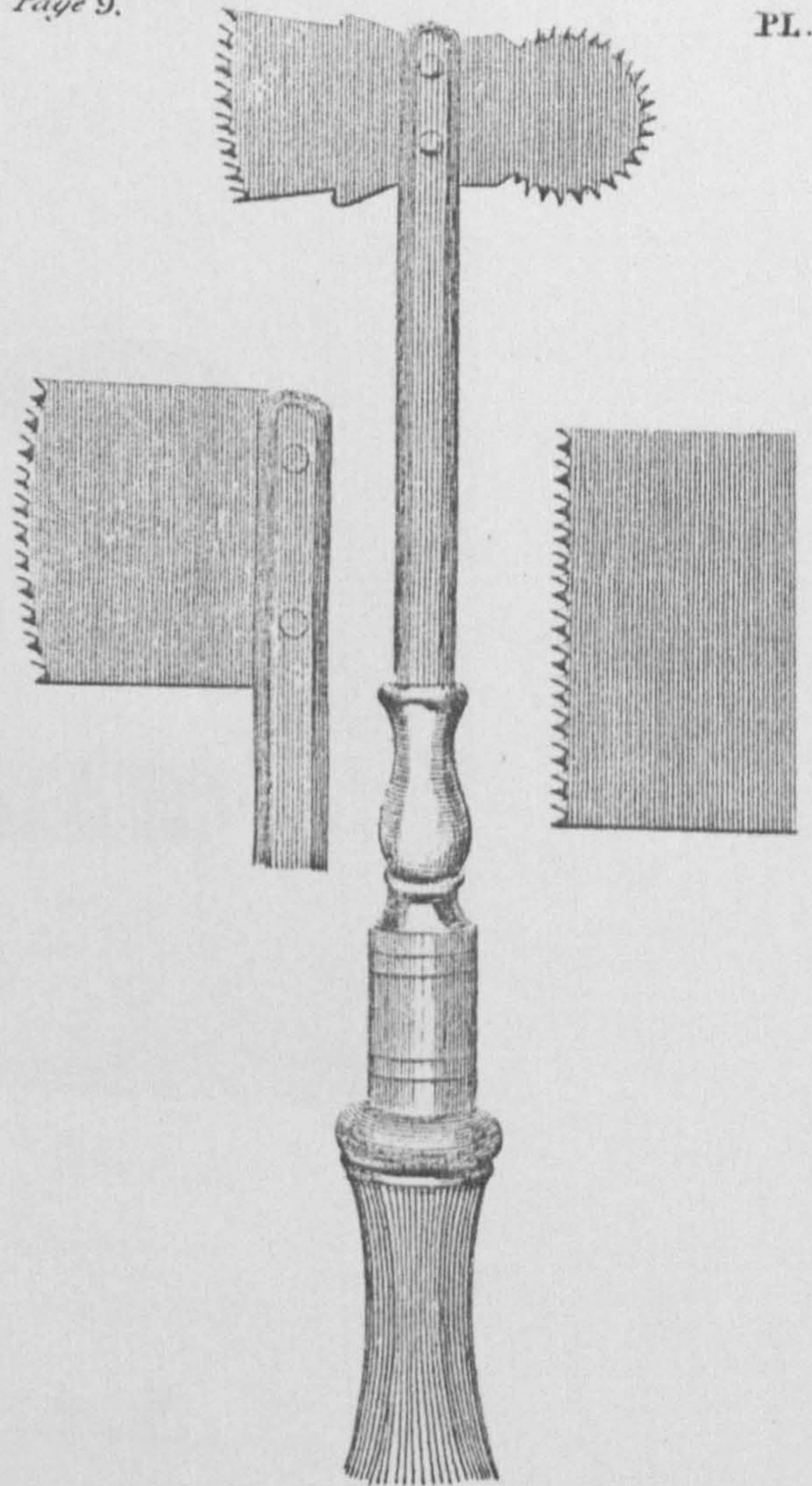


ILLUSTRATION 4.7

These ten different saw heads display the continuing sophistication and refinement of the saw, which owed as much to the availability of higher quality steel, as redesigned for more extended practical use.<sup>175</sup> Hey's saws became an essential part of a surgeon's equipment and from the 1790s until the middle of the 1940s, no set of Trepanation Instruments was complete without its complement of Hey's saws; at least three different types usually being included.<sup>176</sup>

#### 4.4 Hey's Alternative Use of the Small Saw

Though this instrument is principally useful in fractures of the skull yet its use is not confined to such cases (W. Hey, *Observations in Surgery*, p.25)

Although Hey's primary use of the small saw was for the treatment of skull fractures his surgical versatility formulated other uses, among which was his innovative application of the saw to relieve the distressingly painful, and malodorous condition of leg bone caries. So effective was this application, and the surgical procedure which resulted, that its descendent procedure, albeit more sophisticated and performed with chisels and power tools, is still carried out today.<sup>177</sup> We know of only a few cases where Hey used his saw to treat leg caries, and one leg trauma case, successfully without amputation (see Table 4C below). These most likely represent only a sample of the cases treated by Hey and other surgeons at Leeds Infirmary who adopted his instrumentation and treatment methods.

**Table 4C Hey's Cases of Leg Bone Caries**

Book No	Case No	Published	Page	Name	Date	Condition	Tools Used	Result
4	20		120	Mr.Outhwaite	1772	Compound leg fracture	Trephine Saw	Cured
9		Yes	169	Miss Close	1786	Caries in Tibia	Small Head Saw	Cured

<sup>175</sup> I am grateful for a personal communication from John Kirkup, FRCS, Curator of Medical Instruments, Royal College of Surgeons, London, who regretted the dearth of scholarship on the manufacture of eighteenth-century surgical instruments. Kirkup considered that the new type of steel first introduced by Huntsman, of Doncaster, circa 1750, when combined with the skill of the metallurgists working in the South and West Riding of Yorkshire during the last part of the eighteenth century, transformed surgical instrument production.

<sup>176</sup> E. Bennion, *Antique Medical Instruments* (London, 1979), p. 26.

<sup>177</sup> I am grateful to Andrew Batchelor F.R. C. S. (Plast) for the following comment, ' Hey's is the first accurate pathogenesis of sub-acute osteomyelitis of the tibia. It is beautiful clinical descriptive science, with clear thinking through of the procedure'. 5 March 2003.

		Yes		Miss Croft	1792	Caries in Tibia	Trephine, Small Head Saw, and Sharp Gouge	Cured
12		Yes	75	John Appleyard	1801	Pickaxe wound	Scalpel, Tin Plate, and Small Head Saw	Cured
12		Yes	184	William Dews	1804	Caries in Tibia	Trephine, Small Head Saw and Chisels	No Detail

Hey published four cases. The first one predated his redesign of the small flat-headed saw, but it is a good example of treatment practices with the earlier head tool. A partial review of these cases reveals the alternative practical use of head saws.

The first case, dated 23 November 1772, was that of a man aged 'betwixt 60 or 70'.<sup>178</sup> He had suffered a compound leg fracture when heavy planks had fallen on him in a coal pit. He was admitted to the Infirmary because 'the tibia projected through the wound... five inches below the patella'. At first poultices of stale beer were used, but after six days the 'discharge of matter... and foetor' was so great that Hey decided to probe into the fracture. He 'removed the projecting part of the tibia by means of the Trephine and nippers', and a further fragment, which 'proved to be a portion of the whole breadth of the tibia'. The matter in the fracture was so purulent it caused staining on the silver instruments. Hey referred to the Norfolk surgeon Benjamin Gooch, whose treatment method, Hey considered 'abundantly recommends to saw off the ends of the bones' in compound fractures. Like Gooch, who was recognised as an adept orthopaedic surgeon, Hey thought healing took less time if air was excluded from the wound. This concise account of a successful procedure is evidence of Gooch's influence, even though Gooch had devised his practices decades earlier and was not appointed as a hospital surgeon until 1772.

Hey's second patient Miss Close, was a young lady from Richmond, whom Hey recorded suffering a severe fever in May 1786, that left her with a swelling in her leg. The following year this had become a tumour rooted in the internal part of the bone, probably a condition known today as osteomyelitis. The tumour had penetrated to the outer part of the

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<sup>178</sup> MS/628, Book 4, Case 20, p. 120

bone by a 'hole equal in bore to a goose quill'.<sup>179</sup> Hey said it appeared to have been made by a 'gimlet'.<sup>180</sup> This young lady had experienced excruciating pain over a period of six weeks until the opening on the bone appeared. Hey recorded that she had told him that she considered that the pain she endured during the operation to excavate, saw and clean out the caries was not to be compared with the pain that she had had during the weeks before the hole appeared. It was a joint decision to operate. Hey said that he had 'explained the case fully to my patient, who left it entirely to my judgement...I determined that I would not if it was possible to be avoided disfigure this amiable young lady by an amputation. If I should fail in my attempt to relieve her I was satisfied that she would not reproach me on account of my ineffectual endeavours to preserve her limb'.<sup>181</sup> This young woman, possibly no more than twenty, faced the prospect of a tortuously new long operation that could have turned out to be unsuccessful. The malodour from leg bone caries is constant and foul, and when added to the continual excruciating pain her future had poor prospects if no procedure was carried out, but the alternative operation, amputation, would have been over in minutes. In Hey's manuscript account, the operation took three hours to perform, and in his published work two hours; it is not reading for the faint-hearted. Hey said that his patient 'bore it with the utmost patience and fortitude'. Hey opened the tibia with 'a circular headed saw. He had previously marked the extremity of the 'longitudinal cavity in the bone'. Hey then removed 'a wedge half an inch in breadth and a quarter of an inch in thickness by the use of the small saw', to allow the accumulation of pus to drain away. This was a very delicate and intricate procedure and a similar operation, now known as a 'gutter incision', is still performed. Miss Close's stoicism was rewarded by a successful cure, her leg was restored in due time to equal strength as that of her other leg, enabling her to once again 'engage in a good deal of exercise.'

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<sup>179</sup> MS/628, Book 9, p. 170, and Hey, *Observations in Surgery*, p. 27.

<sup>180</sup> *Ibid.*, p. 175 & *Ibid.*, p. 31.

<sup>181</sup> *Ibid.*, p. 173.



The case of Hannah Croft, aged fifteen took place some five years later.<sup>182</sup> She was admitted to the Infirmary sometime in 1792 because of a ‘scabby eruption on one of her legs’. Hey removed part of the caries and found the ulcer by making, a ‘principal bore hole with the Trephine’, and the rest of the caries with the small saw, in the way that he had in the case of Miss Close. He gave little detail of the personality of this patient apart from the fact that she had not complained too much of pain before the operation. Unlike Miss Close, Hannah Croft found the operation arduous in the extreme. This does not seem to have been a co-operative decision performed after a joint consultation; rather it appears to have been a case, where through deference and fear, the patient submitted to what was deemed in her best interest. Hey remarked that although the operation was ‘tedious’, the leg was preserved from amputation.

The text of the case of a collier, John Appleyard,<sup>183</sup> aged fifty-four, who had received ‘a wound to his leg by a blow from a sharp pickaxe’ in June 1801 is clinically written, with variations between the manuscript and published versions. Appleyard was described as a ‘poor man’, who was admitted to the Infirmary by a colleague of Hey, Maurice Logan, a week after his injury. Once in the Infirmary his patient-personality disappears and it is merely a deep wound on a patient’s leg, about which, not whom, a consultation of the surgeons took place.<sup>184</sup> Their examination was obscured by the artery, which was lacerated and consistently filled the original frontal wound when the tourniquet was slacked off. In his published account Hey recalled that Gooch, in a similar dilemma, had ‘proposed the removal of a portion of the fibula...to prevent the necessity of amputating the limb’.<sup>185</sup> An incision was made through the back of the leg and the muscles were then separated, and ‘a piece of tin was placed behind the fibula’.<sup>186</sup> Once the incision was made, the small circular headed saw

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<sup>182</sup> Hey, *Observations in Surgery*, pp.28-9

<sup>183</sup> MS/628, Book 12,p.75, and *Ibid.*, pp.31-5

<sup>184</sup> Hey, *Observations in Surgery*, p. 40.

<sup>185</sup> *Ibid.*, p.35

<sup>186</sup> MS/628, p.76, this action was not included in the published version.

was used to cut away the jagged pieces of bone from the tibia to enable the severed artery to be reunited and sewn. The leg was 'then placed in a fracture box', a device used to stabilise and restrict movement in broken limbs until the bones set. All we know about Appleyard's endurance of this alarming injury and extensive operation is that he 'recovered without any bad symptoms' in the published version; the manuscript has no concluding comment.

The last patient William Dews, aged twenty-five, came more than a decade later. Dews had had a chronic inflammation in his right leg since he had 'an extensive inflammation when he was three'.<sup>187</sup> This lesion had erupted and continually discharged for six years prior to his admission to the Infirmary in 1804. No part of this man's patient-personality emerges; it appeared to be merely a case of leg bone caries. Hey's first operation was unsuccessful, and an abscess reformed requiring a second operation after eighteen weeks. In his conclusion to this case Hey wrote simply about Dews' leg bones, the cavity, the granulations, and the tools that he used in an entirely clinical manner. It appears only as an affliction on a leg, any leg, and there is no personal detail of William Dew, who was a patient in the Infirmary for more than six months; Hey did not even record if his leg was preserved.

These cases extending over the period 1772-1804 illustrate not only how a patient-personality filtered away, submerged beneath the clinical description, but also how the emerging technique of surgical procedures was facilitated by a new surgical tool. This review of Hey's treatment procedures for the relief of skull fractures and leg bone caries is equally an account of his redesign and successful use of the small saw now known as 'Hey's Saw'. Hey did not pinpoint the first date that he encountered Dr. Cockell of Pontefract using the saw, or in what capacity they met. Cockell had told Hey that he had invented the saw, and that he had been using it in head fracture cases for some time. Bell said of Hey that 'he thought more than he read'; nonetheless, Hey recalled a depiction of a comparable small saw in Scultetus's *Armamentaria*. He may have thought more than he read, but he did read. The

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<sup>187</sup> MS/628, Book 12, p.184, dated 16 May 1804

chance encounter between Cockell and Hey was certainly significant for Hey, given the time of its occurrence.

Hey's first recorded successful use of the saw was in the case of Christopher Topham in April 1780, but he must have had the saw made prior to this date and had some practice in using it. In the latter part of 1778 and in 1779 Hey's life was turbulent, as he faced the prospect of permanent lameness, and reflected upon the effect that this would have on his professional life. Pearson, who was living with Hey at this time as his pupil, said 'he was deeply affected by his situation...but betrayed no murmuring nor discontent, no impatience nor unmanly dejection of mind [and that] his religious principles were tried'.<sup>188</sup> The pattern of Hey's personal life had many moments of happy success countered by sorrow, and despair by an unexpected advantage. It could well be that in the period of reflection when he came to terms with his severe handicap that he recognised the potential ease and precision of manoeuvrability of the small saw. And, that such a facility came at the time when he had to compensate his postural difficulties in order to carry on with his profession. Certainly his ingenious refinement and use of the saw proved to be one of the success stories of the latter part of the eighteenth century. It was soon in common use as an essential part of every surgeon's toolkit. Countless lives were saved and many patients had cause to be thankful for Hey's simple yet significant tool. The alternative use of the saw in the relief of bone caries was an added bonus. More generally, the quality of Hey's work with this tool may stand as a crucial example of the advances in technique and instrumentation made in Georgian surgery.

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<sup>188</sup> Pearson, *Hey*, p. 47.

#### 4.5 The Extirpation of Diseased Female Mammae

The wound being fetid, and all hope of a cure was now at an end, I advised keeping it sweet  
by a poultice of boiled carrots, and boiled figs in a paste with honey and flour

(W. Hey, MS/268, Book 7, p. 211)

Too often, when a life of real value has been led modern instinct is to preserve that life as an ossified museum source, but this has not happened with Hey because he was unmindful of posterity, and consequently extraordinarily un-self-preservative. His publications were so sparse, that when opening up a particular treatment process such as his female mammae cases, they appear as fresh as when he wrote them. These cases display not only Hey's personal effect upon these women's lives, but also his development of a clinical treatment programme covering a period of thirty-two years. Throughout the latter decades of the eighteenth century surgical procedures became more adventurous, but invasive procedures upon the trunk of the body were yet some years away. However, extirpation of diseased pendulous parts of the human body, male and female, began to be attempted. Some procedures were unsuccessful, and Hey, as my opening quotation reveals, gave the best care that he could to ease suffering. Some were successful; others presented problems, such as the staunching of blood flow. Hey, as did other provincial surgeons, developed a variety of these types of surgical procedures. Some procedures served, in Hey's case, to identify previously unrecognised fatal diseases, such as the virulent fungating carcinoma named by Hey as Fungus Haematodes.

Hey's treatments ranged from his observance of the use of toads to suck the fetid matter from a fungating cancer,<sup>189</sup> to complete surgical breast removal. The extreme bravery on the part of his patients is also recorded. 'She knew her breast did not look well by her

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<sup>189</sup> MS/628, Book 4, Case 52, p. 78 the case of Mrs. Green dated spring 1770, see also D. De Moulin, *A Short History of Breast Cancer* (Boston, 1983), p. 50 and note 146. The use of toads in this way was a traditional remedy and De Moulin commented that in view of what regular medicine at the time had to offer by way of external therapeutics this unorthodox folk medicine could hardly be reproached.

feelings but she said if I looked at it I should find it better'.<sup>190</sup> This rare comment of reassurance to her surgeon from a surgical patient speaks far more than the few words it contains, as will be later discussed.<sup>191</sup> Maybe it was a typical, even a frequent, type of comment from a grateful patient to a surgeon who had relieved her suffering. What it does do is open wide the window on exactly what a patient- practitioner rapport could have been like in Georgian Britain. This first survey of Hey's mammae cases provides a fitting conclusion to this chapter on 'Hey's Surgical Innovation and Medical Variety' and because of its female locus, serves as a bridge to the following chapter on Hey's midwifery.

#### 4.5.1 Mammae Cases

There are twelve unpublished and five published cases concerning serious breast ailments containing approximately 12,000 words. The first significant fact that arises from the following table (Table 4D), of Hey's mammae cases is that they appear at a relatively even rate throughout the years 1769 to 1797. Secondly, where the women's ages are given, with the one exception of Mary Bradford, they all fall within the same age range of immediate post menopausal women, an age range recognised today as a peak age for the development of breast cancer.

**Table 4 D Hey's Female Mammae Cases**

Book	Page	Pub	Date	Age	Name	Condition
3	129		6/1769		Mrs. Wood	Scirrhus breast
3	165		2/1770	53	Mrs. Walker	Breast cancer
4	49		9/1771	52	Mrs. Conyers	Scirrhus breast
4	78		3/1770	55	Mrs. Green	Breast cancer
5	1		7/1773	53	Mrs. Woodhouse	Breast cancer
8	109		11/1778		Mrs. Lamplugh	Breast cancer
8	269		1/1771		Miss B.	Breast cancer
8	267		6/1781		Miss R.	Breast cancer
7	93		11/1782		Mrs. Cole	Breast tumour during menstruation
7	229		7/1785		Mr. Sotherson's maid	Tumour in breast
7	259	Yes	7/1785	54	Miss Deane	Breast cancer

<sup>190</sup> MS/268, Book 8,p.5. By contrast the Pulsford ledger entry for 21 March 1757 has a brief forty-word account of the removal of a breast tumour noting the payment of five guineas. Pulsford Ledger, DD/FS Taunton.

<sup>191</sup> K. Chisholm, *Fanny Burney, Her Life* (London, 1998), p. 215 quoting from Fanny Burney's diary when she recalled how she felt during her mastectomy wrote 'as the dreadful steel was plunged into her breast... a scream that lasted intermittingly during the whole time of the incision... so excruciating was the agony, when the wound was made and the instrument was withdrawn, the pain seemed undiminished, for the air that suddenly rushed into those delicate parts felt like a mass of minute but sharp and forked poniards'.

9	176	Yes	C/1787	C/50	Mrs. Appleyard	Tumour in breast
		Yes	6/1787	14	Mary Bradford	Enlarged breasts
		Yes	1/1789	45	Mrs. Storr	Tumour in breast
11	83		9/1795	50	Miss Raper	Ulcerated breast cancer
12	147		6/1797	55	Mrs. Tearon	Scirrhus tumour
		Yes	No date		Martha Wilson	Scrofulous breast

It is pertinent to consider at this point the reasoning concerning the development and causation of breast cancers during Hey's time. The Galenic distinction between scirrhus and carcinoma remained, a scirrhus being a benign growth that under adverse conditions could degenerate into a malignant growth. Heister, at the beginning of the century, particularly noted that childlessness was a common factor in women who developed breast cancer.<sup>192</sup> Eighteenth-century medical practitioners generally thought that scirrhus arose from the coagulation and stagnation of fluids within the breast, with the precipitating factor in the formation of cancer from these fluids considered to be mechanical. A bruise or a blow caused by a contusion,<sup>193</sup> or a tight compression from stays could be a reason. Generally the opinion was held that the unresolved seat of an acute inflammation that had resulted from a mechanical cause was the most likely source of a scirrhus. There was also a belief that some sort of consensus existed between the state of the uterus and the breasts. Menstrual disorders and the cessation of the menses were recognised as significant if the patient's breasts were seen to be in any way diseased. Although these notions were vague and unexplained, such conditions can be observed in the case of Mrs. Cole whom Hey treated in November 1782<sup>194</sup> for tumours arising in her breasts during her menstruation. Further major factors considered causing breast cancer were psychic determinants, such as a predisposition to melancholia, or women who had suffered intense grief.<sup>195</sup> Certainly Hey associated grief in the case of his patient Mary Walker, when he noted that 'she first perceived a tumour in her breast about the size of a filbert [a nut] one and a half years ago by its aching in a fit of

<sup>192</sup> Heister, *A General System of Surgery*, pp. 378-387.

<sup>193</sup> Morgagni, *De Sedibus*, vol. 4. p. 31.

<sup>194</sup> MS/628, Book 7, p. 93.

<sup>195</sup> Moulin, *History of Breast Cancer*, p. 38 & notes 83 & 112

grief and weeping, and it increased gradually from that time'.<sup>196</sup> However although the sorrow of the occasion could have been the reason why the condition was first noticed, this form of association did not postulate the grief as a primary cause of the condition.

The hereditary transmission of certain cancers was only just beginning to be recognised by practitioners, such as Hey, although it was given no lasting credence by the majority.<sup>197</sup> Hey can therefore be regarded as pioneering this aspect of the aetiology. In the case of 'Mrs. W., age fifty-three, of a thin habit,' Hey recorded that she was 'of a family subject to cancers,[and] consulted me in the summer of 1773 on account of a scirrhus breast...first perceived about twelve years before I saw her'.<sup>198</sup> Perhaps the most significant factor arising in Hey's era was the work done by Hewson and others on the elucidation of the lymph drainage system of the breast, which in turn promoted the later theory of lymphatic dissemination.<sup>199</sup> Notions of Haematogenic Metastasis, where additional cancers appeared in remote areas of the body away from the breast, was not an accepted theory and physical examination was usually restricted to the affected breast, with attention to the state of the nipple and the fixation of the tumour either to the skin or the thoracic area.<sup>200</sup> Yet almost without exception, without giving a precise reason, when Hey examined a patient who presented with a breast tumour he recorded a specific deliberate examination from the breast area to the adjoining glands. Hey's case histories, covering as they do a period of over thirty years, during which time all these theories were developing, offer a vital window into a much understudied area of eighteenth-century medical practice.

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<sup>196</sup> MS/628, Book 3, Case 30, p. 165.

<sup>197</sup> Moulin, *History of Breast Cancer*, Chapter 5, the question of heredity was not considered significant in the eighteenth century.

<sup>198</sup> MS/628, Book 5, Case 1, p.1.

<sup>199</sup> W. Hewson, *Experimental Enquiries, Part II containing a Description of the Lymphatic System in the Human Subject and Other Animals* (London: N.P., 1774). Hewson's work remains to be studied in conjunction with the case histories, published and unpublished, of practitioners such as Hey.

<sup>200</sup> Moulin, *History of Breast Cancer*, p.42

The clinical presentation of a typical breast cancer patient was when the tumour was in an advanced state, often with a foul-smelling ulcer. When Hey first saw Mrs. Conyers in September 1771,<sup>201</sup>

the nipple on her breast was covered with incrustation which was continually suppurating in part, and forming again from a very fetid matter which excluded there Besides this diseased state of the integuments there was a scirrhus tumour at some small distance from the nipple about the size of a small apple and an incrustation as broad as a sixpence was likewise formed on the cuticle covering the part.<sup>202</sup>

Mrs. Conyers told Hey that she had had the tumour for two years and that her 'copious menstruation had ceased the following year when she was fifty-one'. In this case Hey did not operate nor conclude the case history. In another case, that of Mrs. Green,<sup>203</sup> Hey also did not operate and this patient resorted to treatment with toads from an itinerant. Although Hey did not prescribe this treatment he wrote a vivid description of how the toads were applied.

Two or three were held successively with their mouths to the fungus enclosed in a bag of thin muslin...for an hour each evening. The sore was [then] washed with a decoction of hemlock twice a day and leaves were applied bruised to the part by way of a poultice.<sup>204</sup>

This procedure continued for a month and resulted in a large sordid ulcer that Hey was asked to heal. Hey likened this ulcer to 'half a hens egg cut transversely [that] discharged thin extremely fetid matter [which] was copious and so exceedingly offensive that the room in which she sat was scarcely to be borne'.<sup>205</sup> Hey dressed the ulcer on a daily basis with a white bread poultice.

The slough that covered the bottom of the wound began to separate [and] it was gradually detached and the wound became quite clear. Expectations of a perfect cure now took the place of the compassion I felt for my patient. Such hopes were not fulfilled because the cancer re-grew like the surface of a collyflower ...full of a soft substance resembling red currant jelly.<sup>206</sup>

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<sup>201</sup> MS/628, Book 4, Case 10, p. 48.

<sup>202</sup> Ibid., p. 49.

<sup>203</sup> Ibid., Case 14, p. 78.

<sup>204</sup> Ibid., p. 81.

<sup>205</sup> Ibid., p. 82.

<sup>206</sup> Ibid., p. 83.



Mrs. Green resorted again to treatment by the toads and Hey ceased to treat her early in 1771 and did not record what happened to her after that.

To choose a case as an example of Hey's operative technique proves difficult, and one could say that the case of Mrs. Woodhouse is only one amongst equals. Hey devoted twelve pages of text to her operation and post-operative care.<sup>207</sup> He began by stating that he had reminded his patient that a successful outcome of an operation 'was precarious, as the disease had been of so long continuance [twelve years], had affected the axilla, and was plainly hereditary'.<sup>208</sup> Hey's account of the operation detailed below compares with his method of operating in other mastectomy cases. Regrettably he did not include detail of the tools that he used, or how and where he placed his patient during the procedure.

October 20<sup>th</sup> I performed the operation at my patient's request. I then found two indurated glands in the axilla, which I cut upon, turned out, and cut off without much difficulty; no haemorrhage immediately ensued. The breast adhered more firmly to the pectoral muscle and adjacent parts than I expected, and the membrane adiposa which surrounded the breast was thickened so that I was obliged to remove a considerable portion of ye integuments after I had dissected out the breast. Under the centre of the breast I found an indurated abt the size of a hazel nut. I had occasion to take upon only one artery belonging to the breast, but after I had dressed up ye wound there was a flow of blood from the axilla. I discovered with considerable difficulty the place from whence the blood flowed on account of the suffusion of coagulated blood in the loose cellular membrane of the axilla, and having tied up ye artery ye haemorrhage stopped. My patient bore the operation with remarkable fortitude...after the operation I gave an opiate.<sup>209</sup>

The daily postoperative care detail following included her pulse rate, the redressing of the wound, medication given, bowel movements, general demeanour and dietary concerns. On the seventh postoperative day Hey became concerned because the wound 'discharged fetid thin matter and looked ill. The membrana adisposa looked brownish at the upper part of the wound'. Mrs. Woodhouse seems to have picked up Hey's apprehensions because he

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<sup>207</sup> MS/628, Book 5, Case 1, p. 1 dated July 1773.

<sup>208</sup> Ibid., p. 2.

<sup>209</sup> Ibid., pp. 2 & 3.

wrote that she had said to him ‘she knew her breast did not look well, by her feelings but if I looked at it I should find it better’.<sup>210</sup> This singularly rare comment, previously cited in the introduction of this section, displays not only the confidence reposed by the patient in her surgeon, but also her awareness of his concern for her, and her desire, despite her own agony, to comfort him. In the post-operative account diet, alcoholic beverages, and the amount of wind in her gut play as large a part in the text as her pulse rate and wound healing. A fever developed and ‘she was much disturbed by the noise of children screaming as they played beneath her windows’.<sup>211</sup> It took two months for the wound to heal and hoping to stave off the re-emergence of the cancer Hey began the use of mercurials when a discharge that ‘had the peculiar cancerous smell’ began.<sup>212</sup> Death came in the spring of 1775, which Hey felt was inevitable because both her sister and mother had died from breast cancer, a unique example of farsighted diagnosis.

Hey’s successful closure, following the agreed practices of the era,<sup>213</sup> of extensive torso wounds, such as those caused by the extirpation of female mammae, by the first intention was fundamental to the ‘modern’ surgical practice of the time, and leads into the surgical innovation section part of this chapter.<sup>214</sup>

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<sup>210</sup> Ibid., pp. 5 & 6.

<sup>211</sup> Ibid., p. p.

<sup>212</sup> Ibid., p. 11. Presumably the cancerous fetor was necrotic, but Hey did not exactly define it.

<sup>213</sup> Moulin, *History of Breast Cancer*.

<sup>214</sup> Loudon noted that healing by the first intention was a much debated question in the eighteenth century but that by the end of the century it had almost superseded the second intention method, despite the extra sepsis risk that suture material carried, because it gave a neater scar and saved prolonged post-operative suffering from the constant dressings. ‘The Nature of Provincial Practice in Eighteenth-century England’, p.13

#### 4.6. Healing by the First Intention and Fungus Haematodes

In 1781 I made use of the method of healing by the first intention in two cases after the extirpation of tumours from the breast (W. Hey, MS/268, Book 8, p. 267)

Hey's 'Remarks on Healing by the First Intention' were brought about by his deliberations on breast surgery.<sup>215</sup> It was, he said, 'of great consequence to procure the healing of large wounds by the first intention, not only because the patient is saved from the pain of frequent dressing of the wound...but likewise because the symptomatic fever is prevented'.<sup>216</sup> Hey began the practice of bringing the lips of a wound together by using 'court-plaster' and did not remove the dressings 'until the tenth day to find that the sides of the wound had united perfectly'.<sup>217</sup> This he said was an improvement to filling the wound with lint, which required frequent changing. Hey began to adopt this practice with all of his operations, finding that 'wounds were often completely cicatrised within ten to fifteen days'.<sup>218</sup> In fact healing by the first intention, by reserving an adequate area of skin and uniting the lips of the wound either by plaster or stitches became standard practice in breast surgery at this time.<sup>219</sup>

The medullary type of cancer named by Hey 'Fungus Haematodes',<sup>220</sup> occurred in parts of the body other than in female breasts, but was first recognised by Hey following three of his breast cancer cases, two of which are not in the surviving parts of his manuscripts. John Burns of Glasgow mentioned a similar condition, but only on the extremities of the body, in an 1800 unpublished 'Dissertation on Inflammations', which Hey was unaware of.<sup>221</sup>

Firstly what exactly constitutes a 'Fungus Haematode'? It is a soft type of growth, particularly malignant and almost always fatal. It was a matter of dispute as to whether it

<sup>215</sup> MS/268, Book 8, p. 264.p.45

<sup>216</sup> Ibid., p. 265. Healing by the first intention constitutes healing by the immediate re-union of the several parts without granulation by contrast to the healing of a wound by granulation after suppuration.

