Picturing Pregnancy: A History of the Early Modern Birth Figure

Volume 1

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I, Rebecca Kate Whiteley confirm that the work presented in this thesis is my own. Where information has been derived from other sources, I confirm that this has been indicated in the thesis.

Abstract

This thesis provides a history of early modern birth figures: images of the fetus in the disembodied uterus, printed in midwifery and surgical books, which describe the variety of fetal presentations. While these images have accompanied midwifery and gynaecological texts from before the invention of print in Europe, and up to the present day, they have been widely ignored or under-valued by historians and art historians. This thesis analyses printed birth figures produced in England and other western European countries between 1540 and 1774, and argues that they are a crucial and unique resource for understanding the visual culture, midwifery history and body culture of the period. Employing methodologies from social and medical history, material studies and art history, I address the different ways in which these images represented and shaped understandings of the body. Considering their engagement with anatomical, analogical, diagrammatic, religious, magical, symbolic and political iconographies, this thesis shows how widely relevant and influential birth figures were to early modern culture. As well as employing birth figures as a historical resource, it also demonstrates how they can be productively analysed as works of art in their own right, with their own history. I argue that artists and engravers, as well as commissioning authors, brought their expertise, understanding, anxieties and preoccupations to the production of these images. Beyond providing a properly contextualised, historically sensitive and wide-ranging history of this particular kind of image, this thesis also aims to make a wider argument for the ways in which histories of typically neglected images – small, cheap, anonymous prints, book illustrations, and technical and medical images – can be fruitfully written.

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Introduction

The first English midwifery manual was printed in 1540 and titled *The Byrthe of Mankynde.*[1] A second, expanded edition was printed only five years later.[2] The copy of this second edition held at the Wellcome Library still has its early modern leather binding (Figure 1). The dark brown leather is decorated all over with blind tooling, and small holes suggest not only historic bookworm attacks, but also the presence of clasps, now lost. Opening the book, the pages crackle, stiff and sturdy with a fine texture and a colour that remains a brilliant cream in some places, but in others has been marred by fingerprints and water stains (Figure 2). To handle the book is to experience both pliability and resistance to the manipulation required for reading. It speaks of the gap of time we span when using it: a book, both sturdy and fragile, that still works almost five hundred years after it was made. The text is printed, but in a blackletter type that mimics a scribe's handwriting. Annotations in ink, finger prints and worn corners declare the multiple readers and users who have handled this object.

Turning the pages of dense, ornate black text, images can be found. Some are anatomical prints that have been cut from another source, pasted onto blank pages and numbered by hand (Figure 3). The cutting and pasting is not perfect: one image of the uterus and vagina is too long and had to be folded over; others have been pasted at slightly jaunty angles. Other images were produced specifically for the book – engravings sized to the page and bound in with the text (Figure 4). These plates, instead of being hand-numbered, have a printed border and a running title that reads 'The Birth Fygures'. The difference between the anatomical illustrations and the 'birth figures' is not only in placement and production: the two sets of images also represent the body in very different ways. The 'birth figures' comprise twenty-one

[1] Eucharius Rösslin, *The Byrth of Mankynde,* trans. by Richard Jonas (London: Thomas Raynalde, 1540).
[2] Eucharius Rösslin, *The Byrth of Mankynde,* trans. by Thomas Raynalde (London: Thomas Raynalde, 1545).

little boys, curly-haired and stout-limbed.[3] They float singly or in pairs in what look like inverted glass flasks, contorting themselves into a variety of increasingly improbable and amusing attitudes. There is something endearing about these little figures, with their earnest expressions and variously arranged limbs. But these illustrations are not simply decorative: they serve a particular purpose, to which the running title gives a clue. The inverted flask symbolises a uterus, excised from the wider context of the maternal body but still containing the living fetus. The variety of postures or contortions held by the fetuses correspond to the variety of ways in which they might 'present' for birth.

This thesis is a study of illustrated midwifery books, focusing particularly on these images of fetal presentation, called 'birth figures'. It seeks to comprehend what contemporary viewers regarded and understood when they picked up a midwifery manual, flicked through the pages, and studied the birth figures. These images seem strange and naïve to a modern eye trained by a culture that sees childbirth as a medical issue, that visualises the unborn using ultrasound, and that is replete with photographic images of the fetus in books, screens, informational posters and advertisements for products or political ideals.[4] But what did the early modern viewer, for whom the pregnant body was opaque and inherently mysterious, see and understand when they looked at a birth figure? How did they use the images, and how did they assimilate what they saw into their understanding of the pregnant body and the unborn child? Did these images spark or shape an emotional response, engaging with the hopes and anxieties associated with pregnancy and childbirth? What, in short, can a study of these images tell us about the bodies of the past?

The first print birth figures were produced in the early sixteenth century. As scholars such as Sachiko Kusukawa have demonstrated, this period also saw the rise of images in natural philosophy that adopted a less abstract, more 'naturalistic' style, and which spoke more of first-

[3] Many birth figures overtly and exclusively describe male children, the significance of which is discussed in Chapter 1, pp. 81-84.
[4] See Barbara Duden, 'The Fetus as an Object of Our Time', *RES: Anthropology and Aesthetics*, 25 (1994), 132-35.

hand observation and investigation, and less of received authority.[5] In areas such as anatomy and natural history, there arose, as Gianna Pomata remarks, a 'new significance of observation itself'.[6] A prime example of this trend are the images produced for Andreas Vesalius' *De Humani corporis fabrica* (1543, Figure 5), which were copied in the second edition of *The Byrth of Mankynde* (Figure 3). These images are particularly important not only because they adopted a new style of representation and a new commitment to first-hand observation of the dissected body, but because they exerted such influence over anatomical images for centuries after.

Particularly because printed birth figures and new Vesalian anatomical images arose concurrently in the sixteenth century, the former are often held up to the ideals and standards of the latter. Birth figures have frequently been compared to the anatomical illustrations commissioned by Vesalius, Leonardo da Vinci's drawings of the fetus *in utero* (Figure 6), and the hyper-detailed engravings produced in the eighteenth century for William Hunter and William Smellie (Figures 55, 65-66, 71-72, 74 and 76-77). They are dismissed in these analyses as inaccurate, as 'whimsical, naïve, or simplistic', even as 'no better than symbolic'.[7] Such histories, valuing the observational, the 'naturalistic', and the innovatory as it was developed in the Renaissance, while downplaying or denigrating other representational modes, see little to value in birth figures. They rarely acknowledge that these images are, in fact, part of a completely different and much older, yet no less rich or persistent, representational mode. Birth figures actually date back to at least the fifth or sixth century, the earliest known set found in a Latin

[5] Sachiko Kusukawa, *Picturing the Book of Nature: Image, Text, and Argument in Sixteenth-Century Human Anatomy and Medical Botany* (Chicago: The University of Chicago Press, 2012). See also Lorraine Daston, 'Epistemic Images', in *Vision and Its Instruments: Art, Science and Technology in Early Modern Europe*, ed. by Alina Payne (University Park, PA: Pennsylvania State University Press, 2015), pp. 13-35.

[6] Gianna Pomata, 'Sharing Cases: The *Observationes* in Early Modern Medicine', *Early Science and Medicine,* 15 (2010), 193-236 (p. 199). See also Gianna Pomata, 'Observation Rising: Birth of an Epistemic Genre, 1500-1650', in *Histories of Scientific Observation*, ed. by Lorraine Daston and Elizabeth Lunbeck (Chicago: The University of Chicago Press, 2011), pp. 45-80.

[7] Lawrence D. Longo and Lawrence P. Reynolds, *Wombs with a View: Illustrations of the Gravid Uterus from the Renaissance through the Nineteenth Century* (Cham: Springer, 2016), p. 2; and K.B. Roberts and J.D.W. Tomlinson, *The Fabric of the Body: European Traditions of Anatomical Illustration* (Oxford: Clarendon Press, 1992), p. 15. See also Harold Speert, *Obstetrics and Gynecology: A History and Iconography* (San Francisco: Norman Publishing, 1994 [1973]).

manuscript translation of Soranus' *Gynaecology* by a North African writer called Muscio (Figure 7).[8] The manuscript includes a set of tiny figures with adult proportions, contained in schematised uteri, but recognisably demonstrating the same essential 'presentations' as birth figures from the sixteenth, seventeenth and eighteenth centuries.