<sup>217</sup> Ibid., p. 268.

<sup>218</sup> Ibid., p. 270.

<sup>219</sup> Moulin, *History of Breast Cancer*, p. 46.

<sup>220</sup> J. Wardrop, *Observations on Fungus Haematodes or Soft Cancer* (Edinburgh: G.Ramsey & Co, 1809), pp2-5

<sup>221</sup> Ibid., p.3

could be considered a cancer or not. For example Abernethy, whilst recognising the tumour as a type of medullary sarcoma,<sup>222</sup> still did not regard the fungus as a type of cancer.<sup>223</sup> Five years later however the publication of James Wardrop cited Hey in his chapter on Fungus Haematodes in the female breast.<sup>224</sup> Hey noted that this type of ‘tumour was not usually painful in its beginning, nor does it impede the motion of the muscles on which it is seated. But when deep seated in the limbs it caused pain...Miss Dean found considerable pain from the growth of the tumour in the mamma’.<sup>225</sup> Hey went on to remark that as the bulk of the tumour increased a sensation of a deep-seated fluid was noticed when pressure was put upon it. ‘As the fungus advances integuments and aponeurosis of muscles burst open to reveal a rising black mass like coagulated blood, or an excoriation.’ In both cases haemorrhages ensued; in fact the fungus bleeds whenever it is broken. Hey also commented that ‘the adipose membrane forms a great number of pouches, filled with fungus...which bleed copiously...whenever the fungus comes into contact with the muscles they loose their natural redness and become brown; they loose also their fibrous appearance’.<sup>226</sup> Hey also noted that no escharotics<sup>227</sup> were effective in the treatment of the fungus.

Hey compiled three cases where this particular type of cancer presented as breast cancer, all within three years of each other; Miss Dean in July 1785,<sup>228</sup> Mrs. Appleyard in February 1788<sup>229</sup> and Mrs. Storr in January 1789.<sup>230</sup> Since Hey recorded only one previous case of this type of tumour or cancer, on the knee of a twenty-one year old stonemason<sup>231</sup> some five years earlier, these three cases were entirely formative in Hey’s conclusion that this particular affliction was previously unrecognised as a cancer. Pott who had also encountered

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<sup>222</sup> J. Abernethy, *Surgical Observations* (London: T. N. Longman and O. Rees, 1804), Essay on Tumours.

<sup>223</sup> Pearson, *Hey, ‘Professional Writings’*, p. 15. See also Moulin, *History of Breast Cancer*, p. 62.

<sup>224</sup> Wardrop, *Observations on Fungus Haematodes*, p. 173.

<sup>225</sup> Hey, *Observations in Surgery*, p. 283.

<sup>226</sup> *Ibid.*, p. 284.

<sup>227</sup> A substance capable of causing a slough, or septic tissue that become necrotic and separates leaving healthy tissue below.

<sup>228</sup> MS/268, Book 7, p.259

<sup>229</sup> MS/628, Book 9, p.176

<sup>230</sup> Hey, *Observations in Surgery*, p.262

<sup>231</sup> Ms/268, Book 8, p.159

a similar condition had confessed 'I know no name to give it' and went on to write a description of a tumour of this kind that erupted on one of his patient's legs.<sup>232</sup> The puzzling feature centred firstly on the fluid content of the fungus, which Hey considered 'felt rather like the medulla of the brain, than coagulated blood, being of a consistence somewhat unctuous', and secondly on the uncontrollable nature of any haemorrhage that stemmed from the fungus, which Hey said, had not previously been observed or commented upon by any previous medical author.<sup>233</sup>

In the case of Miss Dean, she first began to notice an enlargement of her left breast after she had lifted her bedridden 'superannuated father'.<sup>234</sup> Hey thought at first that she had merely a burst blood vessel, but the tumour increased rapidly and as she lived thirty miles away Hey said he could not treat her from afar and asked her to come to Leeds, which she did. Shortly after her arrival the skin over the tumour burst to reveal a dark coloured fungus. Hey wrote that he had reflected upon the circumstances and felt that although this tumour was situated on a breast it was of the same type that he had seen on the leg of the stonemason. The difficulty in this case was that the tumour was on a part of her body that 'precluded the advantage of applying a tourniquet'. And although Hey knew it could be fatal to cut the tumour, he 'did not choose to withhold his assistance'.<sup>235</sup> One might, in the knowledge of Hey's fascination with curious cases and pioneering spirit, cynically consider that there was an element of experimentation in his performing a procedure that he knew would likely be fatal. On the other hand, he likely knew that surgically untreated, the condition was fatal. The operation was, as he expected, attended with uncontrollable haemorrhage and Miss Dean died a short while afterwards.

Mrs. Appleyard's tumour at first appeared to be of the usual type of cancer, and until three weeks after Hey had removed it 'every circumstance flattered me with the hope of a

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<sup>232</sup> Pott, *Chirurgical Works*, vol. III, p.331

<sup>233</sup> Hey, *Observations in Surgery*, p. 249.

<sup>234</sup> MS/268, Book 7, p. 259.

<sup>235</sup> *Ibid.*, p. 262.

speedy and happy termination'.<sup>236</sup> To his dismay, Mrs. Appleyard's wound began to discharge, then burst open to reveal a fungus, which increased visibly each day and consistently bled. Hey noted that this could be a third case of the fungating cancer and attempted to remove it. However it had penetrated 'into several cells...in the adipose membrane and bled whenever he took hold of it'.<sup>237</sup> Mrs. Appleyard only survived for a week after the second operation.

Mrs. Storr of York two years later also had a cancer, which at first appeared to be of the usual type. Hey operated to remove it and the upper part of the wound healed well by the first intention method, the lower part taking longer to cicatrise, but it eventually did. Unfortunately six weeks later a type of tumour appeared, similar wrote Hey, 'to that of Miss Dean and Mrs. Appleyard'.<sup>238</sup> The secondary tumour arose only around the cicatrix, and at first Hey was hopeful that he could remove it by a second operation. However the fungus again re-grew, and Hey said that there was no possibility that he could save her life; Mrs. Storr died within a few weeks.

Hey did not dissect any of these cases of breast cancer, or if he did he did not include his findings. We have therefore no comparison with the findings of James Wardrop who did dissect two fatal mammae cases. Wardrop however agreed with Hey's diagnosis from the evidence he found in his two dissections.<sup>239</sup> Hey's identification of this particularly malignant fungoid type of cancer stands as one of the most important innovative perceptions of eighteenth-century clinical medicine. Despite the initial reluctance to recognise it as a cancer, after the first two decades of the nineteenth century Hey's initial identification was

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<sup>236</sup> Hey, *Observations in Surgery*, p. 262.

<sup>237</sup> *Ibid.*, p. 264.

<sup>238</sup> *Ibid.*, p. 265.

<sup>239</sup> Wardrop, *Observations on Fungus Haematodes*, pp. 172-177.

given its appropriate place in medical history. This type of cancer was then recognised as appearing in many parts of the body.<sup>240</sup>

### Conclusion

This brief account of Hey's female mammae surgical work concludes my chapter on Hey's medical practice and surgical variety by drawing further analytical attention to aspects of Hey's innovative and clinical perception. The soft tissues of the organs involved have no bone structure and only limited muscles, but they contain the essential elements of femininity. Breast cancer is, and was, no respecter of person, it affects women across the social divide, and when in its fungating foul odorous state is impossible to disguise. Although the prospect of success was limited the alternative of living with the affliction could have been too awful to contemplate. The pain threshold so aptly described by Fanny Burney in her operation must have been weighed against living with the condition, and the desperation of women seeking relief by surgery cannot be underestimated, as the patient could not fail to be continually aware of the deterioration of her breast. Hey also could not have been immune to the suffering that he inflicted by his surgical procedures, but he adopted an essentially practical attitude and directed his attention towards the identification of the seat and cause of the disease. Hey's identification of the type of cancer that he named 'Fungus Haematodes' broke entirely new ground and excited an erudite debate amongst many medical practitioners causing them to reassess some of their previous deliberations.

This chapter has provided some of the highly complex clinical evidence within Hey's Medical and Surgical Casebooks and has thereby provided the historian with some of the finer detail of eighteenth-century surgery and medical work undertaken on a day-to-day basis by Georgian provincial practitioners. The awful reality of surgery in the pre-anaesthetic, pre-antiseptic era cannot be set aside, but it must be noted that there was no awareness that

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<sup>240</sup> S. N. Lloyd 'Possible Prognostic Factors in Prostatic Cancer', unpublished Master of Surgery Thesis (University of London, 1991), p. 24.

measures of pain relief would ever be possible. Hey's surgical procedures have been viewed here as pioneering events willingly accepted by patients as surgeons became increasingly successful in relieving distressing conditions.

In this chapter we have seen some of the predominant ailments that crossed the path of a provincial surgeon-apothecary, and the importance to Hey of maintaining detailed and referable records of diagnosis, procedure, technique and post-operative results. This created a detailed archive of practice, which he was able to collate in his 'Remarks', apply to further cases, draw conclusions from, and use as a basis for publication. The deeper review of one Casebook, Book 6, two decades into Hey's working life revealed specific types of ailment, including his awareness of epidemics and continual concern with eye conditions. Book 6 also revealed the emergent 'clinical gaze' aspect of the way an account of an ailment began to take precedence over the account of a patient who was afflicted with an ailment. The case of Mr. Row in particular enabled the deeper layers of patient-practitioner engagement to be seen, as innovative surgery took place outside the confines of an institutional environment.

The short review of Hey's 'Remarks' that are not included in the discussions in other detailed parts of this chapter reveals his accumulation of reference points, showing that he was moving towards standardisation of practices, and that enigmas were left for future deliberation. At the level of precise detail, we can start to understand his clinical perception not only in terms of the visually obvious presenting signs but also in the underlying causes; for instance in his awareness of the fetor peculiar to cancer. This was but one indication that the whole spectrum of his senses were in play, and were essential to the overall precision of his clinical perception. The expansive range of Hey's practice exemplifies his competence from everyday work injuries and local epidemics, to ocular treatment, through challenging head surgery to innovative invasive surgery. Above all Hey's Medical and Surgical Casebooks reveal the extent of the medical and surgical excellence achieved in provincial Georgian England. His discovery of 'Fungus Haematodes', his development of the 'Hey



Saw' for use in head surgery and the draining of leg bone caries, first identified as 'Sub-Acute Osteomyelitis of the Tibia', his correct recognition of the condition known as 'Internal Derangement of the Knee Joint', that is still considered a fundamental medical discovery, and his attention to healing by the first intention place Hey in the vanguard of disease identification and cure in decisively productive ways. And, it must not be forgotten, for the last forty-five years of his working life Hey carried out his practice whilst sustaining severe and consistently painful permanent handicaps to his body.

## Chapter 5

### Towards a Safe Deliverance

Mr. Hey united the practice of midwifery with the two other departments of his profession. He was much employed as an accoucheur, was very successful in his practice, and introduced some considerable improvements in the management of women during parturition, and in the subsequent period of their confinement. (Pearson, Hey, p.55)

#### Introduction

Despite Pearson's published comment that 'Hey was much employed as an accoucheur... and introduced some considerable improvements' posterity has not credited Hey with this reputation, although out of his sparse medical publications, only five articles and two books, three of the articles concerned obstetric complications,<sup>1</sup> and his first book, *Observations on the Blood*, contained much deliberation on the blood of women with gestational problems. In addition, the single publication of his son William, *A Treatise on Puerperal Fever*, could be largely said to have incorporated Hey's work. Hey's obstetric articles, whilst important, are not characteristic of his midwifery practice as a whole, cannot remotely represent the range and significance of his Midwifery Casebooks, and would present a misleading impression of his overall obstetric skill. The chief business of this chapter is to provide an account of key features of the Midwifery Casebooks, thereby characterizing the work of one of the new provincial male-midwives of Georgian England with a depth and detail unavailable in previous treatments, and unattainable in the absence of any comparable source. I preface this account with a short analysis of Hey's published obstetrics to locate their historical significance, but also to reinforce the broader point, namely the limitations of accounts circumscribed by use of published materials only.

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<sup>1</sup> W. Hey, 'An account of an extra-uterine Foetus', *Medical Observations and Inquiries*, (1766), vol. iii, pp.341-55, 'An Account of a Rupture of the Bladder from the Suppression of urine in a Pregnant Woman', *Medical Observations and Inquiries* (1768), vol. iv, pp.58-77, and 'Facts Illustrating the Effects of the Venereal Disease on the Foetus in Utero', *Medico-Chirurgical Transactions* (1816), vol. viii, pp.341-350

### Hey's Obstetric Articles

Hey's first obstetric article was written in 1766, and there was an interval of forty-eight years between his second in 1768, and the third in 1816. The two early ones each included a dissection; the first one was performed, remarkably, with the patient's agreement. All three concern what could be termed curious cases, certainly not complications that might be an expected common parturition occurrence. They do however serve to illustrate the wide breadth of Hey's clinical knowledge, and his continuous quest to extend and perfect that knowledge. Although in such dire complications successful modes of treatment were not usually possible, he considered that it was highly significant to be aware of the correct diagnostic symptoms.

### The Extra-Uterine Pregnancy of Mrs Brown MS/567. Book I, Case 74, pp162-180<sup>2</sup>

Hey first attended Mrs. Thomas Brown in August 1765 for problems she began to experience in her second pregnancy. He had delivered her first baby, which had been a normal birth, but two months into this second pregnancy she was experiencing extraordinary symptoms.<sup>3</sup> The date of conception would have been sometime in June 1765 and Hey continued to attend her throughout her pregnancy until her death, undelivered on 28 June 1766. Hey's narrative account of her gestational ailments, his observations and treatments through the ten months that he attended her, whilst clinically erudite within the parameters of obstetric ante-natal care of the period, display certain reservations, because her symptoms did not seem to coincide with any of those that could be expected. The reader can discern that Hey was aware of an unknown underlying complication.

Hey attended Mrs. Brown almost daily from the middle of March 1766, prescribing a variety of medications and palliative measures to relieve her acute distress and decline into emaciation. She last felt the foetus move within her body at the end of the normal gestation period, and her breasts became engorged with milk at this time although labour did not

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<sup>2</sup> Hey, An Account of an Extra-uterine Foetus'.

<sup>3</sup> MS/567, Book 1, Case 74.

commence in any normal way. Hey's published account played down the 'acute painful paroxysms of her last weeks and days' that he included in the narrative of her case history.<sup>4</sup>

Hey obtained the permission of Mrs. Brown to dissect her body after death in the last few days of her life, and this tells us clearly that he knew he could not deliver her and had made her fully aware of her impending death. This also demonstrated Hey's quest to correctly ascertain the scientific nature of the enigmatic complication. Hey performed her dissection in the presence of Dr. Crowther, although during her pregnancy Dr. Hird had attended, and the surgeons, Dawson, Billam and Lucas. The dissection revealed a tangled body of a full term foetus within the abdominal cavity. This had caused, as Hey observed, 'her abdomen to be obliterated by the universal adhesion of the parts one to another'. The placenta had developed inside the uterus, but the body of the foetus had developed entirely outside her uterus within a sac, 'the internal surface of which was spongy, flocculent and slightly wrinkled, somewhat resembling that of a gravid uterus'.<sup>5</sup> Hey sent accounts of his findings together with drawings, again to correctly discern the exact clinical detail, to Michael Underwood for comment.<sup>6</sup> It was Underwood who brought the case to the attention of Hunter. Hey's case history and dissection of Mrs Brown remains of significant interest because no other eighteenth-century account of an eleven-month gestation of an extra-uterine foetus has been written. Despite the most extraordinary nature of this case and Hey's clinical and scientific investigations, his compassion towards his patient shines undimmed throughout his narrative, evoking emotional response in a reader.

The Ruptured Bladder of Mrs S, MS/ 628, Book 3 Case 15, pp65-78<sup>7</sup>

There are several cases within Hey's Medical and Surgical Casebooks concerning parturition complications. For the main part these are women to whom Hey was called in a consultancy capacity but did not actually deliver the child. The case of Mrs S. is one such. Hey was called

<sup>4</sup> Hey, 'An account of an Extra-Uterine Foetus,' p349..

<sup>5</sup> MS/567, Book 1, Case 74, pp. 172-3.

<sup>6</sup> W. Hey, letters to M. Underwood dated 9 September 1766 and 19 May 1767, ref. H73 and H74, Hunterian Collection, Glasgow University.

<sup>7</sup> Hey, 'An Account of a Rupture of the Bladder in a Pregnant Woman'.

to Mrs S. aged thirty-eight, by a midwife two days after labour had begun. It seemed a normal slow delivery of a first child and Hey advised patience. At the end of the day he was called again and asked 'if she should be delivered by art', which at that stage he felt was not the best action.<sup>8</sup> He was asked to visit her again five days later, four days after the child had been born because her abdomen was painful and acutely distended. Clearly she was very ill and on enquiry he found that her urine had been voided only in small quantities and often uncontrollably. Prior to Hey's visit 'she had felt something crack at her navel, and the pain had become immediately severe'. Hey bled and purged her for two days and attempted to pass a catheter but found her urethra obstructed. Mrs S. died three days later. Hey obtained permission to dissect her abdomen with the assistance of James Lucas. They found that 'the quantity of urine in the abdominal cavity amounted to fourteen pints [and] an aperture in the superior part of the bladder large enough to admit a finger'.<sup>9</sup> It was evident that pressure from the impacted head of the child over the period before she was delivered, after Hey had said not to deliver by art, had irrevocably damaged her urethra and prevented natural or artificial voiding of urine.

This case proved to be a significant learning curve for Hey, and he said that the reason he published it was to make others aware that such 'diagnostic symptoms are not to be neglected'.<sup>10</sup> His manuscript account of the dissection has greater detail than the published version and again, as in the case of Mrs Brown, contains significant compassion. He also typically did some pathological investigations on the way her blood settled in dishes over several days, but did not reach any firm conclusions. Clearly this was not a personally beneficial narrative for Hey to publish, for serious doubts could be set against him for not delivering her by art when he had twice been called. There is no evidence to show if he had regrets or sustained criticism from other practitioners, but it was forty-eight years before he published another obstetric article. This may have been an isolated case and there are no

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<sup>8</sup> MS/628, Book 3, p.66

<sup>9</sup> Ibid., p.68

<sup>10</sup> Hey, 'An Account of a Rupture of the Bladder in a Pregnant Woman', p.68

'Remarks' on this type of complication. On the other hand, Hey was now likely to pay attention to urine retention, and careful not to allow such a complication to reach the acute stage again.

The Effects of Venereal Disease on the Foetus in Utero MS/628, Book5, Case 47,pp175-184<sup>11</sup>

Although Hey did not publish his conclusions on this subject until 1816 the cases he used as evidence, apart from the first case cited which happened in March 1816, related to the early years of his practice, in fact to the years immediately following the case of Mrs S. in his second article, 1770 and 1771. They again are included in his Medical and Surgical Casebooks, and this article is discussed briefly below on page 250 in Part Two, with regard to the effect upon the child.

Hey has been credited with the first recognition of placental transmission of syphilis, but as Part Two will indicate this is questionable. What is interesting and surprising about this article is the direct criticism levelled squarely at it by Pearson, whose name had appeared as the sponsor for its publication.<sup>12</sup> In his *Life of Hey*<sup>13</sup> Pearson was critical of what he termed Hey's 'assumptions', and not only listed six critical comments but also added a twenty-four page somewhat jaundiced appendix which contradicted Hey's findings.<sup>14</sup> Hey's son in his editorial corrections on the proof of the first edition of Pearson's book paid finicky attention to commas, some adjectives and the occasional verb but did not either adjust, or criticize Pearson's opinion of his father's work.<sup>15</sup> The rationale of Pearson's argument against Hey's hypothesis was that only 'multiplied instances of such occurrences [and] the connection of these maladies with their cause [could] readily [make it] credible'.<sup>16</sup> He went on to say that even though 'conducted with much sagacity and ability ... pathological

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<sup>11</sup> Hey, 'Effects of the Venereal Disease on the Foetus in Utero'

<sup>12</sup> Ibid., p.541.

<sup>13</sup> Pearson, *Hey*, Professional writings, p.47.

<sup>14</sup> Ibid., pp53-77

<sup>15</sup> MS/504/5

<sup>16</sup> Pearson, *Hey*, Appendix II, p.57.

science, if not in its infancy, is still in a very imperfect state'.<sup>17</sup> He went on to expound upon whether or not the presence of syphilis could be confirmed if the ailment responded to treatments with mercury, as Hey citing Hunter had thought.<sup>18</sup> It could be said that there was truth in Pearson's conclusion; on the other hand, since Pearson had worked at The Lock Hospital, a hospital specifically concerned with venereal disease, since 1780 and had personally not come to the conclusion that Hey had, there was more than a hint of pique in his criticism. Whatever the rights and wrongs of Pearson's critical comment on Hey's conclusions, credit must be given to Hey for opening up such a controversial debate on the recognition and treatment of an ailment that was at that time riddled with subterfuge and stigma.

#### The Hey Treatise on Puerperal Fever

An epidemic of puerperal fever struck Leeds between the years 1809 and 1812.<sup>19</sup> The Hey practice had thirty mothers who contracted puerperal fever between December 1809 and December 1814; twenty-six of the thirty were part of the regular midwifery patients of their practice and Hey attended thirteen of them. Their practice treatment methods were similar to the practices advocated by Thomas Denman. Hey II said that his father 'had long been in the habit of treating cases of puerperal fever in a manner somewhat similar to Denman', by bleeding, saline purgatives and opium.<sup>20</sup> These case histories included in HeyII's publication, together with the conclusions arrived at offers insight into the way Hey's practice continued in the years after the Casebook entries cease, and reveal above all that even at the highest point in his career Hey did not stand above his ordinary midwifery patients, but continued to personally attend them. They also reveal that his pathological enquiries were still at the forefront of his mind even though he was in his eighth decade. At a first reading the filial deference and regard shown by Hey II towards his father initially obscures the

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<sup>17</sup> Ibid., pp57-8

<sup>18</sup> Hey, 'Effects of the Venereal Disease on the Foetus in Utero', p.549.

<sup>19</sup> W. Hey Jun., *A Treatise on the Puerperal Fever Illustrated by Cases, Which Occurred in its Vicinity in the Years 1809-1812* (London: Longman and others, 1815).

<sup>20</sup> Hey, *Treatise on Puerperal Fever*, p. 37.

quality of this publication,<sup>21</sup> but with knowledge of the 'Remarks' on puerperal fever in the Casebooks Hey senior's extensive contribution is evident. Loudon made two significant comments; firstly that Hey II's account of the Leeds epidemic was second in importance to Gordon's.<sup>22</sup> Secondly it revealed Hey's wide knowledge of the subject. This wide knowledge could only be Hey senior's. Loudon made these comments taking account of all publications on puerperal fever up to the year 2000,<sup>23</sup> and he regarded Gordon's work as 'a brilliant epidemiological treatise'.<sup>24</sup>

The vital clinical sign picked up by Hey and his son, was that by 'its constant fatality' this particular puerperal fever epidemic differed from any previously known in Leeds, and that the only one they could compare it to was the one experienced by Gordon in Aberdeen: 'Gordon's Treatise was diametrically opposite to the sentiments and practice of those authors whose publications had most recently preceded his own'.<sup>25</sup> Hey II said he was determined to fully adopt Dr. Gordon's plan of treatment. In their history of the disease the Heys restricted the epidemic to a locality not exceeding an area of twenty miles from Leeds, considering that the first cases appeared in late 1808 but that the severe cases did not begin until November 1809.<sup>26</sup> The second vital sign was that the disease was no respecter of persons and could affect all parturient women, except at the beginning when 'it chiefly affected those in the higher situations in life',<sup>27</sup> principally those women who would be regularly experiencing the services of a trained male practitioner in their deliveries. The recognisable symptoms of puerperal fever, shivering fits, profuse perspiration, pain in the hypogastrium, rapid pulse, cessation of the lochia, usually on the second or third day, ringing in the ears, giddiness and head pain, are evident in many case histories where Hey diagnosed isolated cases of

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<sup>21</sup> For a survey of the medical men involved in the treatment of puerperal fever in the eighteenth century see M DeLacy, 'Puerperal Fever in Eighteenth-Century Britain', *Bulletin of the History of Medicine* (1989), 63, pp. 521-556.

<sup>22</sup> Loudon, *The Tragedy of Childbed Fever*, p. 41.

<sup>23</sup> See also Loudon, *Childbed Fever: A Documentary History*, p. 212.

<sup>24</sup> Loudon, *The Tragedy of Childbed Fever*, p. 2.

<sup>25</sup> Hey, *Treatise on Puerperal Fever*, p. xi, and pp.12-13, see also A. Gordon, *A Treatise on the Epidemic Puerperal Fever of Aberdeen by Alexander Gordon* (London: N.P., 1795).

<sup>26</sup> *Ibid.*, p. 15.

<sup>27</sup> *Ibid.*, p. 17.



puerperal fever.<sup>28</sup> Although the specificity and changing virulence of the disease was not fully recognised at this time, Hey II noted that ‘in towns so large as Leeds, there are never wanting cases of infectious fevers’. He also noted that ‘no disease was so prevalent as to deserve the name of an epidemic, except erysipelalous inflammations, which prevailed during the whole period of the puerperal fever, and in many cases were of a very malignant kind.’<sup>29</sup> This was exactly the same situation that Alexander Gordon had recognised when the epidemics had occurred together in Aberdeen.<sup>30</sup> Hey and his son had not been aware of Gordon’s publication until late 1810, yet they had independently formed the same opinion as Gordon.<sup>31</sup> The fact that late eighteenth-century men-midwives such as Gordon and Hey came to recognise that puerperal fever stood apart from other contagious fevers, and was connected to erysipelas, was one of the greatest advances in the development of the speciality of obstetrics, notwithstanding that the clinical signs and external appearances were not usually supported, or indeed characterised by post mortem findings.<sup>32</sup>

The theory of contagion was outside the obstetric knowledge of the period and it was possibly not until publications like Hey’s added weight to Gordon’s that the connection between puerperal fever and erysipelas, and the fact such an infection could be carried between patients by attendants upon the mother, were recognised. Undoubtedly the quality and extent of Hey’s published midwifery professional writings do not bear witness to the extent and quality of the clinical midwifery to be found in his Casebooks, and this poses questions that cannot be readily answered. His first article, including the extensive dissection account, augured great promise, and his contribution to his son’s publication on puerperal fever half a century later was impressive, but from an obstetric career covering six decades

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<sup>28</sup> MS/567, Book 1, Case 21, .

<sup>29</sup> Hey, *Treatise on Puerperal Fever.*, pp. 19-20.

<sup>30</sup> Gordon, *Treatise on the Puerperal Fever*, pp. 55-56

<sup>31</sup> Hey, *Treatise on Puerperal Fever*, p. 82, and Loudon, *The Tragedy of Childbed Fever*, p 11, and Chapter 12. Loudon explores the view that the cause of erysipelas, group A streptococcus, can lead to streptococcal septicaemia and that if it penetrates below the level of the skin to the subcutaneous tissue it evolves into necrotizing fasciitis, the modern name for gangrenous erysipelas. A possible case of such a condition occurred in Book 1, Case 4 dated August 1759 when the patient died from a puerperal fever two days after an abortion and her body was so putrid that it had to be buried twelve hours after her death.

<sup>32</sup> Loudon, *Childbed Fever*, pp. 205-213.

they hardly do him justice, nor, to the extent they focus on unusual cases, do they indicate the longer-term preoccupations of the Midwifery Casebooks, which will serve to characterize the practice of Hey.

### Introduction to Hey's Casebooks

The synthesis of eighteenth-century midwifery concepts presently understood by historians has tended to rely as much upon assumption and preconceived ideas as upon archival facts. Whilst this thesis can offer only a partial account of the length and complexity of the case histories, and associated 'Remarks' contained in Hey's Midwifery Casebooks, together with supporting archives and publications, this will suffice to point to some deficiencies and shortcomings in existing scholarship. I have in mind the work of Wilson, who not only neglected archival case histories to substantiate his views, but also failed to consolidate evidence to be found in the published case histories of men such as Smellie, Rigby and Denman.<sup>33</sup> Alexandra Lord also found that 'Wilson's argument presents several problems' especially his argument 'that women and their female friends could treat the subject of child birth in a spirit of jest' and that 'deaths in childbed were uncommon in the eighteenth century'.<sup>34</sup> Loudon, on the other hand, did partially substantiate his comment that 'by the end of the eighteenth century the anatomy of the gravid uterus was understood, so too was the mechanism of normal labour...the nature of management of major complications such as placenta praevia and post-partum haemorrhage... the contagiousness of puerperal fever had been demonstrated [and that] the works of Smellie and Denman were of astonishing maturity' with recognition of a limited amount of archive material.<sup>35</sup> Lane's work on the Warwickshire practitioners Thomas Jones and Thomas Mister, despite concentrating on archive sources did

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<sup>33</sup> . Wilson, *The Making of Man-Midwifery*, and 'The Perils of Early Modern Procreation', *British Journal Of Eighteenth-Century Studies*, 16, (1993), pp.1-19

<sup>34</sup> A. M. Lord, 'To Relieve Distressed Women: Teaching and Establishing the Scientific Art of Man-Midwifery', pp.50-52, citing Wilson 'The Perils of Early Modern Procreation', p.6, and pp.12-13

<sup>35</sup> . Loudon, *Medical Care and The General Practitioner*, pp.325-7.

not take account of patient-practitioner relations, or discuss obstetric procedures in detail<sup>36</sup> However this critical function is only one aspect of the value of the Casebooks. Hey's ten Midwifery Casebooks additionally open out novel features and a completely new dimension concerning the levels of clinical sophistication achieved in obstetric provincial practice. This is because Hey's writings do not consist of incidental and marginal reflections. Based on a lifetime's experience of working practices, the true value of Hey's Casebooks lies in their extent and fine detail, in Hey's evolving awareness of the current obstetric limitations that he encountered and recorded, and in his encounter with problems, such as the inability to staunch blood loss, and how best to deal with a retained placenta. The full content of the Casebooks probably stands as a new archival determinant of the kinds and levels of achievable treatment, whilst making clear Hey's practical and disciplinary commitment to the emergent subspecialty of obstetrics.

Hey's Casebooks not only bridge the decades between the observations of Smellie and Denman and encompass the practices put forward by MacKenzie, Harvie, Rigby, White and others, but they also provide a vital supplement to our understanding of the networked practices of such obstetric pioneers. From the published works of Smellie, White and Denman an historian may formulate reasoned assumptions as to how an eighteenth-century midwifery practice progressed. However these publications contain only edited versions of case histories and possess no sets of patient records, therefore an historian must work by reasonable inference. The case of Hey is startlingly different, because the Casebooks are of a kind that enables an historian to undertake relatively systematic study of continuous practice as it occurred, allowing discernment of the development of diagnostic schemes and therapeutic practices, which took place in ordinary provincial practice. The majority of all eighteenth-century man-midwifery took place in solitary domiciliary encounters, and the choice a man like Hey made in the compilation of his case histories reflected not only his

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<sup>36</sup> Lane, 'Thomas W. Jones of Henley -in-Arden 1764-1864', pp.333-48, and 'Illustrations from the Wellcome Institute Library: Thomas Mister of Shipston 1711-1780', pp.365-72

particular interests and subjective views on procedural standardisation, but also his intensely personal view on the female as a compliant patient. Hey moved amongst a multitude of women in a relationship of trust rather than deference. Within the narrative of his Casebooks we may read how he physically perceived his female patients, noted their indulgences, shortcomings and the type of nature that they were endowed with, adapting his approach to them accordingly. More generally, the Casebooks register, across their variety of personal, social and medical detail, the progressive development of Hey's obstetric career, adding a further dimension to their historical value.

In order to provide focused access to the complexity of the Casebook contents this chapter will be separated into four parts. Part one will discuss the building up of Hey's practice and how he set about recording his case histories. Within the 505 case histories over eighty sets of patient records can be traced, some that contain almost the whole childbearing years of identifiable individual patients. These patient records are key documents and provide an unprecedented, matchless opportunity to consider the form and content of patient and practitioner relationships within midwifery encounters. By examining in detail four sets of these patient records Hey's domiciliary practice can be traced over half a century in which he became, like many of his contemporaries, recognised as an experienced consultant. The patient records chosen begin with deliveries of a patient who had the type of skeletal deformity that an early Georgian man-midwife often encountered, and follow with the records of two healthy ordinary patients. The last set of records concern the wife of a leading Leeds citizen, whose particular complications belied her status.

The second part of the chapter will then move on to discuss Hey's work in the emerging speciality of neonatal care, setting his role historically and relating it further to the eighteenth-century ideals of emerging medical ethics, where the rights of the unborn were beginning to draw attention. The care of sickly neonates and the need to preserve the fledgling life of the newly born developed as a natural progression of the work of

domiciliary man-midwifery. The third part of this chapter will be an in-depth discussion of Hey's recognition and treatment of the obstetric complication, puerperal convulsions. This discussion will incorporate the way that training methods to deal with this complication developed as the century progressed. It will also discuss some pathological aspects that Hey included in his 1779 publication *Observations on the Blood*.

The fourth and concluding part of the chapter will review Hey's sets of 'Remarks' that are interspersed throughout the Casebooks. These 'Remarks' reveal the limitations experienced by all practitioners in the era before caesarean section and replacement of blood and fluid loss were viable options. They are also often didactic in tone, but there is no evidence to suggest Hey intended to use them for potential obstetric teaching. Overall this chapter will demonstrate that Hey's ten Midwifery Casebooks provide a key of the first importance into the further understanding of Georgian provincial midwifery clinical practice.

#### **Part One 5.1 The Development of Hey's Practice and His Sets of Patient Records**

##### **In the Beginning** (W. Hey, MS/567, Book 1, Case 1, line1)

Hey's first Midwifery Casebook is a book of beginnings; the root of Hey's subsequent medical manuscripts. The first three words 'In the Beginning'<sup>37</sup> suggest a religious self-consciousness in Hey's conception of his work; for 'In the beginning was the Word', or the Logos, understood as the third party of the Trinity, which he defended against Priestley, suggests that the words he intended to write were inspired. These words carry Hey's own sense of religious inspiration of the way he approached his obstetric work; he was in fact bringing life, in each child that he delivered. 'All things were made by him and without him was not anything made that was made, in Him was Life, and the Life was the light of man'.<sup>38</sup> This religious disposition very likely underlay Hey's midwifery work, though it rarely received expression.

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<sup>37</sup> MS/567, Book 1, Case 1, line 1, *Genesis*, Chapter 1, Verse 1, line 1, and *St. John's Gospel*, Chapter 1, Verse 1, line 1.

<sup>38</sup> *St. John's Gospel*, Verses 3-4

Secondly there is, albeit unrecognised at first reading, a type of shorthand, or code within Hey's script in the form of a capital letter on certain nouns to highlight them within a sentence. This was a practice in common usage in the eighteenth century, however in this instance they appear to have a deliberate clinical emphasis. Within the first five lines of the first case the words 'Membrane', 'Clots of Blood', 'Breech' and 'Brim of Pelvis' all have capital letters. Hey also used capital letters in some phrases such as 'Pulse like a Thread', and 'I told her Relatives that she was in great Danger',<sup>39</sup> all within sentences. The words and phrases with capital letters are vital signs and a form of clinical emphasis, suggesting Hey's trained awareness of such evidence-based data. There is an extra dimension in the way that he also highlighted a probable cause of a complication, for example, 'upon falling into a violent Passion at a Boy',<sup>40</sup> to explain why a miscarriage had occurred. The capital letters wane towards the end of Book 1 and there are almost no capitals in the last cases, which date from seven years after Hey began in practice and was clinically more experienced. By contrast Hey throughout his Casebooks underlined a word, or part of a phrase, only on a handful of occasions.

Hey's pattern of recording how a mother presented at the time he entered the delivery room begins in Case 1 of Book 1; he noted the state of the membranes, and if broken at what time previously; her pulse rate; the degree of opening of the Os Tincæ, by likening it to the size of a sixpence, a shilling or half a crown; the level, timing and effectiveness of her labour pains; her body type and often her personality, and most importantly any existing pathology or previous birth injuries. Almost without exception Hey named his patient, detailing her age as well as her previous maternal experiences. Those whom he did not name he termed as either 'a poor' or a 'gentlewoman'. Within five years Hey had developed a 'clinical' approach to his midwifery work, recording the atmosphere in the room where the mother was to be delivered, noting details such as 'the room was very hot and the woman

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<sup>39</sup>MS/567, Book 1, Case 3, p. 3.

<sup>40</sup>Ibid., Case 4, p. 4.

very faint and much fatigued, the weather was almost sultry which made me think it proper to order the fire to be taken away and the window to be set'. By these methods he was attempting to create as clinical an environment as he could within domestic habitations.<sup>41</sup> It may have been difficult for an unmarried twenty-three year old independent practitioner to overturn practices that had been established over several centuries with newfangled ideas, giving rise to animosity within the tight social world of a small provincial town. These practices, especially the recording of the mother's presentation clinical signs, must have arisen from his midwifery training, but the controversial ones, such as clearing the delivery room, probably resulted from the teaching of Donald Monro (see Chapter 2).

### 5.1.1 Pathways to a Delivery

When Hey was booked for a private delivery, he termed it 'I attended', and used this word for the first time only four months after he began in practice.<sup>42</sup> The following, Table 5A, shows the different terms that Hey used to describe the way that he entered a delivery room. The term 'bespoken' also means that Hey was pre-booked, and the term 'I was called', that he was asked to attend the delivery at the time labour began, or an obstetric complication had arisen. He may have been expecting to be asked to attend some of these cases, as well as the cases he termed 'I visited'. The last four categories 'I was sent for, I was desired, I was consulted and I was called in great haste' are all difficult, urgent cases with multiple complications. Hey did not indicate that he was pre-booked in any of these cases.

**Table 4A, Hey's Pathways to a Delivery**

Hey's Description of Call	Total No. Of Cases	Private Cases	Difficult Cases	Midwife Called	Midwife Present
I attended	133	133			2
I was bespoken	5	5			
I was called	191	131	60	16	43
I visited	22	22		1	6
I was sent for	74		74	8	33
I was desired	50		50	8	16
I was consulted	15		15	2	7
I was called in great	15		15		4

<sup>41</sup> MS/567, Book 1, Case 51, p. 99. The date of this Case May 1764 predates the publication of Charles White, *A Treatise on the Management of Pregnant and Lying-in Women*, by nine years.

<sup>42</sup> MS/567, Book 1, Case 7 dated 7 September 1759.

haste					
<b>Totals</b>	<b>505</b>	<b>291</b>	<b>214</b>	<b>35</b>	<b>111</b>

Wilson analysed, in general terms, the way that a man-midwife was called to a delivery in the middle of the eighteenth century, as a framework to capture the varieties of pathway. The fine detail from Hey's half a century of private midwifery practice extended forward from the period discussed by Wilson and reveals that Hey had eight different pathways to a delivery. This is the number specified by Wilson. Wilson's pathways, however, were different, have three main categories, advance, onset and emergency, and are much concerned with the presence, or non-presence of a midwife. Wilson complicates his argument with social class and pecuniary considerations by suggesting that, for example, advance calls would only have been made by the wealthy on the assumption that the birth may have complications.<sup>43</sup> The cases that Hey termed 'attended' or 'bespoken', do not conform to this criterion, because Hey's advance calls, as Wilson termed them, were not made by wealthy or gentry women, indeed the shortcomings in Wilson's argument clarify the need to use archival evidence to substantiate ideas of Georgian obstetric practice.<sup>44</sup>

The first striking fact arising from Table 5A is not just the small number of midwives acknowledged as present, only slightly more than in one fifth of the cases, but the fact that Hey said that he was only specifically requested by a midwife in thirty-five of the 111 cases where he said a midwife was present. However, the two highest pathway categories of midwife presence are 'I was called' and 'I was sent for', which could suggest that it may well have been a midwife who was responsible in some part for the call. Donnison's deliberations, although not based on archival evidence, that a man-midwife gradually came to usurp a female midwife in the latter half of the eighteenth century can be well observed from this evidence.<sup>45</sup> Certainly midwives only appear in an adjunct status in Hey's narrative. It is questionable whether an experienced midwife attended the mother during part of her delivery

<sup>43</sup> Wilson, 'William Hunter and the Varieties of Man-Midwifery', pp.349-351.

<sup>44</sup> Wilson, 'William Hunter and Varieties of Man-Midwifery', p. 350.

<sup>45</sup> Donnison, *Midwives and Medical Men*, pp. 21-61.



or postpartum in any of Hey's case histories where he was booked to attend. On the other hand the fact that Hey did not record a midwife as present does not definitively confirm that a midwife was not present in a subordinate form, merely that he did not acknowledge her. In the whole of his Casebooks he named only four midwives, Mrs. Peat, thirteen years after he began in practice, seventeen years later Mrs. Lister, and Mrs. Watson and Mrs. Coates eight years after that.<sup>46</sup>

There are few cases that could be classified as an emergency call, those that Hey termed 'in great haste' certainly, and probably a scattering of the 'I was sent for' cases. What a reader may now consider constituted an emergency call, Hey may have considered merely a challenge to his training and skill, and were in fact exactly the type of call that he would have expected. And, as the discussion below will reveal many of the cases that he termed 'attended' were dangerously life threatening. When he was called after a delivery, to a retained placenta or a post partum flood from a relaxed uterus, he personally performed the appropriate procedure.

### **5.1.2 Parturition Patient Records**

The way that a practice was built up has been the subject of debate by medical historians. Loudon's comment that the lack of first hand testimony obscures understanding of how men came to build up a large practice can be mitigated by attention to Hey's patient records.<sup>47</sup> The greater majority of Hey's patients were ordinary Leeds folk, and it should be noted, that although some men were named as merchants, they were in fact merely dealers, or commodity brokers on a small scale. Hey's Casebook records reveal the development of a socially inclusive practice, treating persons of poverty and low status, through persons of the middling ranks to those of the highest, most affluent and influential positions. They also

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<sup>46</sup> MSW/567, Book 3, Case 144, dated 12 September 1772, Book 7, Case 331 dated 1 June 1792 and Book 9, Case 426, dated 1799. The archives at Harewood reveal that in his attendance on the Lascelles family Hey was accompanied by Nurse Waddington, but her name does not appear in his Casebooks.

<sup>47</sup> Loudon, *Death in Childbirth*, p. 179

unequivocally reveal that he quickly established an independent practitioner identity and reputation within the inner and outer townships of Leeds, and was not dependent for cases upon an already attendant midwife. Indeed there are many instances where he was called directly by the patient herself. It could be argued that initially Hey had scant competition, but Dawson, as this thesis has already noted, was a skilful man-midwife. To exemplify the extent of Hey's practice I have drawn a table of the eighty-two mothers, whom the Casebooks reveal, Hey delivered on several occasions, together with the occupations of the fathers as far as I can ascertain them.<sup>48</sup> (See Table 5B below) This table may have an additional function insofar as it may represent Hey's entire practice, consisting as it does of predominantly lower to middle-ranking tradesmen, craftsmen and manufacturers sprinkled with gentry as well as poor folk. What must also be recognised is that this table is not exhaustive, because it only extends as far as those regular patients who experienced a delivery that Hey found of sufficient interest to merit inclusion in his Casebooks, and there could have been many mothers whom he delivered on several occasions whose labours were all uneventful. The figures of other, or additional normal births, shown in red, refer to the number of cases Hey referred to but did not fully detail. The period when the additional births occurred is also entered in red, for example, Hey commented in Case 162 that he previously delivered Mrs George Bischoff on two occasions between the years 1766-1770, and that he subsequently delivered her in the period 1776-1780, and that these were all normal births with no complications.

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<sup>48</sup> These occupations have been drawn from a combination of newspapers, trade directories of the period and publications on the local history of Leeds, which are too numerous to individually identify.

Table 5B Patient Records

Name of Mother	Occupation of Father	Total Births	Other Births	1759 1765	1766 1770	1771 1775	1776 1780	1781 1785	1776 1790	1791 195	1796 1800	1781 1807
Mrs. Ansley	Brewer	2	1								1	471
Mrs. John Atkinson	Linen Draper	3	1							354	1	376
Mrs. Joseph Atkinson	Bowling Green	2						286 303				
Mrs. Geoffrey Baron		5	1			1	199 222 238	250				
Mrs. George Bischoff	Merchant	4	3		2	162	1					
Mrs. Blesard	Merchant	2	1								1	476
Mrs. Blakie		5	2		2	177		265		351		
Mrs. William Brown	Banker	2				244	256					
Mrs. Richard Burton	Clothier	2			75 111							
Mrs. James Burley	Stuff Maker	3	2		2	174						
Mrs. James Blakes	Clothier	2				186	280					
Mrs. C. of Armley		4	1		117	1	255	276				
Mrs. James Chappell	Clothier	3	2						2	372		
Mrs. Coxon	Cloth Dresser	2	1							1	394	
Mrs. Crosland	Undertaker	6	4					271	4	362		
Mrs. Dixon	Tailor	3		62	93 107							
Mrs. George Dixon	Clothier	3	5							5	390 411	
Mrs. Dixon of Gledhow	Merchant	8	3						3	378 402	420	451 460
Mrs. Dunderdale	Clothier	4	2	2	84	156						
Mrs. James Fieldshaw	Watchmaker	9	2		98 2	127 142 161	202 223 237					
Mrs. Firth		4	2		121 2	164						
Mrs. Fletcher	Boat Builder	3	1							386	392 1	
Mrs. Groundwell	Clothier	8	7		3	4	235					
Mrs. John Gill	Constable	2	1					1	332			
Mrs. William Gill	Clothier	2		101	192							
Mrs. T. Gilyard	Dyer	2		5	96							
Mrs. David Hall	Stuff Merchant	2	1	32 1								
Mrs. John Hardisty	Cloth Dresser	2		29 65								
Mrs. Hare of Beeston		3	2	2	220							
Mrs. T. Harrison	Merchant	2	1			1	221					
Mrs. J. Hill	Warehouseman	2	1								1	458
Mrs. J. Holdsworth		2	1		1	133						
Mrs. F. Hoole		6	5					5	381			
Mrs. David Hudson	Innkeeper	12	9			135 1	4	4	325	358		
Mrs. David Joy	Apothecary	5				178	221	262 299	323			
Mrs. J. Johnson	Corn Factor	4	2							2	396 428	
Mrs. Kaye	Sacking & Hcmp	3	2		2	191						
Mrs. Kilby	Merchant	2	1						1	397		

Mrs. K. Knebley		3	1							373	1	443
Mrs. E. Lacelles	Gentleman	2								2		
Mrs. Lawson	Merchant	2	1							1	421	
Mrs. J. Lucas	Pawnbroker	4	3	3	79							
Mrs. Sam Miers	Painter	2	1								1	451
Mrs. Wm. Morris		2								324 333		
Mrs. Joseph Morton		2	1		1	146						
Mrs. J. Myers	Grocer	3	2	2	86							
Mrs. J. Paget		3	1			1	239	272				
Mrs. J. Parker	Merchant	5	1			157 176	227 1	262				
Mrs. T. Preston	Merchant	3	2	2	80							
Mrs. Radford	Jeweller	4	1							1	404	470 455
Mrs. Rainforth	Druggist	2	1							1	356	
Mrs. Rawson	Merchant	2	1							1	423	
Mrs. Rhodes	Wool Stapler	2										464 475
Mrs. Roberts		2	1							1	339	
Mrs. Robinson	Hosier	2	1						1	322		
Mrs. J. Russian		4	1			144 1	199 230					
Mrs. Scott		4		41 68	90 118							
Mrs. Shent		8	6			6	213 233					
Mrs. Smith	Butcher	2	1						1	304		
Mrs. Smithie	Merchant	3	2		2	131						
Mrs. J. Spencer		4	3								3	468
Mrs. W. Spencer	Linen Draper	4	2			2	207 228					
Mrs. Spink		2	1			1	216					
Mrs. T. Sutcliffe	Size Boilerman	2	1		1	147						
Mrs. Taylor	Clothier	6	3		2	160 1	200 234					
Mrs. Temple		2										456 473
Mrs. J. Thompson	Bricklayer	11	9		5	3	254	1	317			
Mrs. C. Topham	Bailiff/Innkeeper	8	7		3	4	257					
Mrs. Vickers	Pattern Maker	2									365 388	
Mrs. Vincent	Innkeeper	5	3		1	165	1	1	324			
Mrs. Vyse		2		12 46								
Mrs. W.		2	1			1	243					
Mrs. J. Walker	Salter	2	1							1	377	
Mrs. R. Walker	Liquor Sales	5	3				3	252 268				
Mrs. J. Wallis		5	2		99 2	152 183						
Mrs. J. Whitaker	Constable	2	1				1	284				
Mrs. Isaac Wilkinson		2	1				1	259				
Mrs. Wilson	Priest	3	1							1	427	471
Mrs. Wilson		4	1			1	245	294	320			
Mrs. David Wood		2										454 478
Mrs. Isaac Wood	Clothier	5		14 38 42	64 76							

The annual Hey practice accounts for the year 1827 show that at that date four percent of patient receipts related to midwifery.<sup>49</sup> If we assume that this percentage was a constant, and that the average charge for a normal delivery was half a guinea,<sup>50</sup> we could speculate an average of eighty deliveries each year. Taking the number of deliveries Hey included in 1774, fifteen years after he began in practice, and a decade later in 1784 and a decade after that, 1794, we find eighteen, fourteen and fourteen complicated deliveries respectively; an average of more than seventeen percent of this speculated number. But if we assume that the 505 cases, included in the Casebooks, fall into the four percent of parturition complications assumed by Wilson, although Wilson did not include placenta abrupta, placenta praevia, premature or tedious labour and spontaneous abortions,<sup>51</sup> then Hey's possible case load over half a century, could not have been less than 10,000 deliveries, or 200 each year, in the period of fifty years which the Casebooks cover. Undoubtedly clusters of cases would arise from time to time, and Hey noted on more than one occasion that 'he was bespoken' for a mother, whose labour began when he was already attending a patient,<sup>52</sup> yet this number appears implausibly high and casts serious doubt on assumptions, such as those made by Wilson, without evidence from archival sources.

### 5.1.3 Comparison of Hey with some Contemporary Practitioners

Hey's sets of patient records can be compared to the sixteen similar midwifery patient records within the 147 case histories compiled by Dr. David MacBride in Dublin, between the years 1751 and 1759.<sup>53</sup> Recognition of MacBride's work as a domiciliary man-midwife has been overshadowed, like Hey's, by his eminence and publications in other fields, but his

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<sup>49</sup> WYAO, The Hey Papers DB 75/20, Annual Accounts for 1827. Receipts from Bills and Fees £3,912 9s 4d, Midwifery £161 7s 6d, and Till £33 2s 1d.

<sup>50</sup> For detail on midwifery receipts see. Lane, 'A Provincial Surgeon and his Obstetric Practice: Thomas W. Jones of Henley-in-Arden, 1764-1846', pp. 333-48.

<sup>51</sup> Wilson, 'William Hunter and the Varieties of Man-Midwifery', p. 355.

<sup>52</sup> For example MS/567, Book 8, Case 379.

<sup>53</sup> D. MacBride, 'Miscellanea Medica 1749-1760', section entitled 'Journal of my Practice of Midwifery', National Archives of Ireland, ref. Dublin 22, Bundle 13. I am grateful to the Master of the Rotunda, Dublin, Dr. Michael Geary for his permission to consult and quote from this manuscript.

midwifery work was known to Hey who referred to it in a 1784 gynaecological case.<sup>54</sup> Whilst Hey's patient records concentrate on complications, the greater majority of the fifty-six deliveries included in MacBride's sixteen sets of patient records concern normal deliveries. The very fact that MacBride's were normal deliveries serves to demonstrate the ease with which a midwifery practice could be built up from the middle of the century. MacBride was a Presbyterian from the small village of Ballymoney in County Antrim who, after an apothecary apprenticeship in his home area became a surgeon's mate on a hospital ship. He then had surgical training in Edinburgh from Monro *Primus* followed by midwifery training in London from Smellie before returning to Ireland in 1749, and within a year had set up a successful practice in Dublin, amidst the Catholic poor and the Presbyterian elite. His consecutive sets of normal deliveries began the following year, and he attended one patient, Mrs. Ferguson, in six natural births from 1752 to 1759.<sup>55</sup>

An example of the extent of a private practice later in the century can be drawn from the 422 both normal and complicated deliveries, almost one every week between 1791 to 1800, detailed in the Casebook of Thomas Jones in Henley-in-Arden, a sparsely populated area of Warwickshire.<sup>56</sup> Jones also had specialist midwifery training in London from the man-midwife Osborne. Hey kept a copy of MacKenzie's Lectures, MacBride kept a copy of Smellie's lectures, and Jones a copy of Osborne's. This tells us how important, instructive, even inspiring their midwifery teachers were to these three men whose experience spanned the second half of the eighteenth century.

A further element that is not found in either Hey's or MacBride's Casebook but is found in that of Jones, is financial detail against each entry. The amount Jones charged for a normal delivery was half a guinea, and his costs increased depending on the length of time he treated his patient as well as the extent of her complications. It also shows payment from the

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<sup>54</sup> MS/268, Book 7, pp. 213-217, dated September 1784 and MacBride, 'An account of two extraordinary cases after delivery'.

<sup>55</sup> MacBride, *Miscellanea*, Case eight dated 25 March 1752, Case 16 dated 8 April 1754, Case 31 dated 20 March 1755, Case 52 dated March 1756, Case 102 dated summer 1758 and Case 145 dated Autumn 1759.

<sup>56</sup> Lane, 'Thomas Jones of Henley-in-Arden, 1764-1846'.

Overseers of the Poor. An additional element of comparison can be found in the 106 published case histories that extend from 1769 to 1788 of Edward Rigby, although these cases all involve one type of parturition complication, that of placenta praevia.<sup>57</sup> Rigby was appointed midwifery practitioner to the Overseers of the Poor of Norwich and thirty-four of his case histories refer to poor women. Although Hey was only appointed as apothecary to the poor in 1762 to 1763, twenty-seven of his 505 cases related to poor women. Some of MacBride's cases related to poor women, and John Harvie also noted that his 'pupils delivered many poor women' in London.<sup>58</sup> This element had the dual advantage of providing advanced skilful midwifery to the most disadvantaged members of society, and at the same time a number of compliant patients for a practitioner paid for by the parish.

The rarity of the Hey, MacBride and Jones' midwifery practice records stems from their very survival. At the time that they were compiled they were probably no more than typical of many, and together they represent three different aspects of practice that could have been again typical of many. Hey's clinically detailed accounts tell us of the dramatic difficulties encountered, MacBride's demonstrate how a trained outsider could build up a practice, and the careful accounting of Jones reveals that a good steady income could be achieved from this part of medical practice.

In the 480 numbered and additional twenty-five cases in Hey's midwifery archive there are only sixty-one maternal deaths and 134 non-survivals of viable babies. Both maternal and foetal deaths arose from a variety of causes, almost without exception beyond the available treatment options of the time. There were twenty-five foetal and four maternal deaths in MacBride's Casebook. A brief analysis of the causes of death of Hey's patients will be considered at the end of the chapter, but I argue here that Hey's preservation of 444 maternal lives out of 505 obstetric complications was a significant achievement, as was the initial survival of over seventy percent of the new-born. An analysis of the type of

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<sup>57</sup> Rigby, *An Essay on the Uterine Haemorrhage*, Rigby was greatly influenced by MacKenzie's discoveries of the anatomy of the human placenta, p.27.

<sup>58</sup> J. Harvie, *Practical Directions Shewing A Method of Preserving the Perineum*, p.41:

complication that Hey encountered reveals, almost without exception, that they were multiple.

Within Hey's 505 case histories seventy-four refer to a complication in the delivery of a first child, but this again is no indication of the number of first deliveries that a man-midwife such as Hey may have done. MacBride had eight in his first decade of practice, but Jones did not identify first deliveries. Within Hey's case histories there are fifty-seven cases, or 8% to 9%, where forceps were used, either as a complete instrument or one part as a lever. Jones used forceps in six cases out of 422, or 1.4%, and MacBride in five out of 147, or 3%. The use of forceps was conditional upon certain circumstances, and these small numbers tend to indicate the acute awareness of these circumstances and prudent use, and also dispel the idea that the increasing use of forceps was a significant reason why men-midwives achieved a large private practice.<sup>59</sup> The higher frequency of Hey's use of forceps is accountable from the Casebook selection of only difficult births. Hey had twenty-one cases of twins all with complications, Jones had eight and MacBride four.<sup>60</sup>

This first section has revealed the complexity and extent of Hey's midwifery practice, and set it in a comparative context so far as surviving material allows. No completely reliable generalizations can be drawn on the many issues involved. Hey's Casebooks appear unique in terms of their length, recording of obstetric detail, and concentration upon complicated birth. Even this preliminary overview has additionally been able to utilize material from Hey's and others Casebooks that suggest that certain kinds of current assumptions - the role of forceps in male midwifery, the statistical rate of difficult or complicated births - are by no means standardly applicable. Additionally we have derived a reasonably firm sense of the social structure of Hey's provincial practice, ranging from lowest to highest certainly, but characterized particularly by presence of the urban lower

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<sup>59</sup> Loudon, *Medical Care and the General Practitioner*, pp. 85-99, and notes 11-68

<sup>60</sup> There is one account of a natural birth of triplets in Hey's Common Place Book that were delivered by his son Richard, MS/1587, and in MacBride's Miscellanea on p. 165 An Account of the Birth of Co-Joined Twins in January 1756.



middling-ranks of small producers and traders. The following deeper systematic study of case histories and complication deliberations will open up further issues of evidence and interpretation.

#### **5.1.4 A Review of Four sets of Hey's Patient Records**

I have selected for detailed discussion four sets of patient records that spread over the whole period of Hey's practice. No such other consecutive patient records are known, and these records provide matchless insight into a provincial midwifery practice. Mrs. Isaac Wood, one of Hey's first patients, is typical of the sort of case involving a skeletal deformity that a mid-century male practitioner was often called to when the foetus became impacted. By contrast Mrs. James Fieldshaw and Mrs. David Hudson were two healthy women who were part of the ordinary folk in Leeds town whom Hey attended respectively in nine and twelve normal deliveries. To conclude this section I shall discuss the deliveries of Mrs. Lydia Dixon, who, despite being a wealthy merchant's wife displayed evidence of malnutrition that tested Hey's skill in an unusual way.

#### **Mrs. Isaac Wood, MS/567, Book 1, Cases 14, 38, 42, 64 and Book 2, Case 76.**

Hey 'was called to the wife of Isaac Wood in Marsh Lane about noon' on 6 February, eight months after he began in practice.<sup>61</sup> Labour had begun the night before and a midwife had been with her for three hours before Hey was sent for. When Hey arrived an arm and the funis presented. The midwife told Hey that she had previously delivered Mrs. Wood of a dead child and knew of others who also had been stillborn. Hey found 'a narrowness of the pelvis' and the midwife told him 'that she greatly feared that the head would be separated from the body' on delivery. Hey found that the 'Os Tincae was open to the Size of a Crown Piece [but] the jetting-in of the 1<sup>st</sup> Vertebra of the Sacrum was so great', that Hey could feel it with his 'Finger'. The pains were 'not very strong at about 10 Mins Interval'. Hey left her and returned at 3 o'clock to find that the 'Pulsation in the Funis' had ceased. He remained

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<sup>61</sup> MS/567, Case 14, p. 21 dated 6 February 1760.

with Mrs. Wood all night as the 'Pains' increased in 'Force and Quickness'. As the child's head was firmly pressed against the 'Brim of the Pelvis' Hey 'thought it best to delay the Delivery no longer. He positioned Mrs. Wood 'upon her Back with her Breech...raised with a Pillow [and] introduced the Fingers of my [his] left hand into the Vagina and along them past the long Scissors which I [Hey] plunged into the Head...and broke down the Structure of the Brain with the small end of the Blunt Hook'. Hey then pulled with his 'Fingers...at the Parietal Bone, but could not move it...for the Base of the Skull remained above the Rim of the Pelvis'.<sup>62</sup> Hey's attempts were frustrated by 'the Narrowness of the Pelvis...and the Slipperiness of the Head'. Hey decided to take 'hold of the Neck, and by it extracted the Shoulders'. He was somewhat surprised 'as the Face came out towards Sacrum' and concluded that 'Even in this Case Nature made the mechanical Turns as when the Head is whole'. He found that the placenta came away easily and he left her after giving her a dose of 'Laudanum...she recovered very well without any bad Symptoms'.

Hey was called again to Mrs. Wood two and a half years later to the labour of her fifth child, one having been born in between his last attendance and this, but Hey had not delivered her.<sup>63</sup> It was a similar situation to his first attendance on her, and after waiting a day because her 'Strength failed much I laid hold of the Feet...but the Head stuck at the Pelvis and required some Force to bring it away'. Fourteen months later Hey was called to her sixth labour after the midwife had been with her for two days.<sup>64</sup> Hey found Mrs. Wood very fatigued and delivered her by 'bringing down the Feet'. He noted that her recovery was not so good this time and that she had a persistent cough since her last labour, suggesting that he was treating her regularly for other ailments.

He was called again when her seventh labour began eighteen months later,<sup>65</sup> and found that the 'Funis was in the Vagina with a lively Pulsation in it', and as Hey 'knew it

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<sup>62</sup> Ibid., pp. 14-16.

<sup>63</sup> Ibid., Case 38, p. 63 dated 25 September 1762.

<sup>64</sup> Ibid., Case 42 dated 6 December 1763.

<sup>65</sup> Ibid., Case 64 dated 6 June 1765, p. 135.

would be in vain to attempt saving the Child's Life', he allowed the labour to proceed overnight. When he returned 'the next Day the Pulsation in the Funis had ceased...abt 11am I hooked one of the parietal Bones...with my Nail'. He judged that the child was dead and 'opened the Head with the long Scissors'.<sup>66</sup> Having completed his account of this delivery Hey wrote 'having twice Delivered this Woman by turning the Child and twice by opening the Head, an Opportunity has been afforded me of comparing the Effect of these different Methods'.<sup>67</sup>

Hey compiled Mrs. Isaac Wood's terminal delivery with no capital letters.<sup>68</sup> He said that 'he was bespoken to attend' her but her labour began at eight months with a flood. Hey gave her medication and returned two days later the flood having abated. Nine days after he had been originally called the discharge 'was chiefly serous' and her husband informed Hey that the flooding had returned. Hey considered 'that he [Mr. Woods] had exaggerated the account of his wife's condition as he had done before'.<sup>69</sup> Perhaps Hey's confidence was somewhat shaken because he remarked that 'he was surprised to find her much altered...her countenance was become very pale [and] her pulse quite thready'. On examination Hey found 'a rough substance that I [Hey] judged to be the placenta...[and] the vagina was filled with coagula which were frequently discharged by the handfuls'. From Hey's comment at the end of her last delivery it could be argued that when he was 'bespoken', (booked to deliver) he considered that he would be able to cope with the delivery, but he had not anticipated a placenta praevia. Hey considered 'that as her case was so very dangerous I had a desire to have the concurrent opinion of some other practitioners, for the satisfaction of her friends and neighbours. I therefore immediately went home in haste intending to bring Mr. Dawson with me, or Mr. Glover, (who had been sent by the overseers to visit her a little

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<sup>66</sup> Ibid., p. 137.