Birth figures, therefore, spring from a representational mode that predates the Renaissance observational and 'naturalistic'. In this thesis, I will explore the representational modes that these images *do* employ, and I will argue that they not only continued to employ those modes from their manuscript heritage, but also adapted to and assimilated new modes of representing the body as they appeared. These modes, as I will discuss, included the anatomical and the observational, but also other imagined, analogical or metaphorical systems of representation. This capacity not merely to weather, but to engage with changes in bodily representation over the early modern period, makes birth figures a unique resource for investigating how the living, labouring body was perceived and understood.

The first printed midwifery manual was published in Germany in 1513 and written by a physician called Eucharius Rösslin.[9] A close translation of the original German title might be 'The Pregnant Women's and Midwives' Rosegarden', but it was translated into English as *The Byrth of Mankynde* in 1540. Birth figures were printed in every edition, and anatomical images copied from Vesalius were included from the second. Other midwifery books soon followed, many illustrated with birth figures. The genre, particularly in the seventeenth century, became enormously popular in England: standard wisdom on midwifery, medicines and nursing care, as well as images, circulated between texts and formed a core part of midwifery culture and practice. Birth figures also found their way into other places, such as surgical books and fugitive sheets.[10]

[8] See Monica H. Green, 'The Sources of Eucharius Rösslin's "Rosegarden for Pregnant Women and Midwives" (1513)', *Medical History,* 53 (2009), 167-92.
[9] Eucharius Rösslin, *Der Swangern Frawen und Hebammen Roszengarten* (Strasbourg and Hagenau: [n. pub.], 1513).
[10] See Chapter 1, pp. 44-45; and Chapter 5, pp. 242.

These midwifery manuals were so popular because they catered to a wide range of readers. They addressed midwives, but also medical professionals – physicians, surgeons and apothecaries – who might be called to a difficult labour or be required to regulate and examine local midwives. Importantly, these texts also addressed the lay reader, often arguing that men and women should know enough to be able to judge a good midwife from a bad one.[11] As has been widely noted by scholars, such books' attention to the organs of generation and to subjects such as conception attracted readers who wished to know more about sex.[12] Thus, each manual would have been read for different reasons, in different ways, by many different kinds of people. The extent to which midwifery manuals were read, by whom and why, will be discussed in detail in Chapter 1 of this thesis.[13] What is undoubtable, however, is that, especially in the seventeenth and eighteenth centuries, midwifery manuals were a popular and widespread genre that cannot but have influenced the wider cultural understandings of sex, pregnancy, childbirth and midwifery.

The early modern period saw enormous upheavals in the way that midwifery was practiced and understood. From the sixteenth to the eighteenth century, childbirth went from a private, non-medical process conducted by an all-female community and usually overseen by a female midwife whose formal training and book-based knowledge was minimal, to a medicalised, professionalised event often regulated by a medically-trained practitioner, who was frequently male.[14] Yet, as I will demonstrate, this history is more complex than a simple

[11] Elaine Hobby, ed., *The Birth of Mankind: Otherwise Named, the Woman's Book* (Farnham: Ashgate, 2009), p. xv.

[12] See, for example, Mary E. Fissell, 'Hairy Women and Naked Truths: Gender and the Politics of Knowledge in "Aristotle's Masterpiece"', *The William and Mary Quarterly*, 60:1 (2003), 43-74; and Chantelle Thauvette, 'Sexual Education and Erotica in the Popular Midwifery Manuals of Thomas Raynalde and Nicholas Culpeper', in *Eroticism in the Middle Ages and the Renaissance: Magic, Marriage, and Midwifery*, ed. by Ian Frederick Moulton (Turnhout: Brepols, 2016), pp. 151-69.

[13] See Chapter 1, pp. 35-44.

[14] There are many works tracing this history, but important ones for this thesis include: Jean Donnison, *Midwives and Medical Men: A History of Inter-Professional Rivalries and Women's Rights* (London: Heinemann, 1977); Doreen Evenden, *The Midwives of Seventeenth-Century London* (Cambridge: Cambridge University Press, 2000); Mary E. Fissell, *Vernacular Bodies: The Politics of Reproduction in Early Modern England* (Oxford: Oxford University Press, 2004); Lisa Forman Cody, *Birthing the Nation: Sex, Science and the Conception of Eighteenth-Century*

gendered struggle for power, and birth figures present an excellent resource for unpicking its nuances.[15] Indeed, birth figures are particularly remarkable because they did not just record such cultural, social and medical changes, but contributed to them. This thesis aims, particularly, to use birth figures to unpack the differences in perception, practice and image-use among women: from the pregnant woman, to the untrained local midwife, to the professional, published practitioner.

Indeed, birth figures were not only found in many midwifery manuals, they were also mobile images, moving through processes of excision and copying between texts, and out of them. Birth figures appeared in fugitive sheets and in other kinds of medical texts, and, of course, they were cut out, moved about, pasted and bound, edited and censored by their early modern owners. One historian, Wendy Arons, has even suggested that there were so many illustrated midwifery manuals in circulation in this period that birth figures were 'some of the most widely distributed pictures of the early modern period.'[16] This mobility, manipulability and numerousness makes their material history of crucial concern to this project.

The sheer longevity and adaptability of these images is remarkable: originating in the fifth century, or possibly earlier, birth figures were still being printed in cheap midwifery books in the nineteenth century.[17] While some particular sets of birth figures have been studied, there is no history, and almost no *recognition*, of birth figures as an iconographic group with a history that spans from the middle ages to the modern day. This study aims to address this dearth in

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Britons (Oxford: Oxford University Press, 2005); Laura Gowing, *Common Bodies: Women, Touch and Power in Seventeenth-Century England* (New Haven: Yale University Press, 2003); Lianne McTavish, *Childbirth and the Display of Authority in Early Modern France* (Aldershot: Ashgate, 2005); and Adrian Wilson, *The Making of Man-Midwifery: Childbirth in England 1660-1770* (London: UCL Press, 1995).

[15] See Monica H. Green, 'Gendering the History of Women's Healthcare', *Gender & History*, 20:3 (2008), 487-518.

[16] Wendy Arons, ed., *When Midwifery Became a Male Physician's Province: The Sixteenth Century Handbook 'The Rose Garden for Pregnant Women and Midwives, Newly Englished'* (Jefferson, NC: McFarland and Company, 1994), p. 17.

[17] Birth figures appear, for example, in many nineteenth and twentieth-century editions of *Aristotle's Masterpiece.* See Mary E. Fissell, 'When the Birds and the Bees Were Not Enough: Aristotle's Masterpiece', *Public Domain Review*, (2015) <http://publicdomainreview.org/2015/08/19/when-the-birds-and-the-bees-were-not-enough-aristotles-masterpiece/> [accessed 28 September 2017].

part, by concentrating on birth figures produced in print between 1540 and 1774 – the dates of publication of Rösslin's *The Byrth of Mankynde* and William Hunter's *The Anatomy of the Human Gravid Uterus*.[18] This was the period in which birth figures had their widest dissemination and greatest significance for midwifery cultures. Yet histories of their incarnation in manuscripts in the medieval period, as well as their persistence in nineteenth-century texts and after, also deserve to be written. The focus of this thesis is on England, but with an awareness that the visual and textual culture of midwifery after the advent of print became increasingly pan-European. Many midwifery manuals were exported and sold outside their country of origin, as well as translated and republished in other countries. The illustrations had an even greater level of mobility, copied between texts by different authors in different places. Thus, I have restricted neither my research, nor the images I discuss, to a solely English context. The mobility of the images and texts that are my primary resource makes them a ubiquitous presence in Western Europe. Each country, indeed each region and even each community, had unique practices and understandings when it came to midwifery and childbirth. However, the dissemination of printed material, as well as the rise of a professional and educated class of midwives who read books; attended lectures, universities and training courses; and corresponded with each other, meant that approaches to midwifery, over the period here addressed, gained more and more of a shared culture. The work in this thesis, therefore, will be of relevance to historians of midwifery in other Western European countries, and provides a model for working on early modern print cultures not bounded by national borders.