<sup>67</sup> Ibid., p. 137.

<sup>68</sup> MS/567, Book 2, Case 75, p. 4 dated 7 July 1766.

<sup>69</sup> Ibid., p. 5.

before I came)'. However Hey returned alone,<sup>70</sup> to find Mrs. Wood 'attended with such convulsive motions as appear in animals in the article of death'. This was an extremely alarming situation and possibly a delicate one also. This delivery now not only had a narrow pelvis, a placenta praevia, convulsions, but also a woman extremely fatigued by her nine days of labour. He 'delivered footling', and after 'the extraction of the placenta, she remained cold all the day'. Hey did not visit until two days later but sent medications, the following day the '19<sup>th</sup> she was prettily' but on the next day she had cold shuddering fits with much pain over her body. Hey noted that 'the weather was warm and a window near her bed was opened...the wind blew directly upon her'. He later questioned if 'this indiscretion had been the cause of the subsequent bad symptoms'. Mrs. Woods died ten days later from a fever after successive shuddering fits lasting many days.<sup>71</sup>

With hindsight we can clearly see that Mrs. Wood's successive pregnancies would never have resulted in a living child, and that Hey was probably bespoken in her last pregnancy as much to ensure maternal survival as to deliver a living child. Had both Dawson and Glover either not quailed and declined to be associated with what they both probably knew was certainly going to be a maternal death within the suburban area of their practice, or had not both such pressing business to attend to, the outcome would probably have been no different. To Hey's credit he stayed with her until the last day recording her vital signs, and in the last phrase in the last sentence of this case history, capital letters reappear, 'Died the 30<sup>th</sup> early in the Morning'.<sup>72</sup>

To put Mrs. Wood's case into the perspective of Hey's general caseload at the time will aid appreciation of the pressures that a man-midwife worked under at this time. She came into labour, by flooding at eight months at the beginning of July 1766. He was 'bespoken' and therefore not expecting to attend her for another month. At the beginning of July he was already treating three medical patients for chronic illness, one who lived in

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<sup>70</sup> Ibid., p. 6.

<sup>71</sup> Ibid., p.7

<sup>72</sup> Ibid., p.7

Pudsey some six miles outside Leeds, visiting them all on a daily basis.<sup>73</sup> During Mrs. Wood's terminal decline six days after he delivered her, another regular midwifery patient, Mrs. Lucas, also with a narrow pelvis went into labour and he attended her delivery, which was extremely difficult.<sup>74</sup> The following day he operated for a strangulated hernia in the home of a patient in Bramley.<sup>75</sup> The length of time that Hey spent visiting each of these patients on horseback over the Leeds hilly terrain was undoubtedly considerable, and he may have had other patients that are not included in his casebooks.

Further points emerge from Mrs Wood's patient records, such as the adaptability a man-midwife, such as Hey, had to have in coping with different presentations resulting from the same skeletal deformity as deterioration of the condition took place. Hey utilized different techniques then recorded his opinions as to their effectiveness for comparison in later deliveries. He also exercised judgement on the life-threat to his patient and focused his attention on the preservation of her life.

The next set of patient records, those of Mrs Fieldshaw, merits interest because Hey was familiar with the family. They began two months before Mrs. Woods died in May 1766.

Mrs. Mary Fieldshaw MS/567, Book 2, Cases 98 & 127, Book 3, Cases 142 & 161, Book 4, Cases 202 & 223 and Book 5, Case 237

Mary Hardcastle married James Fieldshaw, a watchmaker, on 8 May 1766.<sup>76</sup> They set up their marital home and business premises at the back of The Shambles, behind The Moot Hall at the top of The Briggate, as Hey said, 'a short step away from my home'. James Fieldshaw was noted for his modest prices; watches were fashionable commodities at that time, and Hey was constantly referring to his watch, possibly purchased from Fieldshaw.<sup>77</sup>

<sup>73</sup> MS/628, Book 2, Cases 26, 27 & 28.

<sup>74</sup> MS/567, Book 2, Case 79.

<sup>75</sup> MS/628, Book 2, Case 29.

<sup>76</sup> WYAS, Parish Church Registers, Ref. 68

<sup>77</sup> *Leeds Mercury*, 24 April 1770.

Hey attended 'Mrs. F.' as he called her, in the labour of her second child twenty-one months after her marriage.<sup>78</sup> He had attended her first labour which must have been in the spring of 1767 because he later recorded that she had flooded 'very much after the placenta came away in all her labours except the first, and knew that her pelvis was very large'.<sup>79</sup> The reason the second delivery was recorded was because the placenta was only removed by 'some force by pulling on the funis', resulting in a flood.<sup>80</sup> Hey then manually removed clots of coagulated blood from her uterus and Mrs. F. 'was seized with violent sickness and fainting' but Hey remarked that it did not become 'a deliquium'.<sup>81</sup> He considered that 'the placenta had been attached 'to the posterior part of the uterus [and] its place of attachment was covered as it were with fimbriated coagula'.<sup>82</sup> There are no particular instructions in MacKenzie's Lectures regarding the extraction of a placenta, or clots of coagulated blood, and the instruction given by Smellie to speedily remove coagulated blood and support the patient with frequent red wine or broth<sup>83</sup> was not improved upon by Harvie.<sup>84</sup> Hey's methods at this time to remove coagula were therefore the ones in normal use by men-midwives.

The account of Mary Fieldshaw's fourth delivery is four years later; there is no account of her third, but in her fifth labour Hey remarked that 'she was so much reduced by the discharge in her third labour and had so long an illness after it, that I dreaded attending her the fourth time'.<sup>85</sup> As usual her labour was natural and the child large and lively. Hey 'laid [his] hand upon the abdomen as usual'; the placenta did not 'advance readily' until he

<sup>78</sup> MS/ 567, Book 2, Case 98, p. 63 dated 20 February 1768.

<sup>79</sup> MS/567, Book 3, Case 142, p. 44, see also Loudon, *Death in Childbirth*, Chapter 6, Obstetric Haemorrhages, Loudon points out that a flood of blood is a truly an alarming experience.

<sup>80</sup> *Ibid.*, Book 2, Case 98, p.64.

<sup>81</sup> *Ibid.*, p. 65. There are grey areas in Hey's use of the word 'deliquium', there are cases where it could suggest just acute anxiety, others where it could suggest the onset of mania, yet others where it suggests only a faint, but in this case my judgement is that Hey considered the fainting a warning sign towards the possible onset of a convulsion or even mania.

<sup>82</sup> Quincy, *Medical Dictionary*, p. 346, Fimbriated is a jagged or fringed edge like a fern, denoting a deeper centre, J. Munro-Kerr, *Operative Midwifery* (London, 1908), 10<sup>th</sup> edition (1982), p. 204, states that such a condition predisposes post partum haemorrhages.

<sup>83</sup> Smellie, *Theory and Practice of Midwifery*, pp. 403-5.

<sup>84</sup> Harvie, *Practical Directions*, section on 'Delivering the Placenta Without Violence', pp. 12-48. See also comments by E. Shorter, 'The Management of Normal Deliveries', p. 378.

<sup>85</sup> MS/ 567, Case 142, p. 43.

pulled on the funis.<sup>86</sup> Fluid blood flowed, in Hey's opinion 'in too great a quantity' and he decided to grease his hand and remove the coagula from her uterus. This procedure resulted in sickness and fainting, as in her second delivery. Hey was aware that a post partum flood would probably occur, although he would not have been able to recognise that the condition he had previously identified as a fimbriated state of her uterus, could have been the cause.

Hey returned to see her in the afternoon of her delivery then visited daily, sometimes twice a day. A post partum condition, which Hey identified as 'cramp' came on as he said it had in previous 'pregnancies and labours';<sup>87</sup> the use of the term 'pregnancies' is an indication that Hey had been treating her for gestational ailments before he was called to deliver her child. He became alarmed when she suffered a shivering fit on the second day after delivery and her lochia dried up on the third day, fearing the onset of 'a fever of the true puerperal kind'<sup>88</sup> He paid much attention to the state of her breasts during the eight days of her recorded post-natal care and concluded that 'he durst not let her attempt to suckle this child' but did not set out his reasons.

When Hey attended her fifth delivery the following year he noted that he was prepared for her post partum flood, and a further condition that he only mentioned in this delivery, 'a nervous fever which sometimes threatened to end in a mania'.<sup>89</sup> This could explain Hey's indeterminate use of the word 'deliquium' in her second delivery, and suggests that he considered this patient likely to develop puerperal mania. As usual Mrs. Fieldshaw's fifth delivery was natural and the placenta came away readily. However this time on the advice of 'Mr. White of Manchester [who], recommended a week or two before when I [Hey] waited upon him at his house', Hey left the body of the child in the vagina until a pain came on and the shoulders came out by the natural efforts. This may indicate that in previous deliveries he had assisted the delivery by pulling on the body of the child. After the child had

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<sup>86</sup> MS/567, Book 2, Case 127, p. 162.

<sup>87</sup> Ibid., p. 163.

<sup>88</sup> Ibid., p. 168. A shivering fit was the classic sign of the onset of puerperal fever. See Loudon, *The Tragedy of Childbed Fever*, p. 5.

<sup>89</sup> MS/567, Book 3, Case 142, p. 42 dated 17 July 1772.

been delivered this time he 'laid my [his] hand upon the abdomen, and dragged down the fundus uteri...immediately after delivery as Mr. Underwood advised me'.<sup>90</sup> This is a further indication that the discussion of preventing post partum floods was taking place nationwide and interested man-midwives were exchanging views at this time. Despite this procedure her uterus again relaxed and to Hey's alarm the quantity of blood discharged 'rather exceeded mediocrity'.<sup>91</sup> Hey continued to exert manual pressure on the top of the fundus uteri for more than half an hour, but remarked that his patient remained in good spirits despite the 'not inconsiderable loss of blood'. The evening of Mrs Fieldshaw's delivery was warm and Hey took 'care that the windows of her room were open and the curtains drawn before them'. He was called back two hours later but 'found her recovered upon stepping to see her, she lived very near me'. Again Hey 'forbade her giving suck' but did not set out his reasons.

The sixth child, again a normal delivery, was born two years later.<sup>92</sup> The placenta was 'separated by the same pain that had expelled the lower extremities of the child'. Both the placenta and the child were described as large, and being apprehensive of the usual flood Hey exerted pressure upon the uterus for three quarters of an hour. This time Hey recorded her pulse several times during the delivery and immediately afterwards, but said it was only the heat of the July day that really disturbed her.

The seventh delivery, not quite eighteen months later, was of a very 'lusty' child although he said her labour pains this time were 'twice or thrice pretty forcible'.<sup>93</sup> The placenta, again described as large, 'was lying within the Os Tincae immediately the child was delivered'. It was not completely expelled until three quarters of an hour had passed and 'two coagula each weighing three or four ounces were also expelled'. After the placenta 'a coagula of betwixt about twelve ounces was expelled'.<sup>94</sup> No further flooding came on and the following day her only complaint was the usual post partum cramp but this was so severe

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<sup>90</sup> Ibid., p43

<sup>91</sup> Ibid., p. 43.

<sup>92</sup> MS/567, Book 3, Case 161, p. 127 dated 23 July 1774.

<sup>93</sup> Ibid., Book 4, Case 202, p. 82 dated 15 February 1776.

<sup>94</sup> Ibid., p. 83.



in one leg that she could not lie still in bed; this was reported to Hey by 'the nurse', not a midwife, who came to Hey for a medication prescription. A fever came on the following day and for the next two days Mrs Fieldshaw had 'a plentiful sweat'. Hey was thankful that a flood had been avoided, although in fact it had not been avoided, the blood had merely coagulated.

A little over a year later Hey attended her eighth labour which was again a normal natural birth. The placenta 'did not come down in a globular form, but its interior part was rather outward'.<sup>95</sup> There is indication of serious concern in Hey's comment that his 'hand was almost incessantly applied to the fundus uteri for an hour and a half after the birth of the child'. When Hey removed his hand to tie off the funis fluid blood poured out. It was some time before the uterus contracted and he could draw 'away the dirty cloths and place my patient properly in bed'.<sup>96</sup> All went well until 'the seventh day at noon when a sudden flooding came on'. On examination Hey found her 'Os Tincae somewhat open...and either a small portion of the placenta or some clot of blood had remained'.<sup>97</sup> This examination caused Mary Fieldshaw so much pain that an opium draft had to be given and for three days this excessive bleeding continued. On the tenth day after her delivery 'Mr. F. came for me about 10 o'clock, imagining his wife to be dying'. Hey found her very pale, and with a pulse at 114, 'her case was now alarming', and had no option but to manually search her uterus. This he did and found a small lobule of the placenta that he likened in size 'to a nutmeg'. When he had extracted this the uterus closed upon his fingers and the flooding ceased. In remarks entered after this case Hey remonstrated with himself for not recognising that the unusual placenta had not been complete when he had extracted it.<sup>98</sup>

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<sup>95</sup> MS/567, Book 4, Case 223, p. 138 dated 24 May 1777.

<sup>96</sup> Ibid., p. 139.

<sup>97</sup> Ibid., p. 140.

<sup>98</sup> Ibid., p. 142.

In the last case that Hey recorded of Mrs. Fieldshaw eighteen months later in November 1778, a flood did not follow the normal delivery of the child and the placenta.<sup>99</sup> Hey attributed this to the fact that Mr. F. 'had been much reduced in his circumstances', and that Mrs. F. had been 'obliged to do all the business of a maidservant during her pregnancy'. For the previous three years Mr. Fieldshaw's business premises in The Shambles had been used as a milliners shop.<sup>100</sup> However there is no detail of where the Fieldshaws were presently living. Hey attributed all the extra activity that Mary Fieldshaw 'had engaged in to the strengthening of her habit and the raising of her low spirits'. Hardly able to accept that the usual flood did not occur Hey remained with her some time until he found that her uterus had contracted 'into a hard round ball'. He concluded the case by saying that 'the vigour of the uterine contraction was very great and very pleasing after all the anxiety which her former labours had given'. This delivery, only a month after Hey resumed his practice after an absence of five months, raises a further point, because Pearson, who had maintained the private practice whilst Hey was away, had not received particular midwifery training. It could well be that Mrs Fieldshaw had had to become more self-sufficient because Hey was not there to consistently consult, and further that Hey's anticipated anxiety could have been exacerbated by the injury that he had sustained. Lengthy pressure application upon an un-responding uterus was the sort of demanding physical labour that required more strength than an injured man would have had.

Mary Fieldshaw's midwifery records reveal that despite eight normal deliveries she owed her life in six of them to the post partum care that she received from Hey. They reveal the need for hard physical labour, the care needed to ensure that coagulation had to be carefully removed, and that attention to the complete removal of a placenta was paramount. They also demonstrate that skilful midwifery went far beyond the actual delivery of a living child but incorporated above all the preservation of the mother.

<sup>99</sup> MS/567, Book 5, Case 237, p. 4 dated 10 November 1778.

<sup>100</sup> *Leeds Mercury* 7 November 1775 advertised the shop in The Shambles formerly occupied by James Fieldshaw now full of new millinery from London.

Mrs. David Hudson, MS/567, Book3, Case 135 and Book 7, Cases 325 and 358

Hey first encountered Mrs. Hudson, an innkeeper's wife in the delivery of her first child in early December 1771.<sup>101</sup> He was sent for, although there was a midwife present, but it does not seem to have been an emergency call because the membranes were unbroken. He found her 'a healthy young woman', and on examination of her belly that her child was in a 'praeternatural position...[but could not] distinguish the presenting part...tho the pelvis seemed capacious enough'. The labour progressed and Hey decided to rupture the membranes, after which a foot and knee presented. This case is a short one-page account, and Hey said 'the child was living when extracted as far as the belly'. Delivery of the head was difficult and he was 'obliged to ask the assistance of the midwife'. He did not record that the child died, but he did say that Mrs. Hudson recovered 'without one bad symptom'.

Mrs. Hudson's next case history is seventeen years later, after Hey had attended her in many normal deliveries, because the delivery did not proceed in the usual manner.<sup>102</sup> The head did not descend and Hey concluded that one foot of the child was obstructing delivery by being positioned above the rim of her pelvis. Hey 'immediately sent for my forceps, and applying the anterior blade so as to include the foot along with the head'. The child was now delivered with ease. This is a short, barely one and a half page account by contrast to her next delivery, which ran to six pages of text. At this time, five years later, Mrs. Hudson was 'forty-five years old and in labour of her twelfth child'.<sup>103</sup> Hey had now been attending her for twenty-two years. He was called this time 'betwixt six or seven in the evening', the membranes had already broken and he found that she had dilated to the breadth of half a crown. Despite strong labour pains the child's head did not advance and a 'large tumour formed on its scalp'. At eleven he applied forceps, then withdrew them, and the child was born alive by natural efforts three quarters of an hours later, and 'no mark of the instrument appeared on its head'. Despite the placenta separating readily the uterus relaxed. Hey waited

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<sup>101</sup> MS/567, Book 3, Case 135, p. 17 dated 6 December 1771.

<sup>102</sup> MS/567, Book 7, Case 325, p. 20 dated 28 July 1788.

<sup>103</sup> Ibid., Case 358, p. 148 dated 10 June 1793.

one and a half hours after the birth before he left her but was 'called back again in great haste before I got to bed'.<sup>104</sup> He then applied cold-water cloths to her body and constant pressure of the fundus uteri, administering brandy in addition to the opium he had given her before he had previously left her. It took a further hour and a half before the uterus contracted. Hey saw her daily throughout her recovery, which was slow, marred by shivering fits, pain and a rapid pulse.

It would seem that only the first and the last of Mrs. Hudson's twelve labours had produced complications. What this set of patient records reveals, besides the multiple attendance at normal deliveries, is the relative reticence that Hey had in the use of forceps. In 1788 he had had to send for them, suggesting that he did not normally carry them, especially to deliveries that he had previously regarded as normal. At the time he delivered Mrs. Hudson in July 1788 Hey was Mayor of Leeds and involved in serious legal actions at York Assizes. Evidently such serious matters did not prevent him from attending to his booked midwifery patients; neither did they induce him to use forceps unless it was appropriate. However it is salient to note that when Hey did consider the use of forceps appropriate, he was immediately decisive and did not hesitate to use them, though we may note further, forceps used to facilitate natural delivery, rather than extraction of the child.

Mrs. Dixon of Gledhow, MS/567, Book8, Case378, Book9, Cases 402&420, and Book10, Cases 451& 460

A little over a year after Mrs Hudson's last delivery, in November 1794 the patient records of Mrs Lydia Dixon of Gledhow begin. In July Lydia Parker had married John Dixon, the brother of Jeremiah Dixon FRS and the eldest son of John Dixon, who had been High Sheriff of Yorkshire in 1758. The Dixon family were wealthy merchants and had rebuilt Gledhow House in 1750 making it the grandest merchant's house in Leeds.

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<sup>104</sup> Ibid., 152.

Hey was in attendance at Lydia Dixon's fifth labour and had been 'called betwixt 3 & 4 in the morning'.<sup>105</sup> Recalling her pregnancy experiences, before he attended this labour, Hey said that in her previous four deliveries, although natural, each had been followed by violent flooding at the extraction of the placenta. He said that 'she had very nearly lost her life after the first labour' and that 'her second and third deliveries were so dangerous that I was requested to attend with Mr. Lucas at her fourth labour'. Hey was not 'called upstairs till about three hours after the extraction of the placenta [when] she was much reduced with the haemorrhage' and Lucas was 'applying ice to her abdomen and administering wine and brandy'. At the fifth labour, because Hey said that he 'was bespoken' he had had time to determine what methods he would use. He had 'communicated with her [Lydia's] mother-in-law, who had informed him that the slightest blow upon her arms would be followed by vibices'.<sup>106</sup> She had been subject to this condition for several years.

Her fifth labour began after she had had 'a six miles carriage drive'.<sup>107</sup> The labour proceeded steadily and the child was born about half past nine in the morning. In a rare, almost unique comment, Hey noted the sex of this child, a boy.<sup>108</sup> Hey had 'resisted the expulsion of the child', by holding his hand firmly against her perineum to keep the child's head in her vagina, in the hope that the separation of placenta from the wall of the uterus would be delayed, to no avail because the placenta was brought down by the same pains that expelled the child's extremities. Mrs. Dixon's uterus contracted into a hard ball and Hey tied off the funis in order that he 'might be at liberty to attend to Mrs. D. whose danger now commenced'.<sup>109</sup> He administered Madeira wine to her as 'fluid blood began to flow...and a large coagulum was discharged'. Mrs. D. began to have palpitations as Hey continued for two hours exerting pressure on her fundus uterus while the placenta was still in her vagina. He then gave her brandy and her palpitations and the noise in her ears ceased. During the

<sup>105</sup> MS/567, Book 8, Case 378, p. 55 dated November 1794.

<sup>106</sup> Quincy, *New Medical Dictionary*, p. 827, vibices is ecchymosis or subcutaneous bleeds.

<sup>107</sup> MS/567, Book 8, Case 378, p. 57.

<sup>108</sup> This child was named Henry and later became the heir to the Dixon fortune.

<sup>109</sup> MS/567, Book 8, Case 378, p. 58.

second hour she became agitated, 'talked and laughed', causing Hey to request that she would lie still. He did not extract the placenta until one hour and fifty-minutes after the delivery.<sup>110</sup> Hey said that he had 'scarcely washed his hands', before her uterus relaxed and the palpitations returned. He had to exert pressure upon her uterus for a further hour, putting cold-water cloths on her abdomen at the same time. He remarked upon the slightness of her frame and administered more brandy and wine gruel, noting that her pulse fluctuated always above a 100.

Hey left Mrs. Dixon 'three and a half hours after her delivery, being sent for to another labour'.<sup>111</sup> He 'ordered the nurse to continue with the pressure upon the abdomen and to bind a soft cloth around it',<sup>112</sup> a possibly surprising action given the status of the patient, who was clearly not out of danger, but was left in the care of an auxiliary person. He did not return for two days, when he found her recovering and then left for a further two days.<sup>113</sup> Hey included one and a half pages of remarks after this case in which he pondered whether Mrs. Dixon 'had a tendency to a dissolved state of the blood or...a relaxation of the arterial system'.<sup>114</sup> The exact meaning of Hey's terms 'dissolved' and 'relaxation' cannot be determined, but I suggest that Hey observed that Lydia Dixon's blood was not the type of blood he would normally expect.<sup>115</sup> He was at a loss to explain the reason for her continuous flooding but said that the administering of 'spirituous liquors had been very beneficial'.

Lydia's next labour, not quite three years later, began on a Friday afternoon.<sup>116</sup> This time Hey slept overnight, but as the pains were trifling he left her on Saturday and did not return until Sunday evening. The pains were still 'distant and weak' and Hey 'went to rest'. He was called from his bed 'soon after 1 o'clock and the child was born half an hour later'.

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<sup>110</sup> Ibid., pp. 61-62

<sup>111</sup> Ibid., p. 64.

<sup>112</sup> Ibid., p. 64.

<sup>113</sup> Ibid., p. 65.

<sup>114</sup> Ibid., p. 67.

<sup>115</sup> Speculation could say that Lydia Dixon's blood was thin, 'dissolved', because she was under-nourished and therefore anaemic, and credit Hey with recognising the condition. Speculation however, could also point towards Lydia Dixon having possible further underlying pathology that would have been outside the bounds of medical knowledge of the period to ascertain.

<sup>116</sup> MS/567, Book 9, Case 402, p. 8 dated 28 July 1797.

Glasses of wine were immediately given to Mrs. Dixon as Hey 'resisted the expulsion of the placenta by a gentle pressure with a soft cloth. Her pulse came down to sixty and she had noises in her head'.<sup>117</sup> Hey did not move her from the position in which she had been delivered for two hours, and only moved her then because she had cramp in her legs. Mrs. Dixon questioned why he had not removed the placenta from her vagina, and he told her that it was to her advantage and that he could remove it at any time. He then left her and did not return until five and a half hours after the delivery but did not extract the placenta for another hour and a half.<sup>118</sup> He extracted it by wrapping the funis around a folded cloth and gently pulling upon it. There was no flood apart from a few small coagulated clots. These clots returned on the seventh day but she was so well that she began walking about on the eighth day.<sup>119</sup> Hey continued to visit her for a fortnight and as with Mrs. Fieldshaw he advised against suckling the child herself, but gave no reason why. The two pages of remarks after this case contain a very significant fact. Hey remarked that he had instructed Mrs. Dixon's nurse to be certain that Mrs. Dixon had 'a more generous diet during her pregnancy', and wondered whether this had helped to prevent a post partum flood,<sup>120</sup> an accurate indication insofar as post-partum flooding can be symptomatic of anaemia, and he had already noted that her slight figure could possibly have been an indication of under nourishment. In a rare reference to God, an indication of the degree of his concern, Hey concluded these remarks with the comment that because 'Mrs. D. had been in such great danger he was truly thankful to God for this favourable termination'.<sup>121</sup>

Mrs. Dixon's next labour not quite eighteen months later was again natural and Hey dealt with the placenta removal as he had in her last delivery, but left it twelve hours before

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<sup>117</sup> Ibid., p. 10.

<sup>118</sup> Ibid., p. 12.

<sup>119</sup> Ibid., p. 13.

<sup>120</sup> Ibid., p. 14, see also J. S. Lewis 'Maternal Health and the English Aristocracy: Myths and Realities', *Journal of Social History* (1983), 17, pp. 97-114.

<sup>121</sup> Ibid., p. 15.

extracting it.<sup>122</sup> He remarked that he had again paid attention to her diet during her pregnancy, which he felt had been extremely beneficial. A short comment at the end of this case refers to retroversion of Mrs. Dixon's uterus four months into her next pregnancy. He was called at 5 early one morning to replace her uterus and draw off her urine.<sup>123</sup>

When he was called to attend her following labour in February 1803 the child had been born half an hour before he arrived 'but had not been taken away'.<sup>124</sup> The placenta was detached but he left it in her vagina and retired to rest 'in full confidence that he should find all things favourable'. When he returned to her 'betwixt seven and eight in the morning', the nurse informed him that it had come away with copious coagula and fluid blood. The nurse, acting on her own initiative had administered brandy and wine, and failed to alert Hey. His comments seem to resent her actions and he attributed Mrs. Dixon's poor recovery and frequent returns of haemorrhage to the nurse's actions. He concluded 'we must not expect the same event from the same means, even in similar cases', a precise recognition of the particularity of any birth.<sup>125</sup> In Lydia's last delivery a year later Hey slept overnight at Gledhow.<sup>126</sup> The child was born at 9 in the morning and Hey extracted the placenta a quarter of an hour after the child was delivered, but kept a constant pressure for two hours without removing his hand from her abdomen. No brandy was given, Mrs. Dixon did not faint or have noises in her ears, and Hey congratulated himself on her most speedy recovery.

The clinical detail of Mrs Dixon's deliveries reveal Hey's continual concern to prevent flooding, to the extent that he left the placenta for such a length of time in one delivery that even his patient noticed it. This sort of concern, as well as concern about slow or weak uterine contractions features in the earlier cases, was obviously a regular complication to which Hey consistently gave serious attention. His treatments, of manual stimulation and pressure combined with alcoholic beverages, and confident experienced management of

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<sup>122</sup> MS/567, Book 9, Case 420, p. 89, dated 13 February 1799.

<sup>123</sup> *Ibid.*, p. 90.

<sup>124</sup> MS/567, Book 10, Case 451, p. 27, dated 19 February 1803.

<sup>125</sup> *Ibid.*, p. 29.

<sup>126</sup> MS/567, Book 10, Case 460, p. 68, 12 February 1804.



delayed placental extraction achieved a fair degree of success as a key flooding preventative measure. Mrs Dixon's patient records cover a period of ten years, during which time Hey had his second term as Mayor and published his book on surgical cases. His status and prestige at this time was greater than that of any other surgeon, not only in Leeds but also in the wider surrounding area, yet he was still personally delivering babies and engaging in the most menial tasks for the comfort of his post- partum patients. The only difference in the way that he treated Mrs. Dixon was that he sometimes slept overnight at her house, although Gledhow was only two or three miles distance from Albion Place.

### **5.1.5 The Later Years of Hey's Practice**

The records of Lydia Dixon's deliveries lead into the later years of Hey's practice, when Lydia was but one of the numbers of higher status persons whose names are sprinkled throughout the Casebooks. In the last fifteen years of the case histories 1792 to 1807, a further factor appears, that of the consultant status in which Hey appeared to have been regarded by his fellow practitioners. In his last 150 cases between the fifteen years from 1792 to 1807, thirty percent were cases where another Leeds medical man had called upon Hey for assistance, and ten percent were where a midwife had called him for assistance. The majority of these calls relate either to a praeternatural delivery, or to a haemorrhage, either ante or post-partum, and clearly reveal that Hey was recognized for the skill he had acquired over many years in dealing with these complications. Probably the skill that Hey had developed in extracting an impacted child was the reason for the majority of the 'consultant' type of call. The following case is but one example of many.

#### Book 9, Case 408, pp. 39-47

The date is 12 November 1797, and the case of such mismanagement by the two attending inexperienced apothecary/man-midwives that Hey had cause to comment 'at the consideration of all the circumstances I sat down almost in despair at being able to deliver

her'.<sup>127</sup> Mr. Matthew Shirtcliffe and his partner Mr. Teale, two recently set-up Leeds apothecaries, had been attending Mrs. John Joeson, aged 22, who lived in Ebenezer Street, a poor area of Leeds Township. The presentation was complicated because the child's 'right foot, toes towards the ossa pubis presented, as well as a right arm'. Shirtcliffe had pulled the foot with no success, and likewise in his attempts to reduce the arm, causing extreme trauma to Mrs. Joeson.<sup>128</sup> At 9 o'clock the following morning Shirtcliffe and Teale requested Hey's assistance who not only found the right foot and the right arm presenting, but that the funis was also in the vagina and the child's head lay with its face turned towards the mother's spine. Hey discovered that the other leg of the child was turned backwards towards its spine, and that the woman had a very narrow pelvis and he felt there was no room for his hand to pass into the uterus.

The position of the child's head obstructed by a leg and an arm determined Hey to try and bring down its other leg. He managed to get his hand into the uterus and hooked with his finger, what he thought was a knee, but was in fact the other arm.<sup>129</sup> The fact that the child's foot lay backwards behind its head towards the mother's spine made it impossible to turn it, with Hey's hand compressed by the lack of space. However he managed to turn it half way then 'introduced the blunt hook...along my [his] arm and hand and hooked the knee'. This brought the twisted leg down and Hey was able 'to put the noose of a fillet round the leg just above the ankle...take hold of the foot with a cloth in one hand and with the other pulled by the fillet. By this assistance the child was turned'. Hey now ceased his manoeuvres in order to give the mother a chance to rest while he refreshed her with wine.<sup>130</sup> The child's face still presented but he managed to turn it before it came to the rim of the pelvis. The extraction of the child's head was so difficult that it took both Teale, pulling at the child's body, and Hey pulling on its neck, to deliver it. Hey visited her the next day and found that her abdomen

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<sup>127</sup> MS/567, Case 408, Book 9, p. 40.

<sup>128</sup> Ibid., p. 39.