This thesis aims, by providing a properly contextualised history for early modern print birth figures in England and Western Europe, to demonstrate how such images can broaden and enrich our understanding of how early modern cultures understood and experienced the pregnant body and the body in labour. At the same time, I aim to demonstrate that birth figures are not simple historical records: rather, that they are creative works with their own

[18] William Hunter, *The Anatomy of the Human Gravid Uterus Exhibited in Figures* (Birmingham: John Baskerville, 1774).

temporalities, not always coincident with the histories of texts or practices, and rich in their own right. More broadly, this thesis will make an argument for the importance of print culture – and especially such neglected areas as book illustrations and medical images – to the writing of both history and art history.

Very little has been written on birth figures by historians of medicine or art. While they are often mentioned in histories of midwifery or the body, very rarely are they properly contextualised, or given sustained critical attention. Historians of medical imagery have tended to employ a trivialising language, describing birth figures as 'drawings of adult manikins, masquerading as fetuses 'bottled-up' inside the uterus', as 'bizarre portrayals of fetuses *in utero*', and as 'wildly fantastic pictures'.[19] Despite their extremely wide dissemination, they are rarely recognised as images that were perceived by contemporary viewers to be useful and informative. Lyle Massey, for instance, dismisses birth figures from her otherwise pioneering study of the visual culture of midwifery in the eighteenth century, even though these images were still being regularly reproduced throughout that period.[20] One symptom of this disregard is the fact that historians have not settled on a specific name for this kind of image. Lianne McTavish, for instance, calls them 'images of the unborn', Lyle Massey 'the free-floating uterus', Harold Speert 'figures of the fetus in utero' and K.B. Roberts and J.D.W. Tomlinson 'figure[s] of the gravid uterus'.[21] I propose, instead, the term 'birth figure', used in that first English midwifery manual, *The Byrth of Mankynde.*[22] I argue that having a specific term for these images will be productive in establishing them as a unique iconographic group, distinct in both composition and mode of representation from other images of pregnancy.

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[19] Roberts and Tomlinson, *The Fabric of the Body*, pp. 22 and 122; and Ludwig Choulant, *History and Bibliography of Anatomic Illustration,* trans. and annotated by Mortimer Frank (Cambridge, MA: Maurizio Martino, 1993 [1852]), p. 74.

[20] Lyle Massey, 'Pregnancy and Pathology: Picturing Childbirth in Eighteenth-Century Obstetric Atlases', *The Art Bulletin*, 87:1 (2005), 73-91 (pp. 75-76). This issue is further addressed in Chapter 5.

[21] McTavish, *Childbirth and the Display of Authority,* p. 191; Massey, 'Pregnancy and Pathology', p. 76; Speert, *Obstetrics and Gynecology,* p. 153; and Roberts and Tomlinson, *The Fabric of the Body,* p. 22.

[22] Rösslin, *The Byrth of Mankynde,* (1545); and Hobby, ed., *The Birth of Mankind*, p. xxx.

In more recent decades, the development of feminist history has led to some scholars producing more sensitive studies of birth figures: not looking at how they fit in to a teleological development of medical science, but rather looking at the images as cultural productions that speak about how power, agency and knowledge were lost by midwives to doctors and male practitioners during the early modern period.[23] Such histories have tended to emphasise birth figures as images that functioned for male practitioners to deny the agency and the importance of the female body in birth, and to establish the *fetus* as the primary patient.[24] I term this approach the 'maternal erasure' theory, and it is discussed in Chapter 1 of this thesis.[25] I shall demonstrate that such analysis tends to anachronism and does not satisfactorily address how birth figures were used and understood by early modern people, and particularly by women.

Other historians have suggested that birth figures are either 'mnemonic' devices (Mary Fissell), or 'diagrams' (Elaine Hobby), that helped midwives to understand and remember the variety of fetal malpresentations.[26] This analysis is more historically contextualised, yet neither historian undertakes sustained analysis of the images. Indeed, to my knowledge, the only scholar to engage with birth figures at any length is the art historian Lianne McTavish, who argues that 'regarding images of the unborn as diagrams fosters a more historical understanding of them, while providing insight into how they actively produced meaning.'[27] McTavish suggests that birth figures were never intended to *look like* the body, but were rather images that helped practitioners to envisage the obscure interior, and to practice upon it. This is an approach that I will work with in this thesis, and particularly in Chapter 2. I will develop McTavish's approach by

[23] This new approach is part of a wider movement in the history and visual culture of medicine and science. See, for example, Daston, 'Epistemic Images'; and Steven Shapin, *Never Pure: Historical Studies of Science as if it was Produced by People with Bodies, Situated in Time, Space, Culture, and Society, and Struggling for Credibility and Authority* (Baltimore: Johns Hopkins University Press, 2010).
[24] Eve Keller, *Generating Bodies and Gendered Selves: The Rhetoric of Reproduction in Early Modern England* (Seattle: University of Washington Press, 2007), p. 136; Gowing, *Common Bodies,* pp. 122-27; Karen Newman, *Fetal Positions: Individualism, Science, Visuality* (Stanford: Stanford University Press, 1996), p. 33.
[25] Chapter 1, pp. 76-80.
[26] Fissell, *Vernacular Bodies,* p. 150; and Hobby, ed., *The Birth of Mankind*, p. xvii.
[27] McTavish, *Childbirth and the Display of Authority*, p. 179.

exploring in more depth the implications of the birth figure as diagram, as well as investigating other, as yet unrecognised, modes through which birth figures represented the body.

The general lack of analysis of birth figures by those feminist historians who have worked on histories of the body, childbirth and midwifery is, I argue, symptomatic of a wider iconophobia in the discipline. Birth figures, when they do appear in historical books and articles, are often used simply to back up or illustrate a point made by the author about a textual source. Other historians, such as Thomas Laqueur, have been criticised for their under-researched and over-blown claims based on visual material.[28] Perhaps because images such as birth figures tended to be produced by men, in texts written mainly by men, they have been largely neglected or misused as a source for women's history. Indeed, this avoidance has likely been cemented by the predominance of the 'maternal erasure' analysis in works that *do* address birth figures, because the theory privileges the viewpoint of educated men by critiquing it from a feminist perspective. This thesis will show that, as images that were produced for and viewed by women as well as men, birth figures can be a unique and rich resource for writing women's history. They formed part of a body culture in which women were not passive objects of male rhetoric, but active agents who spoke about, treated, visualised and understood their own bodies as part of a collective body culture.

Because birth figures are small, cheap, mobile prints produced mainly to illustrate medical and midwifery books, an analysis of them can only be effected by employing approaches from different disciplines: social and feminist history; history of science and medicine; histories of reading, print and the book; material studies; and history of art. Birth figures are images that shine when approached from this mix of disciplines because they were produced in a time that did not draw divisions between disciplines in the same way that we do. As I will demonstrate, these little images were employed to speak about the body in medicine and midwifery, but also

[28] See Helen King, *The One-Sex Body on Trial: The Classical and Early Modern Evidence* (London: Routledge, 2013), particularly pp. 51-60.

about the political and social body, the analogical and symbolic body, as well as about wider cultural preoccupations in the production and picturing of knowledge.

The most fundamental guiding methodology in this work has been Baxandall's notion of the 'period eye'. In *Painting and Experience in Fifteenth Century Italy* (1972), *The Limewood Sculptors of Renaissance Germany* (1980) and *Patterns of Intention* (1985) Baxandall develops the twin concepts of 'cognitive style' and the 'period eye'. In these studies, Baxandall researches many different aspects of a historic culture in order to establish, in a generalised way, the equipment with which people of that period could look at and understand images. In building this 'period eye' framework for looking, the art historian privileges the culture and context in which an image was made. Baxandall argues that we have to learn to 'read' images from other periods 'just as one has to learn to read a text from a different culture, even when one knows, in a limited sense, the language.'[29] This approach has been very widely adopted by art historians since it was proposed by Baxandall in the 1970s, though it is less often acknowledged. It is, however, particularly important to work explicitly within the framework of the 'period eye' when looking at images such as birth figures, which seem so foreign to our own visual culture of the body, and which are so vulnerable to misinterpretation. This thesis adopts Baxandall's argument that 'social history and art history are continuous, each offering necessary insights into the other.'[30] I will demonstrate that textual histories aid us greatly in writing histories of images, and, perhaps more importantly, because less often practiced, that images can be uniquely valuable sources for the writing of histories.

While Baxandall's approach to art as a historical resource has been influential for this thesis, his work tends to address high status art – mostly paintings produced by famous artists. In *Patterns of Intention,* moreover, Baxandall develops a particular attention to the artist as maker and to their cultural context. My own material, which was often produced anonymously and always by multiple hands, requires a slightly different perspective. Because birth figures

[29] Michael Baxandall, *Painting and Experience in Fifteenth Century Italy: A Primer in the Social History of Pictorial Style* (Oxford: Oxford University Press, 1988 [1972]), p. 152.
[30] Ibid*.,* Preface.

were so widely produced and disseminated, it is hard to establish a single social or cultural context in which to situate them. Moreover, even when there is a known artist, the number of people involved in producing a print – draftsmen, engravers and printers – as well as the widespread practice of copying and borrowing elements from existing images, make it very hard to discuss artistic intention or to work on the biography of the artists involved. This thesis does not aim to erase the presence of makers in the history of printed images – indeed I argue specifically that less prestigious and even anonymous artists can be understood as knowledgeable agents who produced intelligent, informed, complex and self-reflective images which engage with multiple modes of knowing and representing. However, my approach to artists and printmakers is not biographical, and does not focus on individual oeuvres. Moreover, in this thesis I balance analysis of production with analysis of reception: paying special attention to the reach and scope of particular ideas and bodies of knowledge, and to the ways in which the same image might be read differently by different viewers.

Alongside a Baxandallian approach to images, this thesis engages with the methodology of 'body history' proposed by Barbara Duden, and now very widely adopted by historians.[31] Duden, in her seminal book *The Woman Beneath the Skin*, does something similar for the body that Baxandall does for images, arguing that bodies were seen and experienced differently in other periods and cultures. Before Duden's work of the 1980s, historians often assumed that the body was a biological constant, the same in 1600 as it is today. Duden's work, rather than imposing a modern understanding of the body onto historical periods, looks for 'the reality-generating experience of the body that is unique and specific to a given historical period.'[32] This thesis aims to demonstrate that if we address the body as culturally shaped, then historic images

[31] See Caroline Bynum, 'Why All the Fuss About the Body? A Medievalist's Perspective', *Critical Inquiry*, 22:1 (1995), 1-33; and, for a more recent review of the field, Roger Cooter, 'The Turn of the Body: History and the Politics of the Corporeal', *Arbor: Ciencia, Pensamiento y Cultura*, 186:743 (2010), 393-405.

[32] Barbara Duden, *The Woman Beneath the Skin: A Doctor's Patients in Eighteenth-Century Germany,* trans. by Thomas Dunlap (Cambridge, MA: Harvard University Press, 1991 [1987]), p. 31.

can be assessed not merely for their biological 'accuracy', but as resources for exploring how the historical body was known and experienced.

Duden created, in the words of Isabel Hull, 'the first convincing and systematic account of a completely different universe of bodily perception.'[33] Since this time, her approach has been widely adopted by historians dealing with the body. Most important for this thesis are the works by Laura Gowing, Mary Fissell, Thomas Laqueur, Katharine Park, Ulinka Rublack and Michael Stolberg.[34] These scholars share a problem, however: the lack of primary evidence for historical experience of the body. Those scholars working on the female body and pregnancy, particularly, face the problem that there are few records of how women experienced their bodies, and even fewer describing childbirth.[35] Most court records, doctors' case notes and printed texts were authored and mediated by men, and even as diary-keeping, letter-writing, and the recording of one's own and one's family's health became more common among women in the seventeenth century, describing childbirth itself remained widely taboo except through broad euphemism.[36] This is a challenge that this thesis also faces: piecing together bodily experience from many sources that are more or less removed from the actual historical female body. Within this context, I aim to show that images are a valuable but under-used resource.

This thesis aims to show how birth figures can be employed in writing histories of medicine, culture and the body, but it also demonstrates more fundamentally that images that

[33] Isabel V. Hull, 'The Body as Historical Experience: Review of Recent Works by Barbara Duden', *Central European History*, 28:1 (1995), 73-79 (p. 75).
[34] Gowing, *Common Bodies*; Fissell, *Vernacular Bodies*; Thomas Laqueur, *Making Sex: Body and Gender from the Greeks to Freud* (Cambridge, MA: Harvard University Press, 1990); Katharine Park, *Secrets of Women: Gender, Generation, and the Origins of Human Dissection* (New York: Zone Books, 2010 [2006]); Ulinka Rublack, 'Pregnancy, Childbirth and the Female Body in Early Modern Germany', *Past & Present,* 150 (1996), 84-110; Ulinka Rublack, 'Fluxes: The Early Modern Body and the Emotions', *History Workshop Journal*, 53:1 (2002), 1-16; and Michael Stolberg, *Experiencing Illness and the Sick Body in Early Modern Europe*, trans. by Leonhard Unglaub and Logan Kennedy (Basingstoke: Palgrave Macmillan, 2011 [2003]).
[35] This is not to say that no evidence exists, or that such histories cannot be written. Indeed, recent scholarship is demonstrating how we can uncover sources and work with them effectively. See, for example, Karen Harvey, 'What Mary Toft Felt: Women's Voices, Pain, Power and the Body', *History Workshop Journal*, 80 (2015), 33-51.
[36] Leah Astbury, 'Being Well, Looking Ill: Childbirth and the Return to Health in Seventeenth-Century England', *Social History of Medicine*, 30:3 (2017), 500-19 (p. 502).

are small, 'non-innovative', cheaply produced, and by anonymous artists, are worthy of study. I aim to tackle the wariness, within art history, of treating images that were produced as book illustrations, for technical or scientific disciplines, and that employ abstract representational modes such as diagram.[37] In pursuing this aim, I have found James Elkins' argument useful: 'no image is inexpressive: even the simplest diagram can be replete with meaning.'[38] Because such images have historically been under-studied, it is important to establish that they were an increasingly pervasive and widespread part of early modern culture, and that they shaped knowledge and culture widely.[39] In recent years, scholarship has come to assert this more firmly, and I have had recourse to a growing literature on printed images in pursuing my own research.[40] William Ashworth and Fabian Krämer have both written on the little-mentioned issues of copying and circulation of prints in this period.[41] Susan Dackermann, Lorraine Daston, Peter Galison, Sachiko Kusukawa, Brian Ogilvie, and Peter Parshall, among others, have written sensitively about the role of prints in the development of many branches of natural history and philosophy.[42] Rose Marie San Juan and Suzanne Karr Schmidt have worked on prints as material

[37] The issue of the diagrammatic is treated, particularly, in Chapter 2.
[38] James Elkins, 'Art History and Images that Are Not Art', *The Art Bulletin*, 77:4 (1995), 553-71, (p. 555).
[39] For histories of print and books in this period, see Roger Chartier, *The Order of Books: Readers, Authors, and Libraries in Europe Between the Fourteenth and Eighteenth Centuries,* trans. by Lydia G. Cochrane (Stanford, CA: Stanford University Press, 1994); Elizabeth L. Eisenstein, *The Printing Press as an Agent of Change: Communications and Cultural Transformations in Early-Modern Europe,* 2 vols (Cambridge: Cambridge University Press, 1979); and Adam Fox, *Oral and Literate Culture in England 1500-1700* (Oxford: Oxford University Press, 2011).
[40] For histories of early modern printed images, see Susan Dackermann, ed., *Prints and the Pursuit of Knowledge in Early Modern Europe* (New Haven: Yale University Press, 2011); Matthew Hunter, 'The Theory of the Impression According to Robert Hooke', in *Printed Images in Early Modern Britain: Essays in Interpretation,* ed. by Michael Hunter (Farnham: Ashgate, 2010), pp. 167-90; William. M. Ivins Jr., *Prints and Visual Communication* (Cambridge, MA: The MIT Press, 1978 [1953]); and William B. MacGregor, 'The Authority of Prints: An Early Modern Perspective', *Art History*, 22:3 (1999), 389-420.
[41] William B. Ashworth Jr., 'The Persistent Beast: Recurring Images in Early Zoological Illustration', in *The Natural Sciences and the Arts: Aspects of Interaction from the Renaissance to the 20th Century. An International Symposium,* ed. by Allan Ellenius (Uppsala: Uppsala University, 1985), pp. 46-66; and Fabian Krämer, 'The Persistent Image of an Unusual Centaur: A Biography of Aldrovandi's Two-Legged Centaur Woodcut', *Nuncius*, 2 (2009), 313-40.
[42] Dackermann, ed., *Prints and the Pursuit of Knowledge*; Lorraine Daston and Peter Galison, *Objectivity* (New York: Zone Books, 2010 [2007]); Kusukawa, *Picturing the Book of Nature*; Brian W. Ogilvie, *The Science of Describing: Natural History in Renaissance Europe* (Chicago:

objects, investigating the ways in which prints were used and engaged with.[43] This approach to material and bodily engagement with prints has been of particular interest, and I engage with various ways in which prints entwine with histories of the body and embodied experience. I investigate not only the material history of prints – how they were touched, stored, doctored or annotated, even kissed and swallowed – but also how printed images in the early modern period were understood to have material effects on the body that looked at them.