<sup>129</sup> Ibid., p. 41.

<sup>130</sup> Ibid., p.42

was 'very sore and rather tumid'.<sup>131</sup> She was weaker when he called to see her the following day at noon but he refreshed her with effervescent saline drinks with lemon juice. A shivering fit came on, and although Shirtcliffe thought her better, she died the following day.

'Remarks' wrote Hey 'on this case are unpleasant as I cannot but highly condemn the conduct of Mr. S. for persisting in his attempts during fourteen hours without calling in assistance'.<sup>132</sup> Then Hey referred back to a similar face presentation in his first casebook, where a midwife, acting in a similar manner to Shirtcliffe, and Hey had with difficulty delivered a dead child. This case is an example of men-midwives, with a small degree of skill, attempting to deliver babies without recognising their inability to cope. Face presentations were the most difficult type of all deliveries in the pre-caesarean era, and without prior instruction very often impossible. Hey remarked that in this case 'the difficulty had been so great', because he could scarcely get his hand into her uterus, and considered that her death was due to the trauma her uterus had received.

Certain points emerge from this in depth review of a selection of patient case histories that can be regarded as typical of Hey's approach to obstetrics as a sub-speciality of medicine, because they illustrate unity and consistency across the variety of complication. Firstly Hey's realization that despite similarity of case and management, the unexpected was always practically possible, and it was part of the surgeon's and midwifery practitioner's work to be able to respond to whatever complication arose. Secondly, the work entailed a considerable degree of physical labour, often extending over several hours, apart from clinical expertise. Thirdly, sequentially combined instruments (both hook and fillet) could overcome severe presentation complications, if handled with ability and skilled experience. Once the child was born additional aspects came into play, those of the precise observation of the state of the placenta and coagula; including even weighing coagula. Then there was the

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<sup>131</sup> Ibid., p. 44.

<sup>132</sup> Ibid., p. 45.

careful post-partum care of the mother and attention to her recovery extending over many days, or often weeks, as well as the recording of the pertinent details.

It would be incorrect to say that Hey's later cases supersede the early ones in drama, suspense or difficulty. By their very nature as interesting and instructive, none of the case histories provide reading for the faint hearted. These few examples from the deformed pelvis of a poor woman, to the under nourishment of a rich patient, and the incompetence of unskilled practitioners, display the type of provincial practice probably experienced by many Georgian practitioners. They go a long way to settling what Loudon said was 'a sense of confusion and a large number of unanswered questions [because] very little is known about the day-to-day practice of a man-midwife at the ordinary level'.<sup>133</sup> The bounds of this thesis can only present a selection of the complexities and detail displayed in Hey's Casebooks, but this is enough to demonstrate the level of clinical commitment and experienced skill that men-midwives such as Hey provided for Georgian poor, ordinary and gentry folk.

## Part Two 5.2 The 'Languid Child' and the Eighteenth-Century Man-Midwife

*The funis was twisted much about the child's neck... the child was very languid and did not breathe as soon as it was born only gave a kind of sob now and then... I left the child attached to the funis one quarter of an hour before tying it... I blew through into its mouth pinching its nostrils at the same time I gave it some smart strokes... it was an hour before it began to cry* (W. Hey, MS/ 567 Book 2, Case 95)

The death of a baby, whether at birth, immediately afterwards, or after a few days, is no less a death than any other. It is no less significant, important, or heartbreaking than the death of an older child, it is certainly different, but it is not a lesser event, even though the degree of grief has variation between parents and birth attendants.<sup>134</sup> Although the brief medical history of

<sup>133</sup> Loudon, *Medical Care and the General Practitioner*, p. 99.

<sup>134</sup> For comment on grief caused by neo-natal mortality in the seventeenth century see, D. Cressy, *Birth, Marriage & Death, Religion And The Life Cycle In Tudor And Stuart England* (Oxford, 1997), p. 343, 344 & note 70.

sickly neonates did not receive extensive treatment in the published case histories of eighteenth-century medical men, it is still possible to discern that the attentions of the man-midwife, initially concentrated on the management of the birth process, was extended to the care of these infants. Their training, initially concerned purely with the successful delivery of a living child, naturally led them into neo-natal care and the treatment of conditions that seriously threatened life. The eighteenth-century man-midwife found himself increasingly in situations where he was presented with a living, but 'languid' child. This put upon him a particular urgency to maintain and preserve that fragile life. A man-midwife, such as Hey, as the initial carer of the newly born, had to live with the consequences of his uncertainty on whether he had given due care to the preservation of the neonate's life. This was an entirely different situation to the perfectly formed baby, who by reason of the deformed or deteriorated skeletal state of the mother, died, trapped inside the uterus, and those who died within the uterus prior to the onset of labour. The man-midwife could not be held responsible for these deaths. A non-perfect baby, or a monster, that survived the birth process was rare, but there are examples recorded by Smellie that lived; a monster that survived into infancy is not a 'languid' child.<sup>135</sup>

The treatments of men-midwives such as Hey developed *pari passu* with better understanding of symptoms and causes, and they shared ideas with other practitioners who were primarily interested in infant care. These developments have not received appropriate notice in the extensive scholarship devoted to midwives and the rise of man-midwifery, and there is scant if any detail given on the way sickly neonates were handled in the eighteenth century. In the second half of the eighteenth century men-midwives also began to concern themselves when or whether the foetus could be considered to have an independent life of its own. Thus the life of the newborn became not only a focus of clinical observation but also a

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<sup>135</sup> McClintock, Smellie, vol. ii, p. 215 & p.219.

theme of moral debate amongst medical men; was the man-midwife bringing or restoring to life? <sup>136</sup>

The midwifery case histories of Hey contain some of the first systematically recorded instances of neo-natal care provided by a provincial eighteenth-century medical man. They are candidly expressed, possibly stemming from the dissenting tradition of confessional self-examination. <sup>137</sup> Smellie's case histories also had this quality; as McClintock later remarked 'it is this character which makes them so very instructive and gives them a surpassing interest and value'. <sup>138</sup> Medical men like Hey were accustomed to manual healing, which was what was required to revive a 'languid' child. Hey was summoned to deliver living babies, and because he acquired experience in reviving the babies he had delivered, his reputation caused him to be called to resuscitate babies in neonatal distress that he had not delivered. <sup>139</sup>

### 5.2.1 The Languid Condition and the Motives of Eighteenth-Century Men-Midwives

'Languor' and 'languid' had been in use as ordinary descriptive terms for many centuries and in the seventeenth century came into more general usage as a medical term. <sup>140</sup> In the eighteenth century these existing terms were applied to the recognized condition of a sickly neonate. Smellie commented 'If the circulation is languid, respiration begins with difficulty' in his instructions on how to manage the child after delivery, <sup>141</sup> but it was Hey, who began to use the term 'languid' to describe the first mild non-specific signs that a newly born baby was unwell, when even if no birth trauma was visible, its inertia, lack of vigour and vitality indicated that its grasp upon life was tenuous. Dying is a process, not a single event; not all the body cells die at once, there is always an indeterminate state before death, when

<sup>136</sup> J. M. Lloyd, 'The "Languid Child" and the Eighteenth-Century Man-Midwife', *Bulletin of the History of Medicine* (2001), vol. 75, pp. 644-646

<sup>137</sup> J. M. Lloyd, 'Towards a Safe Deliverance', unpublished MA thesis, Warwick University, 1999, pp16-20

<sup>138</sup> McClintock, *Smellie*, vol. ii, p. 324.

<sup>139</sup> MS/628, Book 5, Case 45 dated 1 March 1775, The Case of a four hour old baby whose umbilical cord had been torn revealing the contents of the perineum cavity, Book 4, Case 23 dated 27 April 1772, a two day old baby with an imperforate anus, and Book 7, Case 55 dated 1784, a newborn with jaundice and vibices.

<sup>140</sup> Quincy, *Medical Dictionary*, languor-signified faintness from want or decay of spirits. The OED meaning of the word for the period is faint, weak, and inert from fatigue or weakness, wanting in vigour or vitality and slow in movement, and is applied to births at the beginning of the seventh month in 1615 by Crooke, *Body of Man*, p. 338 as ... 'verie languid and weake'

<sup>141</sup> Smellie, *A Treatise on the Theory and Practice of Midwifery*, p. 225.

resuscitation techniques, if applied with perseverance, can be successful. This section of my thesis is concerned with the immediate period after the birth of a normal baby that failed to spontaneously establish a normal breathing and suckling ability, or was prevented from maintaining that ability by a neo-natal distress condition. The immanence of death in growth into infancy is not the issue here, neither is an unnatural death of a neonate.<sup>142</sup>

Although Wilson noted that 'Smellie took midwifery to a new and higher plane',<sup>143</sup> he did not explore the quest of Smellie and of those who came after him, to preserve and nurture the newly born infant. Throughout the eighteenth century medical men were concerning themselves with their moral rules of conduct, culminating in Thomas Percival's *Medical Ethics*, published in 1803. Percival's comment 'to revive expiring life' can be particularly applied to the issue of a 'languid' child.<sup>144</sup> Respect for human life, even if that life is not entirely fixed, in bodily terms, and the absolute sanctity of innocent and non-combatant lives, forms part of the Christian doctrine of the inestimable value of each immortal soul. The foetus/baby was in danger of being deprived of its place in Heaven being un-baptised, as well as of its life on earth. Hunter explored the possibility that a mother in the distress and trauma of her labour often could not give due attention to the survival of her child.<sup>145</sup> Percival noted that 'much observation is required to discriminate between a child stillborn, and one that has lived after birth only a short space of time'.<sup>146</sup> Both comments evidence that when a man-midwife delivered a child the onus was put upon him to administer neonatal care.

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<sup>142</sup> For an assessment of unnatural deaths in neonates see M. A. Jackson 'New-born Child Murder: A Study of Suspicion, Evidence and Proof in Eighteenth-Century England', University of Leeds unpublished PhD thesis, September 1991. Jackson noted that inflated lungs, possibly by Smellie's method, was taken as a sign that a child had breathed independently, pp.98-111

<sup>143</sup> Wilson, *The Making of Man-Midwifery*, p. 125.

<sup>144</sup> T. Percival, *Medical Ethics* (London: Bickerstaff, 1803), p. 32.

<sup>145</sup> W. Hunter, 'On the Uncertainty of the Signs of Murder in the Case of Bastard Children', *Medical Observations and Inquiries* (1784), vol. iv, p. 271.

<sup>146</sup> Percival, *Medical Ethics*, p. 86.

In Hey's first year of midwifery practice four of the fourteen cases he recorded concerned a mother who had had a series of stillbirths.<sup>147</sup> The death of a first baby, or the death of a baby after previous stillbirths or neonatal deaths naturally caused sorrow. The reactions of the parents have reflections in the funerals of babies who were buried before they could be baptised, indicating that the love the parents had towards their baby went beyond the grave.<sup>148</sup> Parental desire for a Christian burial for their child is noted in the diary of James Woodforde: 'Mr. Carter of Ringland sent me a note this morn' before breakfast, to desire my sentiments over a particular question relating to the tolling of a bell for a child that died without being baptised at its decease, at any time from thence to its being interred and at the putting of it into the ground. I sent an answer back to Mr. Carter, that as the funeral service could not be read over it, the tolling of the bell at any time to be inadmissible.'<sup>149</sup> Woodforde, and priests like him, were urgently called to baptise sickly neonates within hours of their birth.<sup>150</sup> When the mother's life was also lost they were usually buried together.<sup>151</sup>

Where the head of the child in a difficult, but normal by the head, delivery was 'compressed into a longitudinal form',<sup>152</sup> Smellie concerned himself to restoring a natural form to the head. 'I pressed the palms of my hand against these parts, and with great ease brought it to a better form'.<sup>153</sup> This deformed state of the head was only a temporary condition and unless there were convulsions, or breathing problems, birth attendants from experience expected the child to survive the neo-natal period.

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<sup>147</sup> MS/567, Book 1, Case 1, several stillbirths, Case 8, four stillbirths, Case 11, 2 stillbirths and Case 14, several stillbirths.

<sup>148</sup> See for instance, Burnley parish register 6 May 1650, the burial of a child of James Eastwoods of Stonehouse, not baptised, and 9 July 1650, a child of John Cellars of Pendle, not baptised. See also Roger Schofield, 'Did the mothers really die? Three Centuries of Maternal Mortality in the World We Have Lost' eds., Lloyd Bonfield, Richard M. Smith and Keith Wrights on *The World We Have Gained :Histories of Population and Social Structure* (Oxford, 1986), p. 234, and Jacques Gélis, *History of Childbirth, Fertility, Pregnancy and Birth in Early Modern Europe*, trans., Rosemary Morris (Salisbury, 1991), p.xv.

<sup>149</sup> Woodforde, *The Diary of a Country Parson*, p. 315, entry dated 1 February 1788.

<sup>150</sup> *Ibid.*, p. 14, entry dated 14 April 1768.

<sup>151</sup> Cressy, *Birth Marriage and Death*, p. 394.

<sup>152</sup> McClintock, *Smellie*, vol. ii p. 277, case 206.

<sup>153</sup> *Ibid.*, p. 276, case 205.



It was the custom to baptise babies when only a few days old. Smellie details a case of a child born in good health who 'caught cold at the christening about the eighth day', and subsequently died.<sup>154</sup> The wastage of infant life was and is a delicate subject; blame could be ascribed to any person involved in the birth. Smellie recorded after a difficult delivery, that by 'one of the assistants imprudently telling the patient it was dead' (meaning the child), the mother was caused to collapse. Smellie succeeded in bringing the child to breathe after a little while. He then recounted how he had to revive the mother because she was 'thrown into convulsions, and with difficulty removed from instant death', but observed that the 'cries of her child contributed greatly to her recovery'.<sup>155</sup> Prior to Smellie's 1754 publication there was an anonymous publication, but known to have been written by Dr. Frank Nicholls, entitled *The 1751 Petition of the Unborn Babes to the Censors of The Royal College of Physicians*. This petition highlighted the level of attention the unborn child was receiving in the middle of the eighteenth century. Wilson said at a first reading of this petition the hostility to man-midwifery 'seems paradoxical and inexplicable,'<sup>156</sup> because the point Nicholls was making was that the child's life was not only an earthly life, but also the prospect of an eternal one.

Children had their distinct circulations and motions...they were distinct beings...and were equally entitled to preservation with their mothers...their lives were under the protections of God and the Laws; and that the Man, who on any pretence took away the Life of a child, was guilty of Murder both in Law and Conscience...and as to their not being Christians...they were not only robbed of life in this world, but...prevented from attaining that eternal felicity, to which they other ways would have been entitled.<sup>157</sup>

The fact that skilled men-midwives were able to deliver living children by the use of forceps and by 'footling' deliveries rather than allow them to die undelivered, gave many more babies the opportunity of an independent life, but they now needed to develop new skills to

<sup>154</sup> Ibid., vol. iii, p. 314, case 524.

<sup>155</sup> Ibid., vol. iii, p. 114, case 366.

<sup>156</sup> Wilson, *The Making of Man-Midwifery*, p. 166 & 167

<sup>157</sup> Anon, *Petition of the Unborn Babes to The Censors of the Royal College of Physicians*, p. 5.

preserve and nurture the life of this living baby. There is a profound shift here; the ability to deliver, either by forceps or by other means, a living child carried alongside it the equal responsibility to preserve and nurture that life, the two being inextricably entwined. Pre-term babies have the appearance of a fully formed small baby, although they have limited ability to suckle, poor thermal stability and immature lung function. Premature babies were the frailest of all, and their survival owed much to the immediate neo-natal care they received.

A review of the surviving manuscripts of men-midwives contemporary to Hey reveals little comparison of neonatal care. MacBride noted that he was 'agreeably surprised' to find that a child he had delivered through 'a distorted pelvis revive'; the telling word being revive, and not survive.<sup>158</sup> In two further cases MacBride mentioned that the child was 'likely to live' but did not detail his method of resuscitation.<sup>159</sup> The interest of Jones in neonatal cases extended only to the curiosity of a hydrocephalus monster birth.<sup>160</sup> In the six midwifery case histories of Paxton, although they were all extraordinarily difficult, there is no mention of any neonatal care administered to the three babies that survived.<sup>161</sup>

There was also a darker side to neonatal deaths that can be well observed in the journal of the Lincolnshire surgeon-apothecary Matthew Flinders who delivered the two sets of twins born to his first wife within eleven months of each other. Both sets died either at, or immediately after, their birth, and Flinders wrote in his journal after the birth of the second set of twins, 'thank God for not burthening me, funeral nine shillings',<sup>162</sup> a clear indication that in some instances a stillbirth or neonatal death was not wholly a source of grief. The stoic acceptance of a stillbirth is evidenced from the diaries of two women known to Hey. The diary of Faith Gray, the wife of William Gray of York, a patient and friend of Hey, has an entry dated 18 June 1781, which noted, 'I was brought to bed of a stillborn boy nine weeks before time'. There is no comment by Faith on her emotional or medical state, this entry is

<sup>158</sup> MacBride, 'Miscellanea', Case 80, Mrs. Scott, dated July 1757.

<sup>159</sup> Ibid., Cases 121 and 122, dated mid 1759.

<sup>160</sup> Lane, 'Thomas Jones of Henley in Arden, 1764-1846', p. 341.

<sup>161</sup> R. Paxton, 'An Essex Medical Casebook', Wellcome Library, MS/3820.

<sup>162</sup> Flinders Diary No. 1, entry dated 19 July 1777 and 28 May 1778.

amongst other family details, entered in a matter of fact way.<sup>163</sup> The diary of Mrs. Henry Hall, wife of a Leeds merchant also suggests the stoic acceptance of stillbirths. He treated many members of this merchant family but there is no evidence that he delivered Mrs. Hall's children. Her diary entry for her first child merely commented 'daughter stillborn Wednesday June the tenth 1772'. In 1776 she entered the birth of her fifth child 'a daughter born Tuesday September the nineteenth who died immediately after', and in the following year 'Tuesday November the fourth a son stillborn'. Mrs. Hall had eleven pregnancies between June 1772 and January 1785.<sup>164</sup> The comments of Mrs. Gray and Mrs. Hall could suggest in part the sentiment expressed by Flinders, relief tempered with stoic acceptance, albeit that they probably felt their loss, and expressed their grief in a different way.

### **5.2.2 Recognized Causes of Foetal Distress that Could Result in a Languid Neonate in the Middle of the Eighteenth Century.**

A fetid odour emerging via the vagina had long been taken as a sign that foetal death had occurred.<sup>165</sup> Fresh stillbirths were babies such as the one delivered by Sarah Stone, who had 'sucked her finger in the womb', as she turned it with her hand before delivery.<sup>166</sup> The eighteenth-century men-midwives became increasingly aware from the fresh state of the child they delivered, that the child had only just died. Authors such as Chapman wrote that pulsation in the navel string indicated that there was foetal life present.<sup>167</sup> If the cord had prolapsed, it was general practice to delay the delivery by crochet and scissors until the pulsation ceased, to be sure of foetal death before destruction of the foetal body took place. Chapman recognized in 1733 that separation of the placenta from the uterine wall prior to birth could cause death.<sup>168</sup> The most expedient procedure indicated in these cases was delivery by the quickest possible method, the vulnerable foetus having to be briskly and

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<sup>163</sup> The Gray Papers, The Diary of Faith Gray, York City Archives, D 1a, the entry 18 June 1781, p. 37.

<sup>164</sup> S. Brooke, *Some Notes on the Hall Family*, p. 326.

<sup>165</sup> Chamberlen, *Dr. Chamberlain's Midwives Practice*, chap., xlix, p. 137, and Willughby, *Observations in Midwifery*, p. 5

<sup>166</sup> S. Stone, *A Complete Practice of Midwifery* (London: T Cooper, 1737), p.77

<sup>167</sup> Chapman, *An Essay on the Improvement of Midwifery*, p. 14.

<sup>168</sup> *Ibid.*, p. 160.

firmly handled in the course of delivery. The podalic version of delivery, when the child was manually turned to the breech position (itself a position of normal if rare delivery), gave the birth attendant an advantage. The traction did not depend on the uterine contractions, and the birth attendant could deliver the child many hours ahead of a normal delivery. What Deventer had called 'an artful hand' and Stone had called 'to turn the child', the podalic method was termed 'footling' by Smellie, and later by Hey and other men-midwives.<sup>169</sup> The podalic version of delivery however has origins from a century earlier.<sup>170</sup>

The most urgent requirement of a newly born baby is to breathe. During a normal by the head birth the thorax is squeezed in the birth canal, which promotes respiration. Birth asphyxia could be recognised initially by such signs as abnormal cries, fits, disturbed breathing and poor sucking. In the frequent footling deliveries by the man-midwives to correct abnormal presentations, speedily to remove the child in cases of placenta praevia and maternal convulsions, the abdomen of the child was squeezed; in these cases meconium could be forced out through the baby's anus and could be ingested or might enter the lungs. Hunter instructed that a newborn child should be carefully examined to see 'whether any part of the child's head be hurt', and 'if any of the meconium should come away before the delivery of the child, it is looked upon as dead'. He goes on to say that 'compression of the brain often happens in difficult labours, and this is often followed by convulsions soon after delivery.' Hunter instructed that if bleeding of the navel string before it was tied did not relieve the convulsions, the practitioner was to 'open the jugular vein'.<sup>171</sup> A further problem was that the uterus still containing the placenta, often detached and bleeding, could contract upon the head before it was pulled through the neck of the uterus. Mauriceau had recommended that one arm should be left in the uterus alongside the head in the form of a splint, because he recognized that the baby could suffocate if the head arrested for too long within the

<sup>169</sup> McClintock, *Smellie*, vol.,ii. p. 114.

<sup>170</sup> Evendon, *The Midwives of Seventeenth-Century London*, p. 11 & notes 56, 57 & 58.

<sup>171</sup> W. Hunter, 'Lecture Notes taken by William Allison' (1785), Royal College of Surgeons, 42, d.25, p. 186.

contracting uterus.<sup>172</sup> Smellie noted the difficulties experienced in the delivery using forceps of an after-coming head.

...the pulsation in the funis beginning to grow languid...finding the under jaw likely to be overstrained I fixed a finger on each side of the nose...I again exerted greater force, by which I at last got the head delivered. Every method was tried to recover the child...but all to no purpose; a miscarriage which was very grievous to the disconsolate mother.<sup>173</sup>

Hey, who was aware that great care should be taken when extracting the head in footling deliveries, recognized these problems. In a case dated 8 April 1775, a mal-presentation that Hey turned to deliver footling, the uterus contracted and expelled the child spontaneously. Hey was concerned to leave the delivery as much to nature as possible commenting, 'The os externum embraced the child so closely and was so tight and rigid, that had I attempted to accelerate the delivery I should have lacerated the woman very much. The child was alive when the navel was a little without the os externum, but the pulsation in the funis soon after ceased.'<sup>174</sup> Smellie instructed if the child cried and breathed the umbilical cord should be cut and tied.<sup>175</sup> However if the air did not enter its lungs at once, and there was circulation still between the placenta and the child, the severing of the cord should be delayed and stimulation should be given to the child in order to make it breathe. 'If the circulation is languid, respiration begins with difficulty and proceeds with long intervals; if it be entirely stopped in the funis, the child if alive is not easily recovered.'<sup>176</sup> Allowing the navel string to bleed a little was a practice taught by Smellie, but does not appear in the two remaining sets of lectures of his senior pupil MacKenzie.<sup>177</sup> The most significant practice adopted by Smellie was the method he devised to recover the respiration of a fragile child by forcibly blowing into its mouth; at first in a case dated 1749 with a female catheter, and later with a silver cannula to expand its lungs.

<sup>172</sup> Mauriceau, *The Diseases of Women with Child*, chapter xiii, pp. 271-276

<sup>173</sup> McClintock, *Smellie*, vol. iii, p. 86.

<sup>174</sup> MS/567, Book 3, Case 173.

<sup>175</sup> Smellie, *A Treatise on the Theory and Practice of Midwifery*, p. 255.

<sup>176</sup> *Ibid.*, p. 226.

<sup>177</sup> *Ibid.*, p. 227.

I delivered the child by the feet, from the pulsation in the arteries of the funis, I knew it was alive; but found great difficulty in delivering the head...the pulsation ceased and the child seemed to be dead...nevertheless I inflated the lungs by blowing into the mouth through a female catheter, and the child gave one gasp upon which I repeated the inflation at several intervals, until the child began to breathe; and it actually recovered.<sup>178</sup>

Hunter also advocated this method when he said 'to excite a languid circulation introduce a short catheter or blowpipe into the mouth and gently blow into the lungs'.<sup>179</sup> This was to be the most effective and long-standing medical practice in eighteenth-century neo-natal care, and a practice used consistently by Hey

### 5.2.3 Hey's Treatment of Languid Babies

One of the most striking aspects of Hey's midwifery case histories is his use of the word 'languid' to describe the state of a child immediately after it was born. I have identified fifty-one case histories where he used methods to preserve the fragile life of a 'languid' child, and many reflect the recognized causes of foetal distress mentioned above. For example, 'I made haste as I thought the child to be in danger...the Meconium was being forced out...I turned the child brought out feet, arms and the head with difficulty...the child was languid...but lived.'<sup>180</sup> Hey did not include a set of midwifery 'Remarks' on neonatal care, suggesting that his primary interest lay in midwifery rather than the emergent speciality of paediatrics, like his friend Underwood. Nevertheless he accepted the challenge that neonatal care presented.

In many instances Hey recorded his treatment of a 'languid' child in successive cases, suggesting that the problem was more to the forefront of Hey's mind at certain particular times. The first consecutively recorded group of three cases was in 1764, five years after he began in practice. In each of these three cases he made strenuous efforts to revive the 'languid' child, succeeding in two cases, the third child expiring after giving 'only

<sup>178</sup> McClintock, *Smellie*, vol. ii, p. 276, case 204.

<sup>179</sup> Hunter, 'Lecture Notes taken by Allison', p. 186.

<sup>180</sup> MS/567, Book 1, Case 52.

one sob'.<sup>181</sup> A further case that falls into a group of consecutively recorded cases, in which Hey made specific comments on the 'languid' state of the newly delivered child and recorded particular remorse when he failed to preserve the life of that child, is dated 20 August 1774. Hey noted after the death of the child, 'I ought to have taken more notice of the meconium and concluded that the belly had suffered compression...the child was lively by the motion of its feet'. Hey had made considerable efforts to inflate the lungs of this child by blowing forcibly down its throat, but he added 'in vain to the great grief of its mother'.<sup>182</sup> In the case immediately following this one, dated 5 September 1774,<sup>183</sup> in which the funis had prolapsed, Hey recorded that he 'continued to inflate the lungs of the child for about a quarter of an hour, while also pressing upon the thorax and abdomen...I thought once the child was dying, for its face grew blackish, and cold and the sobs distant and weak.' Hey's persistence was successful because this 'languid' child survived. The mother was a regular patient of Hey: he had attended her in her last five deliveries, three of which were stillbirths. This shows the parent's confidence in him, and makes intelligible Hey's awareness that he had been booked by the parents in the hope that he would eventually deliver a living child for them. This same desire is also shown in a case dated 27 July 1766, where the mother's previous children had all been stillborn; Hey was called to attend the delivery only five hours after labour had begun.

Hey was called to a first delivery at Christmas 1767 and waited three days before he broke the membrane, after which the child delivered naturally. 'The funis was twisted much about the child's neck... the child was very languid and did not breathe as soon as it was born, only gave a kind of sob now and then... I left the child attached to the funis one quarter of an hour before tying it... I blew through into its mouth pinching its nostrils at the same time I gave it some smart strokes... was an hour before it began to cry.'<sup>184</sup> This method of

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<sup>181</sup> Ibid., Case 50.

<sup>182</sup> Ibid., Book 3, Case 163

<sup>183</sup> Ibid., Case 164.

<sup>184</sup> Ibid., Book 2, Case 95.

trying to inflate the child's lungs became a regular pattern adopted by Hey. He at no time mentioned warming the placenta while it was still attached to the child via the umbilical cord, a practice used by Smellie, and by Denman who implied that such a practice was in common usage.<sup>185</sup>

It seems likely that such 'runs' of 'languid' child cases were recorded at times when Hey was especially concerned with the survival of the child. This conjecture is supported by the fact that the only two occasions when Hey considered the option of caesarean section on 18 May 1777<sup>186</sup> and 22 October 1796,<sup>187</sup> they occurred during sequences of 'languid' child cases. Hey discussed the possibility of a caesarean birth with other Leeds practitioners and the parents in both cases to save the life of the child, because he considered that both the lives of the mother and the babies could not be saved.

I was afraid that the child could not be extracted thro this orifice, and as it was now alive, the funis being in the pelvis with a brisk pulsation, I thought it deserved to be maturely considered whether the danger of the mother was so great as to warrant the caesarean operation to save the child which was certainly living. I gave an unfavourable prognosis to the midwife, informing them [the whole complement of birth attendants] that one of the two i.e. the mother or the child must die.

In this case Kenion, an apothecary, and Lucas a surgeon and man-midwife, did not agree with Hey and were surprised at his apprehensions, as the mother's pelvis did not appear narrow to them. Opium was administered in a cordial drink while they consulted together. Hey returned in the evening and found that she had 'just got into bed...the pains having expelled the child...I examined the child's head and found it very soft and yielding, the bones being not well ossified but loose'. In the second case Hey was not able to save the life of the child.

This conflict of interest, which the eighteenth-century man-midwife so frequently found himself confronted with, was clearly noted by Denman, who it could be argued, voiced the private thoughts of many midwifery practitioners such as Hey when he wrote, ' in some

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<sup>185</sup> Denman, *Practice Of Midwifery*, vol. I, p. 361, also *Essay on Natural Labours* (London: J. Johnson, 1786), p. 44.

<sup>186</sup> MS/567, Book 4, Case 226.

<sup>187</sup> *Ibid.*, Book 8, case 392.



cases of difficult parturition it is not possible that the lives of the mother and the child should both be preserved...the destruction of the mother would not, in the generality of cases contribute to the preservation of the child...I forbear to inquire into the comparative value of the lives of an adult and a child unborn'.<sup>188</sup>

In the resuscitation of a 'languid' child Hey embarked upon the procedures alone, he did not delegate to another birth attendant until the measures taken were proving effective, continuing in some cases for several hours, and rarely recorded the emotional feelings of the parents.

#### 5.2.4 Forceps as a Cause of Languid Babies

The continuing refinement in the design of forceps is one of the most important aspects of the attention given to the procedures and practices evolving to avoid birth trauma to the child.<sup>189</sup>

Throughout the second half of the eighteenth century, there was a continuing debate that arose both from concern for the preservation of the child's life, and from concern to avoid injury and trauma to the mother. Smellie's drawings in his anatomical tables of the particular ways to use forceps and the positions they should be placed upon the baby's head, indicate that they were designed for the instruction of the young man-midwife,

The handles and lowest part of the blades may as here be covered with any durable leather; but the blades ought to be wrapped round with something of a thinner kind, which maybe easily renewed when there is the least suspicion of venereal infection in a former case: by being thus covered, the forceps can have a better hold and mark less the head of the child.<sup>190</sup>

Smellie also remarked in a case dated 1755, on the 'overstraining of the neck' and resolved to use longer handled forceps in cases of an after-coming head.'<sup>191</sup> Smellie also wrote 'I have been led to alter the form and dimensions of the forceps, to avoid the inconveniences that attend the use of former kinds'.<sup>192</sup> Because of the lack of written records it is difficult to

<sup>188</sup> Denman, *Practice Of Midwifery*, vol. 2. p. 173. .

<sup>189</sup> Smellie, *A Treatise on the Theory and Practice of Midwifery*, p. 249.