Perhaps the most influential work on printed images for this thesis has been Mary Fissell's article on the frontispiece image common to many editions of *Aristotle's Masterpiece* (1684). This book, which went through vast numbers of editions from the seventeenth to the early twentieth centuries, contained a jumble of information on anatomy, pregnancy, sex and childbirth. Fissell's approach to the frontispiece, a woodcut that changed in many ways as it was repeatedly copied and adapted for new editions, has been a model for my own approach to printed material. Not only does Fissell treat the images as primary historical evidence for how the body and medical practice was understood over the early modern period, she also demonstrates that the 'image had many referents, and we need to consider multiple meanings and open-ended interpretations if we are to understand how the picture functioned.'[44]

The final body of literature with which this thesis is concerned is histories of midwifery. These were being written even in the eighteenth century, recording the wisdom of the ancients and the achievements and innovations of modern authors. In the nineteenth and early twentieth centuries, such narratives focussed on the progress of medical practice, valorising the innovations of male medical practitioners and authors, and denigrating the practice of

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The University of Chicago Press, 2006); and Peter Parshall, 'Imago Contrafacta: Images and Facts in the Northern Renaissance', *Art History*, 16:4 (1993), 554-79.

[43] Rose Marie San Juan, *Vertiginous Mirrors: The Animation of the Visual Image and Early Modern Travel* (Manchester: Manchester University Press, 2011); and Suzanne Karr Schmidt, *Altered and Adorned: Using Renaissance Prints in Daily Life* (New Haven: Yale University Press, 2011).

[44] Fissell, 'Hairy Women and Naked Truths', p. 74. For this approach to popular print, see also Angela McShane and Clare Backhouse, 'Top Knots and Lower Sorts: Print and Promiscuous Consumption in the 1690s', in *Printed Images in Early Modern Britain: Essays in Interpretation,* ed. by Michael Hunter (Farnham: Ashgate, 2010), pp. 337-57.

unlearned and female midwives.[45] With the rise of feminist histories in the 1970s, however, the tables turned and historians began to question the supremacy of the male practitioner and the medicalised view of childbirth.[46] Historians began to investigate the practices of traditional and female midwifery, and to examine the social and cultural aspects of childbirth as a communal event and a space of power and control for women. Some historians have focussed on traditional female communities,[47] others on medical practices,[48] and many on the gender politics of the rise of man-midwifery in the seventeenth and eighteenth centuries.[49] This body of work has provided me with much of the historical context for engaging with birth figures. However, many of these histories have, in reaction to earlier histories of medical progress, made much of the damaging influence of man-midwives and medicalisation, and of the way in which male practitioners slowly but surely reduced and denigrated the practice of female midwives. While

[45] William Smellie, for example, begins his midwifery manual with a history of the discipline. See William Smellie, *A Treatise on the Theory and Practice of Midwifery,* Vol. 1 (London: D. Wilson, 1752). A good example of the kind of medical history written in the nineteenth century can be found in Edward W. Murphy, 'Introductory Lecture on the History of Midwifery. Delivered at University College, May 1st, 1864. By Edward W. Murphy, M.A., M.D., Professor of Midwifery', *The British Medical Journal,* 176:1 (1864), 523-28. Robert Woods and Chris Galley, *Mrs Stone & Dr Smellie: Eighteenth-Century Midwives and Their Patients* (Liverpool: Liverpool University Press, 2014), have continued the approach of focussing on the medical development of midwifery.

[46] Donnison, *Midwives and Medical Men*; Doreen Evenden, 'Mothers and Their Midwives in Seventeenth-Century London', in *The Art of Midwifery: Early Modern Midwives in Europe,* ed. by Hilary Marland (London: Routledge, 1993), pp. 9-26; Fissell, *Vernacular Bodies*; Gowing, *Common Bodies*; Elaine Hobby, '"Secrets of the Female Sex": Jane Sharp, the Reproductive Female Body, and Early Modern Midwifery Manuals', *Women's Writing*, 8:2 (2007), 201-12; and Ludmilla Jordanova, *Nature Displayed: Gender, Science and Medicine 1760-1820* (New York: Longman, 1999).

[47] Donnison, *Midwives and Medical Men*; Evenden, 'Mothers and Their Midwives'; Jennifer Wynne Hellwarth, '"I Wyl Wright of Women Prevy Sekenes": Imagining Female Literacy and Textual Communities in Medieval and Early Modern Midwifery Manuals', *Critical Survey*, 4:1 (2002), 44-63; Jennifer Richards, 'Reading and Hearing *The Womans Booke* in Early Modern England', *Bulletin of the History of Medicine*, 89 (2015), 434-62.

[48] Bonnie Blackwell, '"Tristram Shandy" and the Theater of the Mechanical Mother', *ELH*, 68:1 (2000), 81-133; Audrey Eccles, *Obstetrics and Gynaecology in Tudor and Stuart England* (London: Croom Helm, 1982); Pam Lieske, ed., *Eighteenth-Century British Midwifery*, 12 vols (London: Pickering and Chatto, 2007-9).

[49] Forman Cody, *Birthing the Nation*; Jordanova, *Nature Displayed*; Massey, 'Pregnancy and Pathology'; McTavish, *Childbirth and the Display of Authority*; Roy Porter, 'A Touch of Danger: The Man-Midwife as Sexual Predator', in *Sexual Underworlds of the Enlightenment,* ed. by G.S. Rousseau and Roy Porter (Manchester: Manchester University Press, 1987), pp. 206-32; and Wilson, *The Making of Man-Midwifery*.

such histories absolutely needed to be written, and still provide a useful resource, they do, in my opinion, focus too much on the conflicts between the genders. As Lisa Forman Cody has commented, '[t]hese two versions – medical glory versus gory misogyny – verge on the polemical and often incorporate deeply ahistorical notions.'[50] While maintaining an awareness of the gender dynamics and hierarchies of early modern midwifery, I will suggest a culture in which gender was not the *only* dividing line: levels of education, of training and of connectedness to wider medical networks, age, wealth, community and geography are of equal importance.

This thesis is written in a broadly chronological order, but it does not tell a linear history of progress. Rather, the chapters are organised thematically, and investigate different modes through which birth figures engaged with contemporary body culture. Following Daston and Galison, I do not contend that these modes replaced each other 'like a succession of kings. Rather, they accumulate into a repertoire of possible forms of knowing.'[51] The first chapter will examine early print birth figures: those produced in England, as well as in other Western European countries, between 1540 and 1672. It will situate in more detail how birth figures contributed to and reflected cultures of midwifery and the body. It explores the variety of ways in which early print birth figures might have been used and read by viewers of various kinds. I aim to demonstrate the flexibility of the birth figure as an iconographic form, the way it could adapt itself both to the desires of the maker, and to those of the viewer. This chapter will argue for the importance of birth figures to seventeenth-century body culture, as well as their significance for historians in multiple fields.

The second chapter will look at the way birth figures changed under the hands of the first generations of medically educated and textually learned midwives in the decades either side of 1700. It discusses the ways in which birth figures were adapted to the communication of

[50] Lisa Forman Cody, 'The Politics of Reproduction: From Midwives' Alternative Public Sphere to the Public Spectacle of Man-Midwifery', *Eighteenth-Century Studies,* 43:4 (1999), 477-95 (p. 478)
[51] Daston and Galison, *Objectivity*, p. 113.

new approaches to the body, new medical practices, and new understandings. I will argue, in this chapter, for the importance of close interrogation and art historical analysis of images, such as diagrams, that purport to be practical or unproblematic representations of knowledge.