<sup>190</sup> Smellie, *A Set of Anatomical Tables*, Table 37 p. 95.

<sup>191</sup> McClintock, *Smellie*, vol. iii, case 347, p. 82.

<sup>192</sup> *Ibid.*, p. 242.

assign with certainty many of the refinements to forceps design, but some certain names stand out; Hey was associated with three, MacKenzie, Orme and Johnson. Hey first used forceps designed by MacKenzie, but these forceps are unknown apart from Hey's reference to them. MacKenzie instructed in his lectures 'never sit down to deliver with the forceps till you are certain of the situation of the child and the parts are sufficiently dilated'. He followed with extensive instruction on how to avoid injury to the child and undue trauma to the mother.<sup>193</sup> Hey also used forceps designed by Orme, who had modified Smellie's design, making his forceps the shortest of all such instruments, specifically because Orme never applied them until the vertex had come down to the coccyx and perineum.<sup>194</sup> Hey later changed to the forceps designed by Robert Wallace Johnson.<sup>195</sup> Johnson added a pelvic curve with a slightly increased angle near the tip.<sup>196</sup> Hey made particular use of Johnson's publication,<sup>197</sup> and although Johnson did not mention languid babies he did, as will be detailed later, comment on why a child born lively and lusty might fall ill not long after birth.

Forceps can only be effective in a percentage of cases and Hey often used one blade as a lever, to stimulate the natural pains, a practice advocated by MacKenzie, when he could not put both blades of the forceps on the head of a child. Hey commented that he used 'one blade of the forceps as a lever...and from this time the head advanced by the natural means...there was no reason to think the child dead and I did not think it right to open the head, yet the head was so high forceps could not be used with propriety'.<sup>198</sup> The child was 'languid' and after the delivery on examination of the head of the child Hey found surprisingly that there was a depression of the skull on each side of the head. 'I wiped the

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<sup>193</sup> MacKenzie, 'Catper Day', lecture General Rules for Applying Forceps.

<sup>194</sup> Alban Doran, 'A Demonstration of Eighteenth-Century Obstetric Forceps' *Proceedings of the Royal Society of Medicine, History of Medicine* (1913), 6, part 2, p. 54 – 76.

<sup>195</sup> Bryan M. Hibbard, *The Obstetric Forceps* (London, 1992), p. 23.

<sup>196</sup> MS/567, Book 2, A Case after Case 127 dated 27 April 1771; Hey recorded he delivered a patient of Mr. Walker, a physician in Leeds with the Johnson forceps.

<sup>197</sup> Johnson, *A New System of Midwifery, Founded on Practical Observations by Robert Wallace Johnson*. Hey's copy of Johnson's book is pencil-annotated in the margins.

<sup>198</sup> MS/567, Book 8, Case 398.

child's lips... inflated the lungs by blowing forcibly'. This was effective for a while but the child died the next day in a convulsion. Hey wrote after this case

the utility of the lever was strikingly exemplified in this case. The pains had so far declined before my arrival, that it seemed to me probable that without assistance the woman would have died undelivered. The basis of the child's skull being above the brim of the pelvis, the forceps could not have been applied with propriety. The opposite depressions on the child's head were caused no doubt by the pressure made against the ossa pubis and sacrum. The depression did not exactly correspond in situation but showed that the head had been placed in an unnatural position between the bones, that depression which I apprehended to have been made by os sacrum was more backwards than the other. This pressure was probably the cause of the child's languid state. The mark of the lever was on the temple rather before the ear, nearly on the face.<sup>199</sup>

This remark indicated that Hey was concerned to avoid the cause of languidity, and worked towards that end. The effect of forceps causing pressure on the head of a child that was already in a state of distress could be fatal, especially so if, as Hey often recorded, forceps could not be made to pass exactly.

### 5.2.5 The Wider Network of Medical Men, Emerging as Neo-Natal Specialists

There is evidence from Hey's Casebooks, supporting archive and contemporary publications that there was a much wider interest in the 'languid child' problem than has previously been recognized, because the men-midwives extended their interests into the care of children from birth. This was true not only of Hey but also of White, Denman and Underwood. The men-midwives, of course, were all interested because they all had to deal with the problem of a languid neonate on a day-to-day basis. Some of these men were working in the provinces (Hey and White), others in London (Denman and Underwood), but they were all in various degrees of communication with one another, forming something of a national network.

Dr. William Cadogan (1711-1797), who at first wrote anonymously to the committee of the London Foundling Hospital on the management of children from birth, is only one of the many individual medical men to highlight the prevailing change in the care of the newly

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<sup>199</sup> MS/567, Book 8, P. 163, remarks after Case 398.

born, and MacKenzie cited Cadogan as an authority on the management of newborn children, and by such teaching would have influenced Hey.<sup>200</sup> Cadogan was a physician who took an interest in the management of infants. He was not trained as a man-midwife, but when he 'first set up practice in Bristol, in the late 1730's... it was precisely at this point that man-midwifery was becoming controversial'.<sup>201</sup> However novel Cadogan's arguments were in concentrating on the nurture of infants in their own right, he did not address the question of establishing a stable respiration in a delicate newly born infant.<sup>202</sup>

The dividing line between a surgeon, an apothecary, and a physician, who would normally have expected to be called in to give medical treatment to a sick child, was a fine one. This is illuminated by the Censors of The Royal College of Physicians charge against four men-midwives, including Mackenzie, for practicing medicine without a licence. The 'arrests' took place between 10 April 1765 and 10 May 1765. On 26 April 1765 Mackenzie was excused when he said 'he was only practicing midwifery not physic'.<sup>203</sup> Pure men-midwives did not consider themselves to be surgeons, and they sought an alliance with the London College of Physicians; and from 1783 until 1800 a licentiate in midwifery was granted.<sup>204</sup> Underwood, eventually admitted as a Licentiate in Midwifery to the College of Physicians on 5 April 1784, was possibly the greatest influence upon Hey in the treatment of 'languid' babies.<sup>205</sup> His work on infant care built on that of Cadogan.<sup>206</sup> He wrote 'infants often present themselves to the world under circumstances that call for immediate assistance, being as it were in a kind of intermediate state between life and positive death and with the appearance of being actually dead; but may nevertheless be reanimated by timely and judicious aid, so as to be perfectly rescued from any peculiar dangers'.<sup>207</sup>

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<sup>200</sup> MacKenzie, Catper Day, 'On the Management of Children'.

<sup>201</sup> A. F. Wilson 'The Enlightenment and Infant Care', *Social History of Medicine* (1979), 25, pp. 44 – 47.

<sup>202</sup> For a survey of the work done in Europe in the eighteenth-century on neo-natal and paediatric care, see Still, *The History of Paediatrics*.

<sup>203</sup> *The Annals of the Royal College of Physicians* (1765), p. 18.

<sup>204</sup> Wilson, *The Making of Man-Midwifery*, p. 201, and note 34

<sup>205</sup> MS/567, Book 3, Case 139 dated 23 Jan 1772.

<sup>206</sup> Underwood, *Treatise On The Diseases Of Children*.

<sup>207</sup> *Ibid.*, Preface ii.

The second influence upon Hey was Denman, though there is evidence that there were elements of rivalry rather than friendship in their relationship.<sup>208</sup> The first entry Hey made in his *Medical Commonplace Book* was 'Dr. Denman's observation on the management of children at the time of birth'.<sup>209</sup> Denman was unique in pondering the question whether an unborn child had feelings.<sup>210</sup> He concluded that this could be proven by 'irritating the soles of the feet of a living child when they present, or the palm of the hand that presents, the body and head, being yet retained in the uterus'. Denman also considered the exact time when the foetus could be first considered as an independent human being. 'Perhaps the changes, which take place in the body of the child, immediately after its birth at least the manner in which they are produced, are not perfectly understood at this time.' Denman referred to 'an essay on the treatment of women in childbed, written by my very ingenious and indefatigable friend, Mr. Charles White', where White mentioned the changes in the body of a child immediately after birth.<sup>211</sup> Denman went on to say,

But we know if the child is in a healthy state that it usually cries lustily and continually, when the air rushes into its lungs, which are thereby expanded this cry which does not seem to be occasioned by pain but by surprise, is in its consequences extremely important, as it is the cause of an exertion of all the powers of the child, and enables it to acquire a new manner of living, inconsistent with, and very different from, that which it possessed before it was born. But the change from uterine life, as it may be called, to breathing life, is not instantaneous, but gradual; and the uterine life continues till the breathing life is perfected, as is proved by the continuance of the circulation between the child and placenta for some time after it has cried. As the breathing life becomes perfected, the uterine life gradually declines, and the manner of its declension may be proved by attending to the pulsation of the navel string, which first ceases at the part nearest the placenta, and then by slow degrees nearer and nearer to the child, till at length it entirely ceases.<sup>212</sup>

Denman went on to point out that the extraction of the child is done with a twofold purpose: not only to save the life of the child, but also to free the mother from any danger,

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<sup>208</sup> MS/504/3.

<sup>209</sup> MS/1587, pp. 1-8.

<sup>210</sup> Denman, *Practice of Midwifery*, vol. 2., p. 173.

<sup>211</sup> White, *Treatise on Lying-In Women*, p. 45.

<sup>212</sup> Denman, *Practice of Midwifery*, vol. 1, p. 362

which might arise from its detention. Again like Hey and Underwood, Denman pursued the revival of what Hey termed a 'languid' child, commenting 'sometimes beyond my expectations I have been agreeably surprised with the discovery of some faint signs of life, which by the assiduous and careful use of the common means have been improved, and the life of the child at length perfectly recovered.'<sup>213</sup>

Hey adopted a consistent practice of trying to revive a 'languid' child by inflation of the lungs. He did not use the 'common means' of Underwood, such as 'stimulants of ...lighted brown paper or tobacco, juice of onions, frictions with hot cloths...cold brandy poured on the thorax and on the funis umbilic...stimulating the nose and pharynx with a feather and drawing out the mucus that may be present.'<sup>214</sup> He sometimes immersed the child, after the umbilical cord was cut, completely in warm water up to the chin, a procedure not noted by Underwood. In September 1782, he kept a 'languid child in warm water for an hour and a half, but on a sudden it expired and greatly disappointed my expectations'.<sup>215</sup> There is no detail of the breathing pattern in this case; perhaps Hey was trying out a different method of resuscitation.

The last case of a 'languid' child that Hey recorded was in the summer of 1805, when he reflected back over the half a century of his work. 'Long experience has shown me the great advantage to be derived from inflating the lungs and stomach of newborn infants when in a very languid state and when the signs of life are scarcely discernable.'<sup>216</sup> All the art, good management and deliberations had not superseded Smellie's original conclusions.

### 5.2.6 Hey's Identification of Some Neo-Natal Illnesses and Distress Conditions

Hey, although working in a provincial town, proved to be in the vanguard of the diagnosis and identification of some neo-natal illnesses. There are some neo-natal conditions that can cause a child to become 'languid' (even if born lusty and lively) in the immediate hours after

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<sup>213</sup> Ibid., p. 46.

<sup>214</sup> Underwood, *Treatise On The Diseases Of Children*, Introduction, p.v

<sup>215</sup> MS/567, Book 5, Case 275.

<sup>216</sup> Ibid., Book 10, Case 475.

it is born; three of these conditions are Syncope, Yellow Gum and Syphilis. In each of these conditions, general recognition meant that treatment methods could begin to take on a standardized form. Case histories from Hey, and from Hey's pupil Pearson, were included in Underwood's published discussion on the first two of these conditions.

Underwood, the most advanced writer on the diseases of children in the eighteenth century,<sup>217</sup> wrote the first account of apnoeic attacks of the newborn under the heading of Syncope, from a case history sent to him by Hey.<sup>218</sup> In this case Hey had been called to attend a child whom he had not delivered but who 'lay moaning and languid' for four or five hours until seized with a fainting fit which continued for half an hour. Hey noted the breathing was erratic, a feeble but slow pulse and the countenance of the child as pale as a corpse. He was unable to say whether a pulse had been maintained from birth up to the time of his attendance. Hey stimulated the nostrils of the infant with volatile alkali and administered by mouth a few drops in water as soon as the child could swallow. The fainting fits continued both day and night although in-between the child slept and alternatively suckled. Hey then recorded administering ten drops of oil ricini in white wine every two hours. This resulted in a favourable response and the languid fainting state was alleviated.

The condition of Yellow Gum, first recorded by Morgagni,<sup>219</sup> was of particular interest to Hey. Hey recorded one patient who had a succession of neo-natal deaths from jaundice, the first two of which occurred during the period when Pearson was Hey's pupil. The last death dated between August and September 1784,<sup>220</sup> caused Hey to seriously consider why a child, who appeared lively at birth, became languid and totally jaundiced within a day and died, its body covered in vibices, bleeding from the mouth and navel. Hey's pupil Pearson later sent a case history to Underwood of a neo-natal death from jaundice in May 1796, on which he had performed a post mortem. This is recognized as the first

<sup>217</sup> Still, *History of Paediatrics*, p. 478.

<sup>218</sup> Underwood, *Treatise Diseases of Children*, vol. i. See also Still, *History Of Paediatrics*, p. 481. This case history is not included in Hey's Casebooks.

<sup>219</sup> Morgagni, *The Seats And Causes Of Diseases*, Book III, letter 48, Article 60.

<sup>220</sup> MS/567, Book 6, Case 292.

description of malignant familial jaundice in the newborn.<sup>221</sup> ‘The yellow gum’ was the subject of much consideration by authors of the era. Hamilton for instance declared it to be frequently fatal, and advocated similar treatment as in adults, using gentle vomits and laxatives, with the medication of magnesia mixed with rhubarb, or castile soap mixed with nurse’s milk.<sup>222</sup> It was generally considered that the cause was meconium impacted in the intestines, which prevented the flow of bile.<sup>223</sup> There was no real diagnosis of the cause but the men-midwives by their many published comments of the period were only too aware of the serious nature and often-fatal aspect of this condition that frequently took the life of what they considered to be a resuscitated ‘languid child’.

The third condition was neo-natal Syphilis. There was some controversy whether the infection took place in the vagina after the membranes had broken.<sup>224</sup> In 1816 Hey published his view that Syphilis could be passed by a mother to an unborn child via the placenta.<sup>225</sup> This view was derived from his observations some decades earlier and included in a set of patient records that are not part of his Midwifery Casebooks, but are recorded in his Medical and Surgical Casebooks. This patient, Mrs. Blackie, had several children in the decade of the 1770s but contracted Syphilis after the death of the first child from a blind woman who ‘drew her breasts’ to relieve milk congestion.<sup>226</sup> Mrs. Blackie subsequently had two living babies who both displayed the symptoms of Syphilis shortly after they were born. Hey did not record that he recognized the various stigmata of facial disfigurement caused by congenital Syphilis in these babies, he recorded them purely as non-perfect babies at the time; the transmission of Syphilis was a later conclusion. He noted that Syphilis is ‘not infrequently attended in infants with an extensive desquamation of the cuticle and sometimes makes its

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<sup>221</sup> Still, *History Of Paediatrics*, p. 483.

<sup>222</sup> Hamilton, *A Treatise In Midwifery*, p 403.

<sup>223</sup> W. Nisbet, *The Clinical Guide, Or A Concise View Of The Leading Facts On The History, Nature, And Treatment Of The Various Diseases That Form The Subject Of Midwifery* (London J Johnson, 1800), p. 183.

<sup>224</sup> J. Foot, *Observations Upon the New Opinions of John Hunter in his Late Treatise on the Disease Venereal* (London: P.Beckett, 1786), p. 16.

<sup>225</sup> W. Hey, ‘Facts Illustrating The Effects of the Venereal Disease on the Foetus In Utero,’ *Medico-Chirurgical Transactions* (London, 1816), vol. VII, p. 541 – 550.

<sup>226</sup> MS/628, Book 5, Case 47 dated 1 January 1770, pp. 175-179.



first appearance in this form when infection has taken place in utero'.<sup>227</sup> Johnson had a chapter on the infection of the mother with Lues Venera (Syphilis). He noted, 'the child is often dead before the birth, if born alive it seldom survived the month', concluding, like Mauriceau almost a century earlier, that the child of an infected mother could also be infected with the disease.<sup>228</sup> Hey's copy of Johnson's publication, as noted above, was much consulted and he began to use Johnson's forceps in 1772 as soon as they were available. It could be that Hey was influenced by Johnson's findings, but it is Hey, not Johnson, to whom posterity has accorded the discovery that Syphilis was transmitted across the placenta.

Neonatal conditions began to be linked to the wider debate on infant management, particularly the critical comments on swaddling and the advocacy of maternal breast-feeding. Hey on many occasions forbade a mother that he had delivered from breast-feeding her baby, but without detailing his reasons. He made no comment whatever on the old custom of swaddling. Cadogan 'had launched a blistering attack' on swaddling and explicitly connected it with the suffocating atmosphere of the lying-in chamber.<sup>229</sup> It would follow that as Cadogan had influenced MacKenzie who had taught Hey, and because Hey also adopted a clinical approach to a delivery room, that he would have followed with Cadogan's view on the clothing of a neonate. It is surprising therefore that any mention of a neonate's clothing is absent in Hey's Casebooks and as Wilson pointed out, the evidence on the formation of Cadogan's ideas is lacking.<sup>230</sup>

A man-midwife, such as Hey, who had been trained in surgical and obstetric skills, was required to assume the mantle of a neo-natal paediatric carer. Lucas, Hey's midwifery colleague for more than thirty-five years published the first known article on antenatal care,<sup>231</sup> and at the end of his obstetric career wrote,

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<sup>227</sup> Hey, 'Foetus In Utero, *Medico Chirurgical Transactions*, p. 543.

<sup>228</sup> Johnson, *A New System of Midwifery*, p. 138

<sup>229</sup> Wilson, *Making of Man-Midwifery*, p. 203 and p. 209, note 46.

<sup>230</sup> Wilson 'The Enlightenment and Infant Care', p. 46.

<sup>231</sup> J. Lucas, 'Hints on the Management of Women in Certain Cases of Pregnancy, written 1 July 1773' *Memoirs of the Medical Society of London* (1788), pp. 406-417.

Until the birth be ended a mother is the sole object of everyone's attention, but as soon as that event takes place, the joy withdraws that care, and transfers it to the infant, as if all risk was surmounted...every tender mother will anxiously watch the inquiries of an accoucheur and expect him to pay attention to the infant's slightest complaints. The tightness of its dress or even the goading of a pin may even in some instances create alarm, while slight ailments unrelieved may soon destroy such feeble plants. It is by an unwearied and permanent vigilance that accoucheurs are to expect success, and gain experience; and by such acquirements the esteem of a whole family will generally be procured; for there is no branch of the profession equally calculated to bring a practitioner into general estimation. An anxious and interested father must feel himself indebted to that professor of the art, that by whole skill and diligence both mother and child enjoy satisfactory health and spirits.<sup>232</sup>

Whatever trauma childhood disease or accident brought, the newly born 'languid' child owed its life, not only to the nursing of a midwife, but also more importantly to the trained skill of a man-midwife. Conversely a man-midwife owed some of his rising status and popularity, not just to his ability to deliver a child successfully, but to preserve its life. Hey's Midwifery Casebooks provide historians with considerable evidence of the rising specialty of neonatal care, to a degree rarely found elsewhere. The Casebooks also reveal that it was a skill that developed and naturally progressed out of midwifery training. The networking that took place between practitioners involved in the care of neonates, and their quest to diagnose, understand and correctly treat illnesses arising in the early days of the life of a neonate can also be well observed. These men were all part of the general effective improvement in Georgian medical care, they were men who consolidated old theories, jettisoned the outdated and shared and discussed new ideas. Meticulous note taking, and the comparison of case histories formed a vital part of this process. Hey's Casebooks provide, possibly for the first time, unique evidence of this process.

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<sup>232</sup> J. Lucas, *On the Duties of a General Practitioner* (London: N.P., 1808), chapter 23, p. 183.

### Part Three 5.3 The Obstetric Complication of Puerperal Convulsions

Convulsions are difficult to prognosticate you should always desire assistance ...to save yourself from blame... violent pain in the head should make you suspicious. (W. Lowder, MS/ 215,p.182, Royal Society of Medicine)

The complication of puerperal convulsions was of such special interest to Hey that he contemplated publishing his theories. He must have made Denman aware of his theories because he found that he differed on some points of treatment with Denman, who said he would write against the paper. Hey, his son commented, postponed his intentions and never fulfilled his desire to publish his observations.<sup>233</sup> The eighteenth-century encounter with and treatment of this obstetric complication seems to have escaped the notice of historians, and any deliberation has been left to medical writers.<sup>234</sup> The presentation of my discussion is determined therefore only by primary sources, but these will reveal the implications of how the change in treatment patterns and recognition of this complication progressed.

#### 5.3.1 The Profile of Puerperal Convulsions

Hey used four terms for this complication, fit, paroxysm, deliquium and convulsion. All four terms can refer to the complication of puerperal convulsion, dependent upon the severity of the attack and consequent recognition. The term eclampsia to describe the condition was not used by Hey.<sup>235</sup> Before I consider Hey's method of treating puerperal convulsions a description of the condition will prove helpful. Puerperal convulsion is a transitory morbid condition from which the patient can recover within the course of a few days after delivery, but the primary activating factor was, and still remains, unknown. A convulsion can occur early in pregnancy, just before the onset of labour, or at anytime during labour, and up to forty-eight hours after delivery. The classic onset symptoms, all recognised

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<sup>233</sup> MS/504 Part II, p. 2 and 3.

<sup>234</sup> For work done in the 19<sup>th</sup> century see R. Hodges, *On the Nature, Pathology and Treatment of Puerperal Convulsions* (London: J. Churchill, 1864), and for the 20<sup>th</sup> see I. MacGillivray, *Pre-Eclampsia: The Hypertensive Disease of Pregnancy* (London, 1983) pp.325-377,

<sup>235</sup> Quincy, *Medical Dictionary*, p. 301, refers to eclampsia as 'those sparklings, which strike the eyes of an epileptic patient' and separates convulsions into two kinds, convulsions and spasms, p. 230 but does not give a description of a fit. He defines the word deliquium as a swoon, p. 264.

in Hey's time, are a severe frontal headache, dimness of vision, with or without flashes of light in the eyes, giddiness and epigastric pain, each condition occurring with or without vomits, and often in a plethoric woman. The first indication of the condition was, and is, twitching of the face and hands with rolling of the eyes.<sup>236</sup> The second stage, known as the tonic, occurs when the whole body becomes rigid with spasm involving clenched hands and facial distortion. The third, or clonic stage<sup>237</sup> usually results in stentorious breathing, involuntary evacuations of bowel and bladder, foaming at the mouth and biting of the tongue. In the last stage the patient becomes comatose during which state many convulsions may occur. On recovery the patient may have no memory of the trauma.

The precondition of oedema of the lower limbs, not just ankles and feet, and of the face and hands was, and is not, always a factor determining the onset of a fit because oedema may be purely a gestational disturbance. The presence of a placenta praevia or any other type of haemorrhage did not predispose a convulsion. However, any sudden flood of blood could mask the severity of a convulsion. One type of puerperal convulsion that was unable to be recognised in the eighteenth century, was that which occurred at the same time as a placental abruption or acute renal failure. The chronic condition of epilepsy could also mask a puerperal condition.

The way that puerperal convulsions were treated in the latter half of the seventeenth and the early part of the eighteenth century can be observed in several midwifery publications, and reveal to the historian how seriously puerperal convulsions were viewed at those times.<sup>238</sup> Sharp noted that, 'physicians can hardly tell which way to proceed',<sup>239</sup> and Willughby said 'convulsions be dangerous to women with child and in these fits some women perish'.<sup>240</sup> Both Sharp and Willughby recognised what later became classic symptoms. Willughby in his description of a plethoric woman said 'I believe her insatiable

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<sup>236</sup> Denman, *Practice of Midwifery*, pp. 412-414.

<sup>237</sup> *Ibid.*, p. 301. 'Clonos' in Quincy's terminology

<sup>238</sup> Sharp, *Midwives Book*, pp.244-248, and Willughby, *Observations in Midwifery*, pp. 202-205

<sup>239</sup> Sharp, *Midwives Book*, p. 245.

<sup>240</sup> Willughby, *Observations in Midwifery*, p. 202.

appetite did much occasion her convulsions'.<sup>241</sup> This patient was young and it was her first labour. Sharp referred to convulsions as 'of the falling sickness',<sup>242</sup> and went on to give the classic description of the onset symptom of a violent frontal headache.<sup>243</sup> Sharp's comment that 'physicians can hardly tell which way to proceed' is an indication that physicians were usually consulted for this type of complication.

Smellie, who recorded twelve cases of convulsions between the years 1745 and 1751, without resorting to the advice of a physician, did not include this obstetric complication in his publication, but his case histories reveal that he was aware of the symptoms of severe frontal headache, visual disturbances and clonic comatose state.<sup>244</sup> Smellie's standard treatment was initially to bleed up to twelve ounces of blood from the arm, and to deliver by forceps or footling as speedily as possible. In only two of Smellie's case histories a maternal death occurred, whereas half of Willughby's patients died. This could be due to Smollet's editing prior to publication, or the fact that Smellie accelerated more deliveries by art in convulsion cases than Smollet recognized. Although Smellie did not devote much attention to this complication he passed his reservations on to MacKenzie who commented, 'when fits come on they generally prove fatal'.<sup>245</sup> MacKenzie also said that the worst complication accompanying a convulsion was flooding and it was often 'out of the power to give assistance before the orifice is dilated, [because] death ensues, in such cases it is right to call assistance'.<sup>246</sup> Hey, as will be discussed later, found that flooding and convulsions were not necessarily separate issues.<sup>247</sup>

MacBride recorded only one case of puerperal convulsions amongst his 149 deliveries, but some of the sentiments he expressed serve to convey the feelings of many young men-midwives in their first encounter of this complication. His patient was the

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<sup>241</sup> Ibid., p. 203.

<sup>242</sup> Sharp, *Midwives Book*, p. 242.

<sup>243</sup> Ibid., p. 244.

<sup>244</sup> McClintock, *Smellie*, vol. ii, Cases 165, 166, 167, 233, 234, 264, and vol. iii, Cases 342-345, 366 and 373.

<sup>245</sup> MacKenzie, Catper Day, 'Lecture on Abortions'.

<sup>246</sup> MacKenzie, Anon, p.50, Lecture 5.

<sup>247</sup> Book 10, case 463

unmarried daughter of a nurse, and her convulsions began at the end of her fifth month of pregnancy. He noted that they were preceded by a violent frontal headache and loss of vision. Her body and legs swelled to a great size over the ensuing six weeks causing him to drain off large quantities of fluid from her legs. Just before she reached the seventh month her labour began and MacBride delivered her manually by art removing the body of a putrid foetus, and a while later managed to extract the head. Such was the state of decomposition of her uterus that his hand passed through it into her belly cavity. He wrote that he was immensely shocked that he had intensified her suffering by his manual delivery. He concluded that he must resist accelerating deliveries in future even in convulsion cases. In his sad account MacBride neither referred to Smellie's teaching nor said he had sought the assistance of a physician.<sup>248</sup>

Thomas Young in the manuscript in which he drew together the observations of most printed authors of each obstetric complication included the comment by Mauriceau 'that convulsions happen commonly to women in their first delivery...and in such cases the children are commonly male'.<sup>249</sup> Dr. Harvie, referring back to Manningham, attributed the onset of a convulsion to the 'overstretching to the nerves of the os tincae'.<sup>250</sup> Harvie advised bleeding, bowel evacuations, opiates and blisters. He also noted that convulsions often occurred in plethoric women or those of a hysteric nature.<sup>251</sup> There is no detail to be found in any eighteenth-century midwifery manuscript that suggests a delivery by caesarean section to relieve this complication. At the end of the century Alexander Gordon concluded that caesarean section 'should never be performed when any other method of delivery is practicable'.<sup>252</sup>

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<sup>248</sup> MacBride, 'Miscellanea', Case 147 dated 1759, pp. 220-222.

<sup>249</sup> T. Young, 'Manuscript midwifery notebook Edinburgh 1760-1780', Royal College of Physicians, Edinburgh, p. 166.

<sup>250</sup> Dr. Hunter, 'Lecture Notes written by Dr. Hervey [Harvie] 17 February 1765', Royal College of Physicians, Edinburgh, p. 86.

<sup>251</sup> *Ibid.*, p. 87.

<sup>252</sup> A. Gordon, Three Manuscript Books written in the hand of A. Gordon, 1790-1795, Royal College of Physicians, Edinburgh, vol. III, p. 123-135, 'The Caesarean Operation'.

Advice from the London teaching man-midwife William Lowder was explicit,<sup>253</sup> saying that a convulsion arises from plethora and that the correct treatment was bleeding, opiates and a speedy delivery.<sup>254</sup> Six years later<sup>255</sup> his instructions were more comprehensive: ‘convulsions are difficult to prognosticate, you should always desire assistance...to save yourself from blame...violent pain in the head should make you suspicious...what is to be done, bleed...and a quick delivery’.<sup>256</sup> He also observed that convulsions, in his experience, as earlier men had noted, were more common in first pregnancies.<sup>257</sup> Lowder continually added comments to his manuscripts and five years later in 1787 advised that ‘when a patient died in convulsions much good character could be lost’.<sup>258</sup> By this date men-midwives trained in the London and Edinburgh schools had developed extensive midwifery practices all over Britain and a death could cause alarm, loss of reputation, and damage to a lucrative practice.

It is evident therefore that eighteenth-century trained obstetric practitioners were aware of the basic symptoms and diagnostics of this parturition complication, as well as the reticence on the part of many of them to become too involved in treating patients who were unfortunately afflicted. The frontal headache, even if not combined with plethora or oedema, was a recognisable classic onset sign. If a convulsion occurred, then the profile of the complication was obvious and the focus of a practitioner had to move swiftly towards treatment procedures. The first established treatment option was bleeding and the second a quick delivery, and if the patient was in a comatose state a practitioner could affect a delivery by manual dilation of the cervix without causing her a too intensively painful experience.

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<sup>253</sup> W. Lowder, ‘Abstract of Lectures on the Theory and Practice of Midwifery given by W. Lowder MD, 1776 taken by Parnell in 1776’, Royal Society of Medicine, MS/212.

<sup>254</sup> *Ibid.*, p. 233.

<sup>255</sup> W. Lowder, ‘Lectures in Midwifery 1782’, Royal Society of Medicine, MS/215. This manuscript has an index listing complications.

<sup>256</sup> *Ibid.*, p. 183.

<sup>257</sup> *Ibid.*, p. 263.

<sup>258</sup> W. Lowder, ‘Manuscript Lectures on Midwifery, Dr. Lowder His Own Book’, dated 14 December 1787, Royal Society of Medicine, MS/214, p. 284.

### 5.3.2 Hey's Case Histories of Puerperal Convulsions

The clinical detail contained in Hey's Casebook records of his encounters with this complication, provide an historian with a unique opportunity to gain a deeper appreciation of how the recognition and treatment patterns evolved over the last four decades of the eighteenth century. Statistics of the maternal death from puerperal convulsions in the eighteenth century are constrained by the paucity of first hand accounts, giving significant status to the series of cases recorded by Hey, and the single case of MacBride. Foetal death rates, because so many other factors were involved in the haste to expedite a delivery, mask a true comparison. Although certain conditions could, and still can, predispose the onset of puerperal convulsions, the onset of convulsions could also occur without any prior warning.

Table 5 C below, lists all the convulsion cases included in Hey's casebooks. Note that the incidence of first pregnancies, ten out of twenty-three cases, supports the existing theory that eclampsia is prone to occur in first pregnancies. Surprisingly there are only five maternal deaths, but Hey could have attended other deliveries with this complication that he did not include in his casebooks.

**Table 5 C Cases of Puerperal Convulsions**

Book	Case	Date	Name	Age	Child No.	Other Practitioner	Death Mother	Death Child
1		1760				Dawson	Yes	
1	59	10/1764	Mrs. Miller	39	First		Yes	
2	90	13/6/1767	Mrs. Scott			Dr. Hird		
2	94	13/11/1767	Mrs. Dean	46	Eighth			Yes
2	106	24/10/1768	Mrs. J. Walker		Seventh			
2	126	11/2/1771	Unmarried Girl	20	First	Mr. R. Walker		
3	126	27/4/1771	Unmarried Girl		First	Mr. R. Walker		
3	131	28/7/1771	Mrs. J. Smithies		Third	Dr. Hird		
3	133	5/9/1771	Mrs. Holdsworth		Seventh			
3	147	18/12/1772	Mrs. T. Sutcliffe		Tenth			
3	148	10/1772	Mrs. G.	28	Second	Mr. Barwick/Dr. Crowther		
3	149	21/9/1772	Mrs. B.	22	First	Mr. Glover		Yes
4	208	9/5/1776	Mrs. P. Acroyd		Fifth		Yes	Yes
5	269	4/7/1782	Mrs. R. Dalby	27	First			Yes
6	315	1/6/1786	Mrs. Blagborough		Third	Dr. Davison		
7	340	29/3/1791	Mrs. T. Rawlins			Mr. Horesman	Yes	
7	341	14/7/1791	Mrs. W. Gaarret	20	First			
7	342	14/8/1791	Mrs. Dodsworth	24	First	Mr. Lucas		
7	360	16/5/1793	Mrs. B. Head	31	Seventh		Yes	



9	406	23/10/1797	Mrs. G. Turner			Mr. Kenion		
9	424	3/10/1799	Mrs. M. Walker	24	First	Mr. Coates		
10	463	5/7/1804	Mrs. Mayor	24	First	Mr. Tatham		One Twin
10	474	31/7/1805	Mrs. S. Barnard	18	First	Mr. Musgrave		

The second table, Table 5 D, details the onset symptoms in all cases except the first one, where Hey does not detail when the first fit occurred. It also provides treatment detail.

**Table 5 D Onset Symptoms and Treatment**

Book	Case	Name	Symptoms	First Fit	Labour Complications	Treatment
1	59	Mrs Miller	Swollen legs from midterm	During labour	Comatose 10 plus fits	Bled, cataplasms
2	90	Mrs Scott	Head pain/vomits	During labour	Frothing at mouth	Bled, clyster
2	94	Mrs Dean	Swollen legs	During labour	10 plus fits, Pain in hypogastrium	Bled, Forceps
2	106	Mrs Walker	Poorly for some weeks	After delivery	Pericardial pain	Red wine, forceps
2	126	Unmarried Girl	Head pain 2 days	At onset of labour	Could not swallow	Bled, sinapsims
3	126	Unmarried Girl	Head pain/incoherent	2 hours before labour	Comatose 10 plus fits	Bled, Forceps, Clyster
3	131	Mrs Smithies	Head Pain at 7 months Oedema in legs and thighs	At 7 months	Vomits	Bled
3	133	Mrs Holdsworth	Poorly throughout pregnancy	After delivery	Flood, sick and faint	Cold water vinegar cloths
3	147	Mrs Sutcliffe	None	After delivery	Floods	Cold water vinegar cloths
3	148	Mrs. G.	Violent head pain at 7 months	At 7 months	Comatose 10 plus fits	Bled, Opium, Cataplasms
3	149	Mrs. B.	Headaches	Fits at 8 months	Comatose	Bled
4	208	Mrs Acroyd	Headache/belly pain	At 8 months	Comatose 10 plus fits	Bled, clyster
5	269	Mrs Dalby	Headache/belly pain	At 6 months	Comatose	Bled, blister
6	315	Mrs Blagborough	Swollen body/rigid hands/plethora/bloated features	After delivery	Comatose	Tobacco clyster, Bled, cut off hair
7	340	Mrs Rawlins	None	After delivery	Comatose 10 plus fits	
7	341	Mrs Garret	None	During labour	Comatose/many fits	Bled
7	342	Mrs Dodsworth	None	During labour	Frontal head pain	Bled
7	360	Mrs Head	fits/insensible/incontinent	At 7 months	Comatose 10 plus fits Gangrene	Bled, clyster
9	406	Mrs Turner	Severe head pain	Onset of labour	Tedious labour	Bled, purge, leeches
9	424	Mrs Walker	None	During labour	Stupor	Bled, forceps, purge, cold water
10	463	Mrs Mayor	None	During	Frontal head pain	Bled, forceps,

				labour	several fits	twins
10	474	Mrs Barnard	Head pain	Onset of labour	Comatose	Head shaved, bled, blister, purge

These two tables reveal significant features. Firstly, from the clusters of cases, seven in the years 1771 and 1772, and four in 1791 and 1793, we may infer that the complication sometimes drew Hey's attention more than at other times, since the condition could normally be expected to occur on a regular basis. Secondly his charting shows the consistency of head pain, in almost all the cases, as a reliable diagnostic. The lesser occurrence of swelling as a diagnostic, and the regular, though not total occurrence of coma as the local focus of the deepening severity of the complication is also evident. His treatment patterns show that he used bleeding in sixteen cases to alleviate recognised plethora. Eleven patients reached the clonic comatose state, and of these eleven seven had ten or more succeeding fits, and four of them died. Clearly all the mothers were acutely ill, and Hey pursued methods of exactitude and thoroughness within the range of treatment options available to him; if he experienced anxiety this was not written into his narrative.

### **5.3.3 An Analysis of Three of Hey's Convulsion Cases Between 1767 and 1804**

The presentation of the condition varied in each of the three following cases; Mrs Dean was an emergency call presumably by a midwife; Mrs Blagborough was a wealthy booked patient; and Mrs Mayor, to whom Hey was called in a consultant manner, had been attended by an inexperienced young practitioner. The clinical narrative in each case is harrowing in the extreme and can scarcely be read without emotion.

Book 2, Case 94, pp. 44-49.

Hey was sent for in November 1767 to deliver forty-six year old Mrs. William Dean of Pudsey who had been in labour for some time. The child's head had not advanced and she was much fatigued. After a few hours Hey 'applied the forceps...they slipped as soon as I used any force...I therefore laid them aside'. Hey remained with her and after fifteen hours

'she began to shudder violently'. Hey feared that she would now 'begin to sink fast', and he had no option but to open the head of the child. Hey extracted 'the cerebrum by the blunt hook and [his] fingers' then delivered the child and placenta. A considerable amount of coagulated blood came away with the placenta. Twelve hours later she again had a violent shuddering, which Hey now recognised as 'paroxysms'. These fits continued throughout the first day of her delivery accompanied by pain in the hypo-gastric region. Because he now realised the complication of puerperal convulsions despite the great loss of blood after the placenta he bled her twice from her arm. He noticed that she had a great thirst, that her lips became blue and her countenance changed. During the progress of each fit she sweated profusely. Hardly any urine was passed and the lochia became serous. The fits did not cease until the third day after delivery and her legs became oedematous. Only on the eighth day after her delivery when she became lucid once more did she tell Hey that her legs had been swollen at the latter end of her pregnancy. Hey's recording of this fact implies that if he had been made aware of this fact he may not have found her convulsions entirely unexpected.

Book 6, Case 315, pp. 101-110 and pp. 143-149.

Hey was booked to attend Mrs. Blagborough in her third labour, which began on 1 June 1786. The Blagborough family were wealthy manufacturers of cotton goods. This labour, as her previous ones, Hey wrote was natural and favourable apart from a little headache and uneasiness in her stomach. Hey wrote that to his 'great surprise she began to fit after her delivery' causing him 'mature consideration because she became insensible'. He noted that she had had convulsions in her first labour and in the intervening years 'had become remarkably corpulent'. Hey now recalled that six months into this pregnancy he had bled her of six ounces of blood because she had oedema of the legs thighs and hands. He concluded that the plethora of her body had caused the post partum convulsion and as she was bleeding rather freely from her uterus he dithered before he bled her from the arm. But the fits continued and her countenance became livid, and he considered he had no option but to take

seven ounces of blood. At the same time he administered volatile tincture of valerian, sinapsims to her feet, a blister on her stomach and performed the alarming, and unexplained, act of cutting off all her hair. The family sent for Dr. Davison, an inexperienced newly arrived physician in Leeds, to whom Hey recounted his treatment measures, as well as his years of experience in dealing with this complication. Davison diagnosed the condition as 'nervous irritability' and added musk to the medication. The fits did not abate and Hey's narrative indicates his irritation at Davison's questioning of his diagnosis. Hey bled her of a further seven ounces of blood and managed to get her to swallow an emetic. He fomented her swollen legs with poultices as 'one fit succeeded another'. Desperation caused Hey to try a tobacco clyster on the second day because he feared she would die. At the end of the second day she became lucid for a short while but then lapsed into 'a kind of maniacal delirium for five days'. Her urine became 'tinged with red and her lochia ceased'. Emetics were administered over several days and Hey noted that she recovered to such a degree that she 'rode out in a chaise at the end of the third week', presumably with a wig on her shaven head.

There are short remarks after this case where Hey compared earlier cases and treatment practices. He was concerned that delivery had been advocated as a means of preventing fits, yet in this case many severe fits involving the clonic comatose state came on unexpectedly after a normal delivery. He had not anticipated that her oedema at six to seven months predisposed that convulsion would occur at the time of delivery. His experience in this proved a salient lesson.

Book 10, Case 463, pp. 78-89

This case is dated 5 July 1804 and a young apothecary called Hey in a consultant capacity. Mrs. Mayor, aged 24, had been in labour for two days in the delivery of her first child. She was much fatigued and her pulse was 130. When Hey arrived he judged that the head had not advanced sufficiently 'for forceps to be applied with propriety'. After waiting a further

twelve hours he applied forceps, but 'a great discharge of blood caused him to remove one blade and Mrs. M. immediately had a fit'. Despite this uterine bleed the apothecary Mr. Tatham, took away a substantial amount of blood from her arm. Hey said it was 'proper to observe that she had complained of head pain, and was very restless'. Hey adjusted her position in the bed with pillows and a bolster then removed the remaining forceps blade and a second fit ensued. Fearing for her safety and judging immediate delivery was necessary as it was 'highly probable that the child was already dead' Hey opened the head and extracted the child. He 'was greatly pained that the head of a second child presented' but speedily turned this child in utero and fixed a noose on its ankle. This was a difficult procedure and he lacerated the perineum in the process. The fits continued but Mrs Mayor eventually recovered from this ordeal although the restoration of normal health was prolonged. Hey gave no detail concerning the survival of the second twin.

These three cases stretch over five decades and show that treatment practices and the understanding of the complication had varied little throughout that time, but his experience nonetheless still revealed that the unexpected was always possible. Although in each case the mother survived we have no detail of their post partum health, which could have had serious impairment. In this era only the visual presentations of symptoms were known. In Hey's twenty-three cases he was aware of a frontal severe headache in ten, and swelling of the legs in only four. He was not wholly convinced that delivery helped to ward off the onset of a convulsion. However he clearly actively responded to advocated treatment procedures, and at no time considered delivery by caesarean section as a viable option to speedily resolve the complication.

Significantly he did record, in six cases, malfunction of voiding urine, or urine tinged with blood. Although these symptoms could have predisposed renal damage, they equally could just have arisen from birth trauma. It was not until forty years later in 1843 that Sir J. Y. Simpson found granular lesions on a kidney in a woman he dissected who had died from

convulsions six hours after delivery. In the same year J. C. Lever recorded the coincidence of albumin in the urine of fourteen parturient women who had puerperal convulsions.<sup>259</sup> It is salutary to note that despite treatment with sophisticated medication and continual monitoring, medical science has still not identified the primary activating factor of puerperal convulsions, and the complication can still arise without any prior indication or symptom.

#### **5.3.4 Puerperal Convulsions in the later Eighteenth century: Pathological enquiry and Therapeutic Development**

In this concluding section on puerperal convulsions I shall discuss some of the pathological investigations that Hey and others were involved in to try to form a deeper understanding of the complication, and thereby improve the methods of treatment. Previous historians have not given even cursory attention to these investigations, or to the dissections performed on mothers who died after suffering this, or any other gestational or parturition complication.

In 1801, when the second edition of Denman's book was published, some standard treatment practices for puerperal convulsions had been established.<sup>260</sup> Denman had made a practice of dissecting women who had died after this complication and had found no 'instance of effusion of blood in the brain', although he recognised that cases dissected earlier by Hewson had found 'effusion of blood, in a small quantity on the surface of the brain'.<sup>261</sup> Denman however did not include presentations symptoms, or any comparative pathological survey material. Having said that, it does indicate that both Denman and Hewson were actively seeking clarification of the seats and causes of this puerperal complication. Hey's twenty-three cases contain a cluster of eleven between the years 1767 to 1776, which may indicate a widespread interest at that time. It could be that Hey found midwifery literature lacking in detailed observation and felt the need to record his findings. He later commented that particularly useful and instructive cases were the reasons for his choice of cases to

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<sup>259</sup> J. M. Monro-Kerr, R. W. Johnstone and M. H. H. Phillips, eds., *Historical Review of British Obstetrics and Gynaecology 1800-1950* (Edinburgh, 1954), pp. 158-159.

<sup>260</sup> Denman, *Practice of Midwifery*, pp. 400-426.

<sup>261</sup> *Ibid.*, p. 404.

include in his Casebooks.<sup>262</sup> Although Hey was aware of both the work of Denman and Hewson he did not refer to it, and there are no particular medical articles relating to this complication at this period in time.

There are two cases where Hey considered that clues to the cause of the complication could be observed on how the patient's drawn blood settled and separated in a dish. Hey's publication, *Observations on the Blood* in 1779, came twelve years after his first such observation in June 1767.<sup>263</sup> His observations at this time concerned how quickly the serum separated from the crassamentum, noting that the blood 'appeared thin and florid as it flowed'.<sup>264</sup> This observation indicates that he was working on this pathological enquiry four years before Hewson published,<sup>265</sup> and reveals the influence of William Heberden's work at this time.<sup>266</sup>

Medical historians concerned with the late eighteenth-century skilful midwifery have paid little attention to the publications of scientifically minded medical practitioners. Many such men were fellows of the Royal Society, and interacted with non-medical men such as Henry Cavendish and Joseph Priestley, who were involved in chemical enquiries. Some men like Hey, Hewson and Heberden conducted pathological and haematological experiments. Hey extended his experiments to include investigations on the blood of gestational and parturient women.<sup>267</sup> Unfortunately Hey did not identify the pregnant patients on whom he experimented, but he did describe their conditions. One patient 'with a habit somewhat corpulent whom I attended for many years is subject to a headache which seems to arrive from plethora'. The date Hey attended this lady was in the early years of the 1770s, and therefore coincided with the cluster of his recorded puerperal convulsion cases. He could have been anticipating a parturient complication in this patient commensurate with headache

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<sup>262</sup> Hey, *Observations in Surgery*, Preface, first sentence.

<sup>263</sup> MS/567, Book 2, Case 90, p. 33.

<sup>264</sup> *Ibid.*, p. 33.

<sup>265</sup> W. Hewson, *An Experimental Inquiry into the Properties of the Blood* (London: T. Cadell, 1771)

<sup>266</sup> Hey, *Observations on the Blood*, p. 5.

<sup>267</sup> *Ibid.*, pp. 56-69 and Appendix I, pp. 77-79.

and a plethoric condition. Hey wrote 'nothing relieves her complaint but bleeding', and he bled her 'at the end of her third month, again at the expiration of the sixth month and about a fortnight before her labour'.<sup>268</sup> Hey found to his dismay no warning sign from the way her blood settled and coagulated in the dish, nor did he find it 'more tenacious than the blood of non-pregnant women'. His enquiries remained open, because there is a second mention of a similar blood experiment twenty years later,<sup>269</sup> where Hey was again clearly looking for inflammation of the blood in a patient who had a plethoric state at seven months gestation. He compared the florid nature of her blood after the delivery to its 'loose texture at seven months', but could draw no conclusion.<sup>270</sup>

Hey's first reference to Denman in a convulsion case did not occur until August 1791,<sup>271</sup> where he commented on the particular 'lispings noise which Dr. Denman thinks to be a characteristic symptom of puerperal convulsions'.<sup>272</sup> Hey also referred to the deliberations of William Osborne (1736-1808), in an earlier case in June 1786, regarding 'Osborne's opinion that the convulsive state eased when a uterus had expelled a foetus'.<sup>273</sup> Hey's own experience 'previous to this case makes rather against the propriety of expediting the delivery.'<sup>274</sup> Hey did not make it clear whether he referred to a manuscript or a personal communication from Osborne. There was a dispute in the partnership of Denman and Osborne during the 1780s concerning the controversial issue of forceps versus the vectis.<sup>275</sup> And we know that Hey was actively conversing with Denman in 1784 from entries made by his son Richard in the practice Common Place Book,<sup>276</sup> although Pearson said that Richard Hey was then a pupil of William Lowther.<sup>277</sup> Richard Hey commented in the Common Place

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<sup>268</sup> Ibid., p. 67.

<sup>269</sup> MS/567, Book 6, Case 315, pp. 101-105.

<sup>270</sup> Ibid., p. 107.

<sup>271</sup> MS/567, Book 7, Case 342, dated 14 August 1791, p. 93

<sup>272</sup> Ibid., p. 91, see also Denman, *Practice of Midwifery*, p. 402.

<sup>273</sup> MS/567, Book 6, Case 315, p. 148.

<sup>274</sup> Ibid., p. 149.

<sup>275</sup> For comment on this dispute see Wilson, *Making of Man-Midwifery*, p. 202.

<sup>276</sup> MS/1587, section dated Saturday 20 October 1782 to February 1783, refers to Richard Hey as a pupil of Denman.

<sup>277</sup> Pearson, *Hey*, p. 17.



Book 'in convulsions H, [Hey] does not deliver artificially, but bleeds liberally... [and that] Mr. Dawson<sup>278</sup> used to attribute puerperal convulsions to the use of tansy water'.<sup>279</sup> These various comments reveal that this complication was a continual topic of debate between men-midwives, in national and provincial centres.

An intriguing question concerns what can be found in Hey's cases, which if published, could have contravened Denman's theories? I would have to argue very little, but Hey often seemed to link blood pathology issues to most ailments and complications, which Denman did not. Denman said that he found in most instances the patient came from the higher ranks of life.<sup>280</sup> But, whilst this comment could tell more of Denman's practice than of the obstetric complication, there could be recognition that plethora, or a lifestyle of indulgence, was a contributory factor. On the other hand the several case histories of Lydia Dixon detailed above, despite no evidence of the convulsion complication, provide one contradiction, that a wealthy woman could be under-nourished. Denman did notice that women of a certain state of mind such as 'nervous affections' often became 'maniacal after their delivery'.<sup>281</sup> He could have referred to an entirely different condition, puerperal mania, only one example of which can be observed amongst Hey's case histories where a woman had cut her throat.<sup>282</sup> Denman also noted that convulsions had in 'two cases been brought on as it appeared, by the use of some mercurial preparation mixed with the powder for their hair'.<sup>283</sup> It is impossible to tell whether any of Hey's patients indulged in the fashions of the day, but some were wives of very rich merchants, Mrs. Blagborough for one,<sup>284</sup> but whether she had used mercurial or any other hair powder cannot be determined. However, it is interesting to note that in the two cases where Hey either shaved the patient's head, Mrs. Blagborough, or cut off the hair, in

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<sup>278</sup> MS/1587, Tansy, (*Tanacetum vulgare*) flowers exude an oil that strongly induces menstruation, and was a recognized abortifacient used by midwives.

<sup>279</sup> MS/567, Book 1 Case 54, p.119

<sup>280</sup> Denman, *Practice of Midwifery*, p. 405

<sup>281</sup> *Ibid.*, p. 407.

<sup>282</sup> MS/567, Book 5, Case 244, dated 16 September 1779.

<sup>283</sup> Denman, *Practice of Midwifery*, p. 408.

<sup>284</sup> MS/567, Book 6, Case 315, dated 1 June 1786.

the case of Mrs. Charles Barnard,<sup>285</sup> they were both wealthy women, but the latter case was in 1805, when the fashion for powdered hair had declined.

Denman agreed with Hey that imprudent and artificial dilation of the os uteri when it was 'unusually rigid...[or] occasioned by inflammation' increased the possibility of convulsions. To confirm this opinion Denman cited a case of convulsions communicated to him by MacKenzie, who could also have influenced Hey.<sup>286</sup> Denman agreed that the liable occurrence was greater in first pregnancies, a conclusion Hey had come to in 1772 when he commented that 'most of the cases I have known have been in the first pregnancy'.<sup>287</sup>

Often a puerperal convulsion came without warning, and there was no anticipation or consideration of prevention. Generally one can read through the various eighteenth-century texts and find that in most pregnancies retention of composure, gentle treatment by friends and attendants, a warm bath to relieve cramps and some sparing use of opium was all that was prescribed. No specific measures were stipulated to avoid the onset of a convulsion. Denman at the end of the century had little to add to earlier treatment practices, apart from adherence to bleeding. One practice that was common to all was the 'dashing of cold water onto the face', since it was found to be effective, and this was used by Hey in many cases.<sup>288</sup> Significantly Denman cited a case of Bromfeild who by accident had caused an excessive bleed, which had the effect of arresting the convulsions.<sup>289</sup> This is an interesting aside from Denman because it reveals that Bromfeild, in addition to his surgical work, and high profile in accepting extensive numbers of surgical pupils, was still involved privately with parturient women.

Medical historians have evaded investigation of how the trained men-midwives of the eighteenth century approached the treatment of the obstetric complication of puerperal convulsion. Yet as this thesis has demonstrated such investigation is not constrained by lack

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<sup>285</sup> MS/567, Book 10, Case 474, dates 3 July 1805.

<sup>286</sup> Denman, *Practice of Midwifery*, p. 410.

<sup>287</sup> MS/567, Book 3, Case 148, p. 73.

<sup>288</sup> *Ibid.*, p. 424, and MS/567, Book 9, Case 424, p. 109.

<sup>289</sup> Denman, *Practice of Midwifery*, p. 421.

of evidence, in published and archival material. This initial survey of Hey's experience of treating the complication has shown his concern about causes and predisposition, and that the complexity of irregular symptoms, variable occurrence, and uncertain pathological localization that he was confronted with, led him to rely on the most obvious symptoms and traditional therapeutics. Convulsion was, and remains, an alarming puerperal complication, often occurring without any warning. It was, as Hey's cases reveal, also invariably combined with other complications. Hey did not turn the treatment of his convulsive mothers over to a physician to preserve his local reputation. However he did show reticence in exposing his national reputation by not publishing his theories because Denman said he would write against him.

#### **Part Four 5.4 Hey's Unpublished Midwifery Writings**

*Maternal mortality is, and always was, terrible in ways that other mortalities were not.*

(Loudon, *Death in Childbirth*, p. 2.)

The death of a young mother in childbirth evoked, and still evokes, a particularly intense grief in her family because maternal death had, and has, no respect for status, age, time or place. A whole wide-ranging series of risk factors could, and can, arise at any time in any environment, no matter how well trained the medical personnel. Every Georgian woman faced the risk of dying in childbirth. Hey's three obstetric articles are each concerned with unusual, but deadly complications, and the publication of his son on puerperal fever, in which Hey played a major part, was another often fatal complication of childbirth. Hey's sets of obstetric 'Remarks' that are scattered between the case histories in Books 2 to 10 are concerned with standardizing practices to prevent parturition trauma, and the preservation of maternal and foetal life. There are recurring themes within Hey's 'Remarks', which attain advanced levels of clinical commentary at crucial periods in his professional life, and my analysis will focus upon some of his main therapeutic preoccupations.

As a prelude to my analysis I itemise what a skilled man-midwife in the eighteenth century was unable to ascertain when he attended a delivery. He could not know whether the mother had gestational diabetes, anaemia, gestational or a persistent, chronic raised level of blood pressure, impaired renal function, or whether she was carrying a multiple birth or a monster. Neither did he know, until her cervix opened, the presentation of the foetus in her uterus, nor where the placenta was situated until a pre-partum haemorrhage began. If a placenta abrupta occurred and no blood flowed through the cervix he could not account for the severe pain, or possibly distinguish an unexplained death from heart failure. He had no means of supporting the mother by replacement of body fluids except by mouth. The option of delivery by caesarean section had only a remote chance of success. A man-midwife could attempt to control, in some instances, injuries occurring to the mother by the force of her own contractions, such as a fistula or perianal tear, and by his manual and instrumental procedures. Infections causing fevers, blood poisoning and gangrene from suppression of blood flow, he was powerless to prevent. As Loudon has noted, the first recognition of puerperal fever as a specific parturition complication came around the middle decades of the eighteenth century, and its connection to the infectious ailment of erysipelas, both in single instances and epidemically, only in the last decade.<sup>290</sup>

Hey's sets of obstetric 'Remarks' interspersed throughout Books 2 to 10 are extensive, erudite and carefully written. They cover, over the nine books, 180 pages, the length of one whole Casebook. In addition to the clinical content there is further evidence to be found on the underlying networks and connections between many of those men who were publishing their theories and tried practices. The extent and quality of these 'Remarks' and what they reveal about how obstetric practices evolved and developed requires separate and lengthy attention, which falls outside the bounds of this thesis. The analysis, which follows, provides insight into Hey's reflections upon his training, upon his own and others' methods,

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<sup>290</sup> Loudon, *The Tragedy of Childbed Fever*, chapters 2,3&4.

and his typical pre-occupations. It thus serves to characterize these features of his work in a way which analysis of his sparse obstetric published work could not achieve.

'Remarks' in Casebooks 2, 3 and 4

Hey's 'Remarks' begin in the year 1769 when he was well established after ten years in practice. The first set on the extraction of a placenta was to be a recurring theme throughout the succeeding books. Hey detailed the method he had adopted noting that it coincided with the method of Dr. Harvie. He then described his method of placing the palm of his hand downwards on the belly to push the integuments of the belly towards the spine with the leading edge of his hand in order to get behind the top of the uterus and pull it downwards.<sup>291</sup> If a spontaneous expulsion of a placenta did not occur he manually extracted it by stimulating the uterus internally and externally. Hey contradicted Harvie's method of leaving the expulsion to nature to avoid injury to the uterus,<sup>292</sup> and added a note two years later to confirm this opinion after discussions with Underwood, who had lost three mothers by leaving the expulsion to nature.<sup>293</sup>

The second set of 'Remarks' is short but explicit, cites Smellie and MacKenzie as well as Harvie, and concerns a further recurring theme, that of preventing a perianal tear.<sup>294</sup> Hey noted that Smellie advised laying the mother on her left side with the operator's left hand exerting pressure on the perineum to retard the exit of the head. He went on to say that 'MacKenzie improved upon this plan and recommended (when I attended his lectures) the application of the right hand to the protruding vertex' a method that Harvie objected to because he considered the perineum was less likely to tear if pressed backwards by the operators left hand.<sup>295</sup> Experience had taught Hey that Harvie's method achieved greater

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<sup>291</sup> MS/567, Book 2, p. 116, the leading side edge of the palm is the most sensitive part of the hand and Hey's procedure is still in general use.

<sup>292</sup> Harvie, *Practical Directions*, p. 13.

<sup>293</sup> MS/567, Book 2, p. 121.

<sup>294</sup> MS/567, Book 2, pp. 176-6.

<sup>295</sup> Harvie, *Practical Direction*, p. 3.

success. The 'Remarks' follow a complicated forceps delivery of a first child where the perineum had been lacerated and a substantial haemorrhage had ensued.<sup>296</sup>

The first set of 'Remarks' in Book 3 concern the rare complication of a uterine hourglass constriction. The influence of MacKenzie is still evident even though Hey was fourteen years into his general practice.<sup>297</sup> An hourglass uterine constriction arises when a placenta is situated at the fundus of the uterus and does not spontaneously detach before the lower part of the uterus contracts. Smellie noted that 'great force was required for the man-midwife to move his hand through the constriction of the retraction ring', and went on to say that there was a danger of a rupture of the vagina from the uterus or of the lower part of the uterus.<sup>298</sup> Denman later recognised that although a retained placenta in an hourglass contracted uterus was rare it was extremely difficult to extract, and could only be done by a steady and resolute dilation of the closed part of the uterus.<sup>299</sup> MacKenzie cautioned that more mischief could be done from the mismanagement of a retained placenta than from the delivery of a child.<sup>300</sup> Hey recalled that MacKenzie considered that an hourglass contraction could be caused by irregular contractions brought on by improper stimulus, but in his experience, although the complication was rare, it was not caused by improper stimulus.<sup>301</sup> Hey wrote these 'Remarks' after two cases of this complication where he said he had followed 'Mr. White's method', which was that 'manual extraction of the placenta should not be attempted whilst there are any spasmodic contraction either in the neck or across the middle of the womb'.<sup>302</sup> White's publication in 1773 coincided with the date of these 'Remarks', and Hey had noted that he had discussed methods of placenta removal with White 'when I waited upon Mr White at his house' in the previous summer.<sup>303</sup>

<sup>296</sup> MS/567, Book 2, Case 128, dated 2 May 1771.

<sup>297</sup> MS/567, Book 3, p. 83 and Case 151, dated 12 February 1773.

<sup>298</sup> Smellie, *Treatise in Midwifery*, p. 237.

<sup>299</sup> Denman, *Practice of Midwifery*, vol. II, p. 383.

<sup>300</sup> MacKenzie, Anon Manuscript, p. 162.

<sup>301</sup> MS/567, Book 3, p. 90.

<sup>302</sup> White, *Treatise on Pregnant and Lying-in Women*, p. 127, and MS/567, Case 151 & Case 152

<sup>303</sup> MS/567, Book 3, Case 142 dated 17 July 1772.

White's publication could also have had a bearing on the next set of 'Remarks' on puerperal fever, since White's 'Postscript' was written in a similar vein to Hey's 'Remarks' concerning the observations of Dr. Hulme on the seat of puerperal fever.<sup>304</sup> Hulme, a London physician had based his opinion on dissections, which Hey noted, found that 'the seat of the disease is in the omentum...my [Hey's] experience on the contrary would induce me to believe that the uterus is the original seat of the disorder'.<sup>305</sup> Hey justified his opinion by the dissection he had performed on a woman who had died from puerperal fever that revealed 'the uterus enlarged, inflamed and tending to a gangrenous state'.<sup>306</sup> White tended to agree with Hey but also found that mortification spread to the other contents of the belly.<sup>307</sup> More significantly White referred to the experiments of Hewson on blood observations to determine the presence of inflammation; the same type of experiment that Hey was also conducting in 1772 and 1773.<sup>308</sup> This short set of 'Remarks' is an example of the individual, observational and experimental work undertaken by medical men in different parts of the country that served as focus for others in their determination to find the seat and cause of an ailment.

There is only one set of 'Remarks' in Book 4, and Hey termed them 'Occasional Remarks'. They are dated September 1775 and apart from the opening paragraph are of minor consequence. The opening paragraph begins 'Dr. Denman calls the life of a child intro-foetal life, and the life which is consequent to respiration animal life, these he says never exist in perfection at the same time'.<sup>309</sup> This is Hey's first mention of Denman and reveals his early influence. In 1775 Denman was a physician-accoucheur at the Middlesex Hospital in London, and exploited the gap left by the death of MacKenzie in 1775 with the private Midwifery School he set up with William Osborne (1736-1808) around that time. In

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<sup>304</sup> MS/567, Book 3, pp. 109-110, White, *Treatise on Pregnant and Lying-in Women*, pp. 128-142, and N. Hulme, *A Treatise on the Puerperal Fever* (London: T. Cadell, 1772).