The third chapter addresses the same early generations of medical and learned midwives but from a wider cultural perspective. It contributes to histories of 'man-midwifery' through a close investigation of birth figures and other kinds of images printed in midwifery books. In this chapter, I show that ideas about touch and manual skill were central to how midwife-authors in this period began to actively construct public personas for themselves, and to how readers understood midwifery as a profession. As a kind of pendant to the second chapter, I will again investigate how birth figures were adapted to the communication of a new message, this time less professional and technical, and more public and rhetorical.

The fourth chapter brings together art historical approaches to print material with histories of midwifery and anatomy by addressing images, produced over a long period, of the fetus seen through the uterine membranes. It highlights the presence of the 'fetus-in-membranes' image throughout the seventeenth and eighteenth centuries, and situates midwifery practice, and midwifery visual culture, within wider cultural contexts, from philosophical and art theoretical to anatomical and surgical. I will raise the question of how prints, including small, anonymously-produced book illustrations, can fruitfully be addressed as works of art with makers who explored the philosophy and materiality of their craft through the production of images. I will also argue that such images can be examined for approaches and modes of knowledge far beyond those sanctioned by the medical texts which they accompanied.

The final chapter moves to examine images produced for midwifery manuals in the mid-eighteenth century. It makes an argument for the continuing relevance of birth figures to a culture which is generally characterised as producing more anatomical, more detailed and more observationally 'accurate' representations of the body. In this chapter, I address the work done by Ludmilla Jordanova, Lyle Massey and Roberta McGrath on the great Enlightenment midwifery

authors William Smellie and William Hunter.[52] This chapter aims to contextualise the images made for these famous midwives, and to demonstrate the variety of styles and modes of representation employed in the period. I aim to nuance a history that is generally preoccupied with observational anatomy and medicalised and masculinised midwifery.

Birth figures were vibrant, multifarious and adaptive images: as cultures changed, so birth figures responded – in style, in mode, in iconography and in medium and technique – communicating new ways of knowing while also retaining those that had gone before. The simplicity of the birth figure made it the perfect site for the complex, rich, multi-layered, often confusing, and sometimes downright contradictory culture of the pregnant body. It is this multiplicity, rather than the success or accuracy of any particular mode of knowing or representing, that is at stake here. To some degree, these are anatomical images, or at least they borrow elements from anatomy. They are also images which give practical descriptions of a living and moving bodily interior. But they are *also*, as I hope to demonstrate, so much else: from symbolic to analogical, narratological, political, polemic, diagrammatic, alchemical, philosophical. What makes this diversity possible, I argue, is the fact that we see in the birth figure a part of the bodily interior: a single organ exposed to sight and divorced from the context of the body. But at the same time, we see the fetus whole and seemingly alive, not opened or anatomised. The birth figure turns anatomical and medical imagery on its head: the whole and living figure, here, does not contain organs, but rather a single organ contains a whole and living figure. The oddity of this is reflective of the strangeness and wondrousness of conception and gestation itself for early modern viewers. But more generally, this composition of the figure in the circle is both simple and full of potential, with wide and varied significances. Birth figures, in short, are special among medical and anatomical images of the body in the way that they resist literalism, observation, and identification with a single discipline of knowledge. I aim, by looking

[52] Jordanova, *Nature Displayed*; Ludmilla Jordanova, *Sexual Visions: Images of Gender in Science and Medicine Between the Eighteenth and Twentieth Centuries* (New York: Harvester Wheatsheaf, 1989); Massey, 'Pregnancy and Pathology'; and Roberta McGrath, *Seeing Her Sex: Medical Archives and the Female Body* (Manchester: Manchester University Press, 2002).

at these images attentively, to exemplify their cultural richness and diversity, and the unique perspective they give on an early modern culture that saw prints as a ubiquitous, practical and material part of everyday life.

Chapter 1

Infants Encircled: The First Printed Birth Figures and the Multifarious Body

The act of making an image of the body is cultural. It is an exercise in interpretation, curation, highlighting, simplifying, elaborating and excising. Often, particularly in medical and scientific disciplines, the aim of the artist is to make comprehensible a body that, as Thomas Laqueur puts it, is 'bewildering and infinitely varied'.[53] In the early period of printed birth figures, these images presented new views and new understandings of the pregnant body. Indeed, they made the pregnant interior much more visible than it had ever been before. These early images, produced in England between 1540 and the 1670s, were remarkably iconographically and stylistically cohesive but, as this chapter will argue, they were also creative, pluralistic, important agents in the period's body culture.

The first birth figures to be printed in England were the illustrations accompanying the English translation of Rösslin's midwifery manual. Rösslin, the town physician at Worms, had produced the volume to help educate the local midwives over whom he had jurisdiction. The text, which was largely cribbed from existing manuscripts on gynaecology and midwifery, was extremely popular.[54] It was rapidly translated into Latin, and into various other vernacular languages. It was translated into English as *The Byrth of Mankynde* in 1540 by Richard Jonas, and then retranslated in 1545 by Thomas Raynalde.[55] The second translation then saw a further 12

[53] Laqueur, *Making Sex,* p. 164.
[54] See Green, 'The Sources of Eucharius Rösslin's "Rosegarden"'.
[55] Many scholars refer to the English book as Raynalde's rather than Rösslin's, making the excellent argument that his translation was more of an adaption. See, for example, Hobby, ed., *The Birth of Mankind*. However, in this thesis, I will adopt the convention of always using the original author's name when referring to books in translation and to images that might later have been copied elsewhere. I also quote, in this chapter, from both the Raynalde and the Jonas translations. I will, therefore, for reasons of clarity and uniformity, use Rösslin's name rather than those of the English translators when referring to this work in general, or the images in it.

editions, the last of which was published in 1654. Until the early seventeenth century in England, *The Byrth of Mankinde* had a monopoly over the genre, and even after other midwifery manuals began to be published, Rösslin's remained a core text for much of the seventeenth century.

The original woodcut birth figures were produced for Rösslin by Martin Caldenbach, a student of Albrecht Dürer (Figure 8).[56] These woodcuts follow the general style of manuscript birth figures, depicting the standard presentations in a uterus like a round glass vessel or balloon, with no anatomical detail. The fetuses, however, are not the tiny adult men that we see in medieval birth figures (see, for example, Figure 7), but toddlers, with curly mops of hair, chubby limbs and round bellies. The birth figures were copied for the first English edition as a set of engravings – indeed, they may have been the first copper plate engravings to be produced in England (Figure 4).[57] The uteruses in these first English birth figures follow the German originals in being highly abstract, but the fetuses have distinct differences. These little figures are less cherubic, less determinately infantile, with less luxuriant hair and more dour expressions. There is something thin and austere about these images, perhaps due in part to the medium. These birth figures are rendered in fine engraved lines but have sparse detail and employ the hatching techniques of woodcut, rather than the finer detail and tone-creating cross-hatching that intaglio engraving permits. As engraving was still a relatively new technique at this time, and not practiced at all in England, it was perhaps the case that the engraver simply transferred representational techniques familiar from woodcut to the new medium.