<sup>305</sup> MS/567, Book 3, p. 109.

<sup>306</sup> MS/628, Book 1, Case 21.

<sup>307</sup> White, *Treatise on Pregnant and Lying-in Women*, p. 134.

<sup>308</sup> Hey, *Observations on the Blood*, pp. 1-39.

<sup>309</sup> MS/567, Book 4, p. 45.

1775, like Hey and White in the provinces, Denman was a man in his prime at the threshold of his achievements. His first publication, although not mentioned by Hey, must have drawn Hey's attention.<sup>310</sup> The dual entry of Denman's comment that 'the pulsation of the arteries of the navel string proves the existence of foetal life and the imperfection of the animal life, until the animal life be perfect the foetal life should not be destroyed', suggests that Hey regarded it as significant.<sup>311</sup>

Hey's 'Remarks' in Book 5 resemble standard textbook type procedures on how to avoid trauma and injury to the mother. They extend in detail to the position she should be placed in for her delivery, and there are also telling comments on how to conduct a midwifery practice. For example the use of one blade of the forceps for a lever Hey considered had a twofold advantage, for it not only prevented a long painful labour to the mother, but also 'set a practitioner at liberty who has much business on his hands. Some of his patients may be suffering through his confinement, nay may even eventually loose their lives in consequence of his assistance being delayed'.<sup>312</sup> Hey followed this comment with detail of professional comportment in the course of a difficult delivery, saying 'I sat at my case as much as possible and endeavoured to seem to the bystanders to be quite easy and in full expectation of success.'<sup>313</sup>

### Remarks in Book 6

The 'Remarks' in Book 6 cover the years from July 1783 to June 1786 and extend over sixty-six pages of text. They are mature clinical deliberations. Between the years 1783-1786, Hey had lofty ambitions to establish formal anatomy teaching in Leeds, which if fulfilled, could have extended into all aspects of his medical practice. (See Chapter 3) The complexity and quality of the 'Remarks' in Book 6, when combined with the types of cases included point unreservedly towards an extension of this ambition for midwifery, since these 'Remarks' also

<sup>310</sup> T. Denman, *An Essay on the Puerperal Fever and on Puerperal Convulsions* (London: J. Walter, 1768).

<sup>311</sup> MS/1587, pp. 1-8. Denman's comment is the first entry in Hey's Medical Commonplace Book. , see also MS/567, Book 4, p.45.

<sup>312</sup> MS/567, Book 5, p. 145.

<sup>313</sup> *Ibid.*, p. 167.



possess the air of informative lecture notes. Hey cited MacKenzie, Hunter, Harvie, Denman, Osborne and Underwood, and amongst the case histories Harvie, Denman and Underwood, but not always in agreement. Space allows a review of only one set of 'Remarks', those dealing with flooding, a complication often encountered as an additional problem to the main complication.

Remarks on flooding MS/567, Book 6., p.p.159-181.

Hey set out the various types of obstetric haemorrhage and his opinion on the reason why they occurred beginning with spontaneous abortion. He considered that if an abortion was not correctly managed 'chronic weakness for many months or even years' could ensue. His treatment was 'doses of nitre' and 'twenty drops of opium every four to five hours'. He also advocated 'absolute rest in a horizontal posture'.<sup>314</sup> His concern was to ensure that the whole of the aborting foetus and placenta were removed, and the haemorrhage was suppressed by packing the vagina tightly.

He referred to Mr. Rigby of Norwich who had divided haemorrhages that occurred in the latter stages of pregnancy into two kinds. Rigby's publication in 1776 had been the subject of much debate and condemned by Denman.<sup>315</sup> Undeterred Rigby stood by his theories and supported the fourth edition of his publication in 1789 with case histories from his work as the man-midwife appointed to deliver the poor women of Norwich.<sup>316</sup> Whether Hey corresponded with Rigby is unknown but like Denman he disagreed, if only in part, with Rigby. Hey considered that a haemorrhage could occur if a placenta was situated close to, but not exactly covering, the os uteri. The haemorrhage occurred, Hey considered, when the dilation of the uterus stretched the attachment area and caused a part separation of the placenta from the uterine wall. Hey followed this observation with considerable deliberation on how and when to manually pierce through a placenta, or through part of the edge of a placenta, to achieve a live birth.

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<sup>314</sup> MS/567, Book 6, pp.161-163.

<sup>315</sup> *Norwich Mercury*, Obituary of Edward Rigby, 3 November 1821.

<sup>316</sup> Rigby, *An Essay on the Uterine Haemorrhage*, p. iii.

Hey concluded his 'Remarks' with a discussion on the various types of post-partum haemorrhage and the danger of a puerperal fever arising from manual procedures. He discussed the various opinions of Hunter, Denman and Underwood, commenting that 'Dr. Hunter was rather unsuccessful in his treatment of haemorrhages.'<sup>317</sup>

#### 'Remarks' in Books 7 and 8

The 'Remarks' in Book 7 are few and short in comparison with Book 6, but by contrast the 'Remarks' in Book 8 have greater consequence, resuming the former textbook like quality of Book 6, and are finely detailed. They cover the years 1793 to 1797, a period when his son William returned from his London training and became the first partner in the Hey practice. The last set concerns a complication not previously reviewed, that of extracting a retained second twin.<sup>318</sup>

In 1797 Hey had been in practice for thirty-eight years and may have been aware from the excessive bulk of two foetuses and placentas that a multiple birth was imminent. A less experienced practitioner however often came to deliver unaware that it was a multiple birth. Hey said that 'the best method of proceeding in twin cases as far as I [Hey] can judge' was if there was no flooding, and the second membranes were whole, to support and refresh the mother then await nature.<sup>319</sup> The danger lay, Hey said, in an impacted praeternatural presentation, but he regarded a second child presenting either vertex or fontanelle as normal. Hey said forceps should only be considered if a flood or convulsions came on. He made it a practice to break the membranes once the mother had been refreshed but did not disturb the placenta until the second child was delivered. Hey's procedural instructions display the obstetric limitations of his era, yet also demonstrate his clinical acuity within those limitations.

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<sup>317</sup> MS/567, Book 6, p. 179.

<sup>318</sup> MS/567, Book 8, pp. 173-178.

<sup>319</sup> Ibid., p. 174.

'Remarks' in Books 9 and 10

There are various comments written as 'Remarks' in the last two Casebooks. For the main part they take the form of mature reflections on the major complication of flooding in all its various causes and resulting after effects. In this they revisit the concerns in Book 6, and thereby emphasise the predominant concern attendant to all skilled midwifery, that of the inability to staunch blood loss. The last 'Remarks' in Book 9 carry over into the beginning of Book 10 and concern Hey's standard practice for forcibly dilating an os uteri to expedite a delivery. Hey wrote that this was 'one of the most important questions that occurs in the practice of midwifery'.<sup>320</sup> He continued on the first page of the following book 'it is impossible to lay down such rules as shall infallibly direct the young practitioner'.<sup>321</sup>

This short phrase effectively summarises Hey's sets of 'Remarks' throughout his Casebooks. Although they contain aspects of rules and standards of practice, written initially for his own reflection, but possibly also to direct pupils or other practitioners, there is no evidence that he trained any practitioners in obstetrics, apart from his son William. He developed an extensive midwifery practice, after receiving the highest standard of training available in the sixth decade of the eighteenth century, and his experience led him to question existing procedures as well as changes postulated by others. His 'Remarks' reveal that he realised that Georgian obstetric knowledge was far from complete, and more importantly that he knew what the gaps in knowledge and technique were; the inability to replace, or staunch, blood loss, the need to perfect manual-operational procedures because caesarean section had no guarantee of success, and the need for early recognition and treatment of the deadly puerperal fever. His reflective involvement with the work of other obstetric practitioners reveals his dissatisfaction with, not just their findings, but with findings and conclusions in general. The frustration he felt is evident through the Casebooks. An overriding conclusion

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<sup>320</sup> MS/567, Book 9, p. 181.

<sup>321</sup> MS/567, Book 10, p.1.

from his sets of 'Remarks' is that the unexpected was, in his experience, the only obstetric certainty.

### Conclusion

These examples of the diversity and extent of Hey's obstetric practice, spanning more than half a century, drawn from his Midwifery Casebooks, that include the building up of his practice, his sets of patient records, the neonatal care that he developed, his methods to treat puerperal convulsions, his obstetric publications that never fulfilled their early promise and his deeply reflective unpublished sets of 'textbook style' 'Remarks,' go a long way to settling Loudon's 'sense of confusion and a large number of unanswered questions [because] very little is known about day-to-day practice of a man-midwife at the ordinary level'.<sup>322</sup> Hey's Midwifery Casebooks in fact present an intensely complex, wider and far deeper social and clinical view of Georgian parturition experience than has previously been open to historians. For that reason it is perhaps inappropriate to be too critical of, as Loudon termed it, the 'sense of confusion' of medical historians concerned with obstetrics. Hey, it must be said very rarely exhibited confusion as such, rather puzzlement and frustration, as well as decisiveness and confidence.

Hey's midwifery case histories are all concerned with complications, and we know now where his major practical anxieties were focused, upon flooding and puerperal convulsions with respect to mothers, and upon revival techniques for sickly neonates. Yet his sets of patient records, as evidenced from his Casebooks, undoubtedly contained considerable numbers of successful childbirths. Therefore the number of neonatal deaths, maternal deaths and stillbirths are not representative of his whole practice, and should not be used as guidelines to substantiate previous negative notions of the ability of men-midwives put forward in the scholarship on female midwives published by Donnison, Marland and Evendon. The sixty-one maternal deaths included in his Casebooks were, without exception, caused by

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<sup>322</sup> Loudon, *Medical Care and the General Practitioner*, p. 99.

multiple complications. A survey of these deaths reveals two overriding complications; an overwhelming infection or fever, but not necessarily puerperal fever as it is presently understood, and the inability to either stem or replace blood loss. These two uncontrollable conditions were to remain a parturition threat for almost a century and a half.

The extent and excellence of Hey's obstetric work also sheds valuable new light on the phenomenal growth of eighteenth-century provincial man-midwifery, and whilst Hey's manuscripts can only provide evidence of the day-to-day working of his practice and a few of his colleagues, they challenge entrenched assumptions that it was difficult to build up a practice, a view postulated by Loudon. The evidence in the Casebooks also challenges, even reinterprets, supposed notions of highly frequent forceps use, and brutality by the inept use of obstetric instruments, and of skilled midwifery being available only to the upper echelons of society advocated by Wilson.<sup>323</sup> Evendon has clearly demonstrated by her work on untrained female midwives in seventeenth-century London, that only by seeking out and correctly assimilating archival sources can scepticisms and unbalanced assumptions be addressed,<sup>324</sup> a view complimented by the recent work of Lisa Forman Cody in her investigations of the Georgian Lying-in Hospitals in London.<sup>325</sup> The generalizations previously put forward by medical historians on the rise, competence and success of men-midwives has not taken sufficient account of the astonishingly real levels of clinical sophistication that provincial men-midwives, such as Hey, brought to their work across the whole strata of Georgian society, as evidenced by their publications and manuscripts.

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<sup>323</sup> Wilson, 'William Hunter and the varieties of Man-Midwifery', p.351

<sup>324</sup> Evendon, *The Midwives of Seventeenth-Century London*

<sup>325</sup> L. F. Cody, 'Living and Dying In Georgian London's Lying-in Hospitals', *Bulletin of the History of Medicine* (2004), 78, pp.309-348.

## Conclusion

William Hey, F. R. S. (1736-1819), the great provincial surgeon, whose long life bridged the gulf between empirical and scientific surgery. (Sir D' Arcy Power, *British Journal of Surgery*, (1915), p.517)

To conclude this thesis it is salient to note initially what the Casebooks do not contain. Firstly, as I have noted, there are no financial details attached to any case history, this clearly indicates that all the cases were recorded purely for their medical significance. This, I would suggest, exemplifies two points made by Pearson that, 'the members of our profession...render their services gratuitously...with greater promptitude, cheerfulness and assiduity', and that 'there was an inexhaustible, a perennial spring of charity within him'.<sup>1</sup> Hey was one of the 'new elite' professional medical practitioners, as his Casebooks unequivocally substantiate, and his acute business acumen and pecuniary talents were incidental to the opportunities for the furtherance of his professional skill. Secondly, Hey was clearly indifferent to melancholia; there are less than a handful of mentally unbalanced patients within both sets of Casebooks, but palliative care, and what could now be seen as a good death, forms a substantial aspect of his case histories. This, I would argue, may be representative not just of Georgian stoicism generally, but of Hey's disregard of his own afflictions. Certain evidence of his compassion and what Pearson termed 'kindness under pressure of great affliction... kindness of inestimable value'<sup>2</sup> is there. Thirdly, there is no mention of Hey's desire to found a provincial anatomy school, which at the time was never a viable possibility, but is further evidence of his institutionally creative nature and professional ambition. Yet the number of dissections included in the Casebooks clearly displays that extending his knowledge and confirming his diagnosis by anatomical dissection formed a large part of his work. However he did not include any details of the extensive public anatomical demonstrations that he did for the benefit of the Infirmary in the first

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<sup>1</sup> Pearson, p.lxviii, and p.96

<sup>2</sup> Ibid., p.xx

decade of the nineteenth century. There is no evidence that the Casebooks were used as a teaching medium to impart knowledge and useful practices to pupils, rather they form a manual of self- instruction, self-correction, even of remorseful confession. Lastly, considering Hey's consistently professed and profound religious nature, they are almost devoid of theological comment and content. Nor do they contain comment, either critical or laudatory, on a patient's faith, lack of faith, or religious persuasion, although Pearson, who had worked with him for three years, said 'he rarely entered a sick room without offering up a secret prayer to Almighty God on behalf of those whom he was attending'.<sup>3</sup>

That said my selected analysis of just some of the intricate clinical, patient-practitioner and social detail contained in the Casebooks of William Hey, has opened a largely unexplored genre of medical literature, that of the patient case history. From published works historians may formulate reasonably detailed descriptions about how Georgian clinical practice evolved, but publications are often edited versions of the actual, and may be at variance with what occurred. They may tend to eliminate missed prediction, unanticipated complication, error, failure and remorse. By contrast archival unedited case histories provide historians with privileged access to the actual, and as such are uniquely valuable historical sources. Although this thesis did not set out to analyse Hey's life from a biographical point of view, some aspects of his character, such as his stoicism in continuing his practice despite severe and permanent handicaps, his driven, almost inspired approach to his profession, and the consistent determination he displayed throughout the trajectory of his life, have emerged from his Casebooks. His provincial life was a form of sanctuary where his handicaps were largely ignored, but in no way could he be seen to be isolated in a provincial backwater. He had in fact the best of both worlds, because he also retained his London contacts, achieving a fair degree of status within his peer group of surgeons, and eventually national eminence, yet at the same time he created a private fiefdom by his dominance, for

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<sup>3</sup> Ibid., p.199

five decades, as the senior surgeon of Leeds General Infirmary. The solace and contentment that Hey found in the bedrock of his Leeds family base can be contrasted to the complicated lives of his three brothers, John, Samuel and Richard, who, if they did not exactly stand on shifting sands like Hey's fellow Leeds notable contemporary Joseph Priestley, sought professional eminence elsewhere. Successful men, in any profession, seek to rise up the social scale and conserve their hard won privilege and status, and Hey knew, from the experience of his father, that the acquisition of property irrevocably altered status. When he was relieved of his pecuniary family obligations, as noted in Chapter 3, he began to accumulate properties, culminating in the building of his great house, Albion Place, the most substantial private house built in central Leeds for many decades. This house, with its two-acre garden, also incorporated medical business properties, extensive mews stabling and carriage sheds. It not only firmly established his local professional dominance, but also his civic and social reputation. Hey had returned to Leeds in 1759, as noted in Chapter 2 'with the habits and feelings of a gentleman'<sup>4</sup>, and this metropolitan polish filtered into aspects of his later life. There are few, if any medical practitioners, for no similarly handicapped surgeon is known, to whom Hey can be compared, yet the professional qualities and attributes that Hey displayed throughout his life may be representative, even typical of many. As such, whilst the evidence of a working provincial practice from Hey's Casebooks is particular to him, and reveals elements of his character, it may nevertheless serve to open out our perspective upon Georgian provincial private and charitable institutional practice.

In Chapter 2 this thesis has considered Hey's early education and London medical training in some depth using supporting archive and published evidence. Pearson wrote in 1820, that 'the biography of medical men in Great Britain and Ireland is very defective, few and scanty memorials can be obtained even of those who have distinguished themselves by

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<sup>4</sup> Pearson, *Hey*, p.31



their labours and writings'.<sup>5</sup> This comment remains true, as Chapter 1 has revealed, therefore from the evidence to be found on Hey's London medical teachers it is difficult to postulate from which one Hey drew his 'gentlemanly' habits. He would have arrived in London, certainly with funds and a sound academic and provincial apothecary preparation, but still just an overly religious, provincial and naïve twenty-one year old, with no known London contacts, and speaking in the vernacular of Yorkshire. However, the way that the Scottish group of medical men had easily established themselves in London may have inspired confidence amongst such provincial newcomers as Hey.

Hey's profound reflections in the anatomy theatre, recalled years later, as noted in Chapter 2, clearly display how seriously he regarded his dissections of a human cadaver. To a Georgian devoutly Christian young man the surgical dissection of God's finest creation, man, was far different to any other craft or skill. The preservation of a mother's life in perilous childbirth complications, and the safe delivery of her child, a new member of God's creation, was also a responsibility of awesome proportions. Those who taught Hey human dissection and operation technique, William and John Hunter, William Bromfeild and very possibly Caesar Hawkins, Donald Monro who taught him physic and extended his knowledge of *Materia Medica*, and Colin MacKenzie, who taught him midwifery, must have impressed him not only with their skills but also with their personal bearing and attitudes, most especially towards patients. Hey was taught surgery alongside his fellow students in the clinically controlled surroundings of St George's Hospital, but as Bromfeild's dresser he had to develop objective and acute observational skills, because he had to report his clinical findings to Bromfeild, as well as cope with the anxiety and suffering of the patients. His critical condemnation of Percival Pott's surgical over-exuberance, as noted in Chapter 2, again, like the anatomy reflection, made a lasting impression. Midwifery also had the dual elements of objective clinical teaching and practical personal experience, for, as noted Hey

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<sup>5</sup> *Ibid.*, xlix

was to retain Mackenzie's influence for many years. If Hey developed any degree of emulation towards his teachers it would seem to be towards the more positively professional attributes found in each of them, for every one held something special for Hey to effectively acquire and develop, as he acquiesced to the wishes of his parents and returned to set up a provincial practice in Leeds.

Hey began the compilation of his Casebooks in May 1759, just one month after he returned to Leeds, and continued to enter cases in them until 1809, as far as the evidence from the extant Casebooks reveal. However, from both Hey's and his son's publications, there is evidence that the recording of instructive cases continued beyond the remaining extant books. The material from of the Casebooks represents far more than a collection of isolated, even in some instances connected cases, they have more the semblance of a unified text. They take on a deeper level of meaning as a mixture of reflection, distillation of actions, management of uncertainty, and didactical self-instruction; this element applies particularly to the Midwifery Casebooks. The Casebooks exemplify the fact that the day-to-day treatment of symptoms collectively and cumulatively define that good medical knowledge came from passive observation not speculation. Hey's Casebooks also enable the historian to gain some understanding of the changing levels of patient-practitioner culture in the Georgian era, when the provincial medical market place was rapidly expanding with numerous trained, and a fair sprinkling of itinerant, practitioners available for consultation. There is no evidence of any intended readership despite Hey's use of some cases in his sparse publications. Whilst more prolific authors took greater advantage of the market for medical publications Hey decided to step back from the forum of obstetric debate, and only published surgical cases in 1803, forty-four years after his career began. Those cases that he did publish, albeit to some degree edited, still contain his apt turn of phrase, and pertinent narrative that has the capacity to draw a reader, almost to stand behind him. Hey's attention, within the story of his patient encounters, to the curious minutia of human experience and behaviour must not be dismissed

as trivial, anecdotal, or superfluous detail, for it is exactly these details within the clinical data that provide further elements of working practice, and therefore of medical historical meaning.

There has been little opportunity for historians to undertake an analysis over the whole of a Georgian provincial practitioner's career, and in considering the significant aspects of Hey's sixty-year career Chapter 3 of this thesis has presented, again possibly for the first time, a window into a formerly obscure area of medical practice. Indeed the evidence from Hey's Casebooks throws detailed informative light on this much under-researched area of medical history. Whilst some aspects may have only particular bearing on Hey, for instance his handicaps, family pecuniary obligations and desire to establish a provincial anatomy school, in other respects such as his work as a surgeon in Leeds General Infirmary, his development of a substantial private practice and in the variety of the ailments and accidents he treated, he was surely typical of many. Chapter 3 has demonstrated how Hey used his skills and 'gentlemanly' qualities to blend into the existing group of Leeds practitioners, forming bonds and gaining confidence. By becoming the apothecary appointed for the poor early in his third year of practice he demonstrated that he was prepared to treat all levels of society, although he was financially able to select his patients. His desire for Leeds to have an infirmary was in the best interests of the town, albeit that it also served to enlarge his career opportunities, and his practical organizational abilities were an essential feature of Leeds Infirmary foundation. There are few substantiated historical accounts of the work of surgeons appointed to the rising number of eighteenth-century charitable medical institutions. Hey's narrative accounts of his complex clinical perceptions, as he carried out his daily work, both in private and in infirmary practice, are therefore key documents not only for the better understanding of the day-to-day life of the majority of healers, but also for the select, 'new elite' institutionally appointed few. Hey's Casebooks contain concrete evidence of the interaction of the various institutionally appointed Leeds medical men, and

accounts of their work. In the view of his career in Chapter 3, taking account of available evidence, Hey appeared to have had few pupils and apprentices, and no partner for thirty-seven years. It is only to be regretted that so little detail on how Hey taught clinical medicine emerges from his Casebooks.

One Casebook, Book 6, was chosen for representative discussion in Chapter 4, because it was compiled in the third decade of Hey's career before his total lameness, and it contains examples of the diversity and eclectic nature of what may have been a normal Georgian provincial practice. The cases in Book 6 range from operations, victims of the 1775 nationwide influenza epidemic, accidents, to eye ailments, forming a whole spectrum of challenging conditions. And, as I noted, there is particular evidence amongst Hey's narrative accounts of the cases in Book 6 of the clinical institutional environment filtering the personal patient-practitioner relationship into a more objective de-personalised account, a phenomenon previously recognised as occurring by historians but without direct reference to archival evidence, and at a later indeterminate date.

Although Hey was credited as a competent surgeon there has been little previous knowledge of his pioneering surgical advances on private patients outside Leeds Infirmary. In Chapter 4 this thesis has sought to remedy this omission by investigating, in some depth, one case of the surgical removal of the diseased popliteal vein of Nathaniel Row. The many layers of discussion of this case have revealed much about Hey's strength of character, his professional vulnerability despite extensive professional skills and experience, and a good deal of evidence on his patient-practitioner relationships. Conversely elements of the character of Nathaniel Row, Hey's patient, also emerge. Hey admiringly recorded Row's bravery in rescuing shipwrecked passengers, yet also remarked on Row's timidity when faced with surgery, and the understandable need Row had to have his close relations with him to support and bolster his confidence. The case of Nathaniel Row is but one example of many that could have been chosen to illustrate the acutely observant nature of Hey. This subjective

area of the personal, working medical history of an individual surgeon has not previously been given such consideration, mainly because no comparable narratives have been analysed.

One of the most remarkable aspects of Hey's Casebooks, that is directly relevant to the changing nature of Georgian medical practice and to the development of medical specialties, is his compilation of sets of 'Remarks'. These take the form of reference notes and almost 'textbook' didactic comments. Although Hey's 'Remarks' in his Midwifery Casebooks are far more extensive than those in his Medical and Surgical Casebooks, the smaller quantity does not denigrate the significance of the latter. In Chapter 4 this thesis has had opportunity to briefly consider the content of the Medical and Surgical 'Remarks', but even this preliminary review offers historians insight into the uncertainties experienced and the areas where a practitioner such as Hey felt confidence. Above all these 'Remarks' reveal the uncharted areas, where even if the answer proved elusive, the need to persistently seek answers was paramount. As Pearson commented in 1820 'the art of healing...can boast of few principles so established by competent authority as to commend general assent, and few methods of treating diseases which can be reduced to matter of positive rule; hence a great latitude is open for diversity of opinion'.<sup>6</sup>

Having discussed some of the variety and innovation of Hey's practice in Chapter 4 I then moved to some particular analysis, beginning with Hey's treatment of head injuries, which lead into his re-development of an old surgical tool, and concluded with the diversification in the use of this tool. The development of surgical tools is, as noted in Chapter 4, a much under-researched area of eighteenth-century surgical practice where this thesis has the unique opportunity to substantially extend present scholarship. This chapter concludes with a review of one of Hey's remarkable surgical procedures and pioneering diagnostic achievements, that of female mammae extirpation. Medical historians have paid little attention to eighteenth-century surgical advances, and more especially to the identification of hereditary patterns of

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<sup>6</sup> *Ibid.*, p.lxi

disease and to the recognition of specific types of carcinomas. Hey not only identified a particularly malignant type of fungating soft cancer, that he named Fungus Haematodes, but also identified family susceptibility to develop some types of carcinoma. The narrative accounts of diseased female mammae in Hey's Casebooks are finely detailed, and reveal the agonising experience of breast surgery for both patient and practitioner.

Chapters 2, 3 and 4 of this thesis have provided detailed new eighteenth-century medical history evidence, they have filled gaps in present knowledge and pointed ways forward to extend and consolidate that knowledge. Chapter 5 of this thesis on the other hand has taken present midwifery scholarship onto a different plane altogether. Hey's ten Midwifery Casebooks contain highly significant new evidence on the actual day-to-day working life of a Georgian medical practitioner, which dispels previous assumptions and clarifies ideas. Moreover, they exhibit the recurrent and central concerns of the practice in ways largely un-reflected in his publications. For that reason Chapter 5 has analysed Hey's Midwifery Casebooks in greater detail. Many eighteenth-century medical practitioners were involved in the business of private domiciliary midwifery, which formed an integral and lucrative part of their practice, but historians have previously not been aware of exactly how such practices came to be built up. Although this thesis has pointed to the incorrect assumptions of some historians, it primarily seeks to present new knowledge and thereby offer viable alternative arguments, rather than denigrate existing ones. The unique evidence found in the eighty plus sets of patient midwifery records to be found within Hey's Midwifery Casebooks opens a hitherto totally uncharted area of eighteenth-century obstetrics. Whilst this thesis has presented the full evidence of the extent of these sets of records, it has only been able to treat a selected few sets as representation of the whole. But it has had a unique opportunity to identify some individual mothers, such as Mary Fieldshaw and Lydia Dixon, and to show some of their actual fears and trepidations, as well as the anxious foreboding experienced by their practitioner, in this case Hey, as he anticipated their

inevitable complications weighed against his treatment options. Clearly the evidence on the higher numbers of complicated deliveries, the extensive work and interaction of provincial practitioners, emerging out of Hey's Casebooks is at variance with previous suppositions, therefore revision will now be required in that area of eighteenth-century man-midwifery scholarship.

Having established these errors and omissions Chapter 5 went on to discuss additional particular under-studied aspects of Georgian obstetrics, the revival of sickly neonates and the alarming complication of puerperal convulsion. Hey consistently developed diagnostic skills to deal with languid babies in his private practice, and recorded both his success and failure. Further the cases in which Hey recorded his recognition and treatment of maternal convulsions, a complication dreaded by all birth attendants, then and presently, are surpassingly rare. This thesis has provided the first overview but more investigative scholarship remains to be done, a fact that applies to each and every obstetric topic in Hey's Midwifery Casebooks. Chapter 5 concluded with a brief discussion of Hey's extensive sets of Midwifery 'Remarks'. These 'Remarks' are again archivally unique, and the word constraints of this thesis can do no more than initiate exploration of their significance. They reveal the extensive obstetric skill and experience of Hey in this hitherto unrecognised area of his work over six decades. Moreover these 'Remarks' display Hey's unquenchable quest to extend his skill and the establishment of concerted, agreed practices. More especially they reveal what trials and dilemmas could also beset any typical provincial practitioner as he built up what was to form a substantial part of a general medical practice. Clearly generalities and unsubstantiated assumptions concerning how eighteenth-century man-midwifery developed can no longer be maintained in the light of the evidence to be found in Hey's Midwifery Casebooks.

The twenty-two Casebooks of William Hey and supporting manuscripts are far more than just a record of his six decades of medical practice; they contain immense potential for

the greater understanding of every facet of Georgian provincial medical practice. They are not journals of suffering, disease or death, even though these are omnipresent, rather they are journals of an exhilarating professional medical life, a life sustained by a natural buoyancy and, as Rimmer termed it, an 'evergreen sense of eternity'.<sup>7</sup> Hey's Casebooks reveal his perplexities, his hesitations, his limitations, yet also his onward thrust, his optimism and steadfast resolve to heal his patients. In his personal life Hey had many advantages that were often tempered by adversities, good and ill, sunshine and shadow, but despite setbacks that would have curbed weaker characters, his Casebooks display constancy and continuity of purpose in his professional work. They may well have formed a fundamental therapeutic, and stabilising element in his life, because to quietly and privately write down a concerted account of a difficult professional, public experience may have provided a vital, necessary release of tension, as well as an opportunity for reflection and consolidation.

The image of William Hey, as a Georgian professional medical man that this thesis has presented in the selected analysis of his working life, is one of a medical man who had an unremitting resolve to the continuous improvement of his professional environment and personal ability. His name is inextricably and fundamentally bound up with Leeds General Infirmary, not only because of his tireless work in its foundation, but also in the standards of its innovative and excellence of surgical practice that he established, and in his desire to seriously expand that excellence into anatomical and surgical teaching in a provincial setting. His working life as a provincial obstetric practitioner is substantiated and evidenced by the six decades that his Midwifery Casebooks cover, in terms of delivery technique, neo-natal care, awareness and consolidation of patient susceptibility to parturition complications, but moreover in his prudent use of obstetric instruments. Hey's Casebooks are a record of these processes, indeed were functional for them, as they aided practice by means of reflection,

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<sup>7</sup> Rimmer, 'A Reappraisal', p.190



reference and regularization. Writing case histories literally embodied the cultural value that descriptions of observations contained.

The Casebooks of William Hey F.R.S. are in fact a testament to the life and work of a typical Georgian medical practitioner who was trained in the anatomy schools, surgical and medical hospital wards, and the midwifery lecture rooms of Britain in the mid-eighteenth century and returned to private practice, and institutional surgical commitment in provincial England. If they are nothing more than the day-to-day working journal of experiences of such a man, then that is nevertheless the very quality, their ordinariness, that denotes their uniqueness and inestimable value. It is difficult also to avoid interpreting their content in terms of medico-surgical development and innovation, nor is it wrong to do so. Yet this thesis can notice finally that the keeping of such records was equally an ancient injunction as the patient case histories recorded in the *Epidemic Books* of the Hippocratic Corpus reveal. For these also contain daily bulletins, notice of critical signs, descriptions of the weather, indeed everything relevant, and nothing that could be said to be irrelevant, but the most striking feature arising is the devotion to truth.<sup>8</sup>

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<sup>8</sup> W. H. S. Jones, *Epidemics I and III, Hippocrates* (Harvard, 1984), Introduction, p.144

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