Indeed, almost all birth figures were produced as woodcuts until the late seventeenth century. Woodblocks were cheaper to produce and lasted longer, and they could be printed alongside type. This was the case for those produced for the Swiss physician Jakob Rüff. Rüff's midwifery manual was published in 1554 in both German and Latin editions.[58] Rüff's manual was

[56] Peter M Dunn, 'Eucharius Rösslin (c 1470-1626) of Germany and the Rebirth of Midwifery', *Archives of Disease in Childhood: Fetal and Neonatal Edition*, 79:1 (1998), 77-78.
[57] See LeRoy Crummer, 'The Copper Plates in Raynalde and Gemnius', *Proceedings of the Royal Society of Medicine,* 20:1 (1926), 53-56. It is also possible, however, that the plates were made abroad, possibly in the Netherlands.
[58] Jakob Rüff, *Ein schön lustig Trostbüchle von den Empfengknussen und Geburten der Menschen* (Zurich: Christophorus Froschoverus, 1554); and Jakob Rüff, *De conceptv et*

not translated into English until 1637, when it appeared under the title *The Expert Midwife*, in only one edition (Figures 9-10).[59] The birth figures that accompanied it, however, have a different history. These woodcuts also show the disembodied uterus and the fetus as *putto*, but Rüff's artist, whom Jennifer Spinks identifies as Jos Murer, adds anatomical detail to the uterus, showing the ovaries, the umbilical cord and placenta, and the wall of the uterus not as a schema, or as a see-through flask, but as an organ that has been cut open, the flaps of uterine wall folded back to expose the interior.[60] Something about Murer's figures for Rüff must have caught the early modern imagination, as these birth figures were copied and reprinted in numerous other midwifery manuals in the sixteenth and seventeenth centuries. In England, they appeared in the single edition of Rüff's text, but also in six other titles, all of which went through multiple editions.[61] If Rösslin's birth figures dominated the visual culture of midwifery in the late-sixteenth century in England, then Rüff's assumed the mantle for most of the seventeenth.[62]

Indeed, I have identified only one other set of birth figures printed in England before 1672. These are a single sheet of birth figures that seem to have originated in William Sermon's medical and midwifery book *The Ladies Companion* (1671), and were copied in the third (1676)

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generatione hominis et iis qvae circa h[a]ec potissimum consyderantur, libri sex Congesti opera Iacobi Rveff Chirurgi Tigurini (Zurich: Christophorus Froschoverus, 1554).

[59] Jakob Rüff, *The Expert Midwife or an Excellent and Most Necessary Treatise on the Generation and Birth of Man* (London: E.G., 1637).

[60] Jennifer Spinks, 'Jakob Rueff's 1554 *Trostbüchle*: A Zurich Physician Explains and Interprets Monstrous Births', *Intellectual History Review*, 18:1 (2008), 41-59 (p. 45).

[61] See Jacques Guillemeau, *Child-Birth, or the Happy Deliverie of Women* (London: Printed by A. Hatfield, 1612); Ambroise Paré, *The Workes of that Famous Chirurgion Ambrose Parey,* trans. by Th. Johnson (London: Th. Cotes and R. Young, 1634); T.C., I.D., M.S. and T.B. [Thomas Chamberlayne?], *The Compleat Midwifes Practice: In the Most Weighty and High Concernments of the Birth of Man* (London: Nathaniel Brooke, 1656); Jane Sharp, *The Midwives Book: Or the Whole Art of Midwifry Discovered* (London: Simon Miller, 1671); James Wolveridge, *Speculum Matricis: Or, the Expert Midwives Handmaid* (London, 1671); and [James Wolveridge], *The English Midwife Enlarged* (London: Rowland Reynold, 1682).

[62] In this thesis, I will regularly refer to images by the name of the author of the book for which they were originally made. This is not intended as a denial of the importance of the artist, or of the artist's agency apart from the author. It is, rather, a response to the fact that many of the images discussed in this thesis were made by multiple hands – artists, engravers and printers – many of whom were anonymous. Moreover, many of the images discussed here were copied from other sources, and went on to be copied and adapted themselves. Speaking of single artists as the creators of these images would, therefore, often be misleading. The original commissioning author's name is therefore used for ease of reference and to help maintain awareness of the lines of copying.

and subsequent editions of James Cooke's *Mellificium Chirurgiae* (Figure 11).[63] These images were clearly influenced by Rüff's birth figures both in the presentations, and in the way the uterus seems to have been cut open and folded back. However, the vortex-like concentric lines employed to describe the uterus set these figures apart.

In 1672, François Mauriceau's midwifery manual was published in English, along with his birth figures (see Figures 21-25).[64] This marked a turning point for the visual culture of midwifery in England, as birth figures began to be developed and diversified by a new kind of midwifery author. While this shift will be addressed in Chapter 2, here I examine birth figures produced in England between 1540 and 1672 – a long period of time, and one in which midwifery practice, the culture of childbirth, and midwifery manuals changed much – but which had a remarkably cohesive visual culture of birth figures. This cohesiveness did not mean that the role of the birth figure in midwifery culture was narrow or minimal. Rather, I shall demonstrate that it is because these few sets of birth figures answered so many cultural needs of the period, in so many ways, that they were so widely reproduced and so little changed. These images spoke about the early modern body in multiple modes, reflecting a body culture that was, according to Michael Stolberg, 'remarkably pluralistic'.[65]

In order to fully assess the significance of birth figures in this early period of their history in print, I must first establish their contextual history: in midwifery manuals, in midwifery practice, and in trends of reading and print-use in the period. In the following section, I will argue for the ubiquity and accessibility of birth figures in the culture of late-sixteenth and seventeenth-century England, before moving on to the specific ways in which I propose that birth figures represented and shaped understandings of the pregnant body.

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[63] William Sermon, *The Ladies Companion, or the English Midwife* (London: Edward Thomas, 1671); and James Cooke, *Mellificium Chirurgiae: Or, the Marrow of Chirurgery Much Enlarged* (London: Benj. Shirley, 1676).
[64] François Mauriceau, *The Diseases of Women with Child, and in Child-Bed,* trans. by Hugh Chamberlen (London: Printed by John Darby, 1672).
[65] Stolberg, *Experiencing Illness,* p. 159.

Midwifery Manuals and Readerships

Midwifery manuals in this period were a new and revolutionary genre. Prior to their rise in the sixteenth century, and their explosion in popularity and availability in the seventeenth, the realms of midwifery practice and learned[66] medical gynaecology were largely separate.[67] Childbirth itself was a private and all-female affair, presided over by a female midwife who learned her trade through formal or informal apprenticeship, or simply through personal experience of pregnancy and childbirth.[68] Physicians and surgeons were only called to attend births in the direst of emergencies, when an obstruction or other complication meant that the labouring woman was not expected to survive. Surgeons, under these circumstances, tended to remove obstructed fetuses in pieces using hooks and knives. As such, they were feared and reviled and their presence in the lying-in chamber signalled death for the child or mother, or both. In England, midwives were not widely regulated, and what licensing there was, was administered by the church. As such, the oaths sworn by midwives had as much to do with their religious duties, as with their medical training or practical experience.[69] Other countries, such as Germany, had stronger medical regulation of midwives, yet even there, physicians did not routinely attend births or practice midwifery themselves.[70]

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[66] 'Learned' is a word used in this study to indicate practitioners who derived some or all of their knowledge and authority from texts or from formal medical training in universities. On the early modern medical landscape, and particularly on the varying levels of university training, book learning and practical experience attained by different kinds of practitioner, see: Margaret Pelling, 'Knowledge Common and Acquired: The Education of Unlicensed Medical Practitioners in Early Modern London' in *The History of Medical Education in Britain,* ed. by Vivian Nutton and Roy Porter (Amsterdam: Rodopi, 1995), pp. 250-79.

[67] See Monica H. Green, 'From "Diseases of Women" to "Secrets of Women": The Transformation of Gynecological Literature in the Later Middle Ages', *Journal of Medieval and Early Modern Studies,* 30:1 (2000), 5-39.

[68] For histories of midwifery practice in this period, see Arons, ed., *When Midwifery Became a Male Physician's Province*; Donnison, *Midwives and Medical Men*; David Harley, 'Provincial Midwives in England: Lancashire and Cheshire, 1660-1760', in *The Art of Midwifery: Early Modern Midwives in Europe,* ed. by Hilary Marland (London: Routledge, 1993), pp. 27-48; Hobby, ed., *The Birth of Mankind*; and Adrian Wilson, *Ritual and Conflict: The Social Relations of Childbirth in Early Modern England* (Farnham: Ashgate, 2013).

[69] See Evenden, 'Mothers and Their Midwives'; and Harley, 'Provincial Midwives'.

[70] Hobby, ed., *The Birth of Mankind,* p. xv.

With the publication of midwifery manuals, however, midwifery went from a private, non-textual, all-female realm to one that was public, textual, and dominated by medically-trained men. The books also brought together the worlds of practice and learned knowledge: male authors claimed both to provide valuable knowledge to their midwife readers, and to expose the practices and remedies used by midwives to a wider lay readership. Many early midwifery manuals claimed to be able to save lives by providing midwives with much-needed instruction and by educating a general readership in how to choose a good midwife and monitor her practice.

However, if early midwifery manuals radically changed the social and cultural place of midwifery knowledge and led, over a long period, to enormous changes in practice, the actual content of these first books was not exactly revolutionary. Most followed the same basic format, providing recipes for medicines and treatments for ailments encountered during pregnancy, labour, and recovery. Anatomical information was common but was typically restricted to the female organs of generation. All manuals provided some guidance on the physical processes of midwifery: turning the fetus, assisting in its delivery, cutting the umbilical cord and removing the placenta. But, as most of the authors were men who had no practical midwifery experience, their knowledge was mainly cribbed from ancient and medieval gynaecological manuscripts. Information originating with Hippocrates, Galen, Aristotle and Soranus, as well as from medieval manuscripts such as Trotula and Albertus Magnus was common, and would today be considered of dubious usefulness.[71] Wendy Arons suggests that the publication of such knowledge may even have constituted a 'step backward for the art of midwifery', as midwives modified their own empirically developed practice to match what they read in books.[72] It is worth noting, however, that midwifery manuals were hardly unusual in this regard: much medical and anatomical

[71] For discussion of the content of early midwifery manuals and their 'usefulness', see Arons, ed., *When Midwifery Became a Male Physician's Province*; David Cressy, *Birth, Marriage and Death: Ritual, Religion and the Life-Cycle in Tudor and Stuart England* (Oxford: Oxford University Press, 1997), p. 41; Eccles, *Obstetrics and Gynaecology*; Gowing, *Common Bodies,* pp. 17-21; Green, 'From "Diseases of Women" to "Secrets of Women"'; and Green, 'The Sources of Eucharius Rösslin's "Rosegarden"'.

[72] Arons, ed., *When Midwifery Became a Male Physician's Province,* p. 5.

knowledge was still copied and adapted from the authors of classical antiquity, and indeed the entire culture of scholarship in this period placed a much greater emphasis on the adherence to existing authority, and less on new innovations, than is expected today.[73] Moreover, old knowledge and modes of understanding the body remained popular among the laity for centuries after they were rejected by some medical professionals.[74] What early modern readers thought of the advice they read in midwifery manuals, therefore, is hard to tease out, and has much to do with *who* those readers were.

There is an unresolved debate among scholars as to how many women actually read midwifery manuals, and how they responded to or assimilated what they read. Mary Fissell notes the twofold problem: firstly, that these books often assert that they were written for women, yet few women in this period could read. Secondly, the knowledge they contain seems to come from the masculine learned tradition and may have had little to do with how women actually experienced the body.[75]

Many midwifery manuals produced in this period addressed themselves to women readers, and particularly to female midwives. Others, such as Jonas' translation of Rösslin, attempted to actively discourage certain types of male reader – namely the uneducated and the young.[76] While it seems certain that men of all types did read midwifery manuals, the fact that authors continually addressed themselves to mixed or female readerships suggests that women must also have made up part of the audience. Moreover, the sheer number of titles and editions available by the 1670s shows that the genre must have had a very wide appeal. Considering that bestsellers such as Culpeper's *Directory for Midwives* went through at least 20 editions between 1651 and 1777, and that single books in this period often had multiple owners and were used

[73] Jonathan Sawday, *The Body Emblazoned: Dissection and the Human Body in Renaissance Culture* (London: Routledge, 1995), pp. 64-65; and Kusukawa, *Picturing the Book of Nature,* p. 229 discuss the role of classical authority in sixteenth-century anatomy. Arons, ed., *When Midwifery Became a Male Physician's Province* discusses its role in early midwifery manuals.
[74] Duden, *The Woman Beneath the Skin*; Roy Porter, 'The Patient's View: Doing Medical History from Below', *Theory and Society*, 14:2 (1985), 175-98; and Stolberg, *Experiencing Illness* discuss this long tail of medical ideas and systems among lay people.
[75] Fissell, *Vernacular Bodies,* pp. 70-71.
[76] Rösslin, *The Byrth of Mankynde,* (1540), f. 5v.

over long periods of time, it seems likely that midwifery manuals were a culturally pervasive source of body knowledge in the seventeenth century. This contextual evidence, while it does not prove a female readership, does mean, as Elaine Hobby argues, that it is 'reasonable to assume that these books were a significant source of information about the body to the wider reading public.'[77]

Moreover, inscriptions in midwifery manuals of the period seem to point to a readership that encompassed a significant number of women. Inscriptions can be a good way to gauge the demographics of readers, though they are likely to over-represent enfranchised readers: ones who owned books, and who were able and inclined to mark their ownership textually. Bill Sherman notes that women are particularly underrepresented in such studies, because once married their books were often subsumed into their husbands' libraries. Yet, he notes, this does not mean there are *no* inscriptions by female owners, and in some cases such inscriptions can be understood as acts of defiant proprietorship. This certainly seems to be the case with one manual that Sherman describes as inscribed: 'Elizabeth Hunt her Booke *not* his.'[78] Other women's inscriptions seem to qualify or negate the statement of ownership. In a 1682 copy of Wolveridge's *The English Midwife Enlarged,* held at the Huntington Library, the owner Mary Hillyer wrote:

> Mary Hillyer her book
> god give her grace ther
> into look not to look but
> to understand layn [learning?] is beter
> then house or land
> July ye 2 1790

Another inscription, in a 1662 edition of W.M.'s *The Queens Closet Opened,* a recipe book including remedies for problems associated with pregnancy, birth and nursing, held at the Wellcome Library, reads 'Mary Busby / no Great Physitian'. These women negate their own authority as book owners and knowledge-keepers. One transfers the agency for learning and

[77] Hobby, '"Secrets of the Female Sex"', p. 201.
[78] William H. Sherman, *Used Books: Marking Readings in Renaissance England* (Philadelphia: University of Pennsylvania Press, 2008), p. 57.

knowing to God, the other establishes her station outside the masculine province of physic. No male owners I have encountered wrote inscriptions that work to deny the book-owner's right to the knowledge contained in this way.

Yet despite the evidence that suggests that women were less likely to sign or own the books they read, in a small study of inscriptions in early modern midwifery and medical books undertaken over the course of this research project, I have found that a significant proportion of the writers were women.[79] Over all, I found roughly triple the number of male names (59) as female names (19), as well as 19 names where the gender could not be determined. However, among books published in the sixteenth and seventeenth centuries, I found only double the number of male names (19) as female (10), and 10 unidentified. This correlates with the trend of masculinisation and medicalisation in midwifery books of the eighteenth century, and indicates that earlier midwifery books *were* regularly owned by women.[80]

The popularity of midwifery manuals, the fact that they often explicitly address a female readership, and that a significant proportion of inscribed books seem to have been owned by women, leads me to conclude that women did read these texts. But this does not tell us which women, and why. Jennifer Richards, while noting the lack of hard evidence and the low literacy rates among women at the time, suggests that midwifery manuals *were* used by midwives as sources of information.[81] Citing evidence from Edward Poeton's manuscript *The Midwives Deputie* (c.1630s), she suggests that there were different types of professional readers, including learned male readers, 'ill-informed' female midwives and female midwives who were 'thoughtful, practical readers'.[82] Indeed, I argue that, over the course of the seventeenth

[79] This study was conducted by recording all inscriptions I found in midwifery texts dating from the sixteenth to eighteenth centuries throughout my research for this thesis. The research was undertaken primarily at the Wellcome Library and the Huntington Library, but also through digitised editions of books, held in libraries all over the world, and available through online databases. The most important of these have been Early English Books Online <https://eebo.chadwyck.com/home>, Eighteenth Century Collections Online <https://www.gale.com/primary-sources/eighteenth-century-collections-online>, and Gallica <http://gallica.bnf.fr/>.

[80] Ownership trends in the eighteenth century will be discussed in Chapter 5.

[81] Richards, 'Reading and Hearing'.

[82] Ibid., p. 461.

century, increasing numbers of midwives would have turned to printed texts to learn better practice.

Percival Willughby was a rare male midwifery practitioner working in the middle decades of the seventeenth century. He wrote a midwifery manual in the early 1670s that, while it was not published until the nineteenth century, circulated in multiple manuscript editions. Willughby's manuscript is rare and valuable evidence for how midwifery was actually practiced by English midwives in the seventeenth century. Willughby quotes from and refers to a vast range of midwifery authors, from Rösslin to Mauriceau.[83] Clearly, at least among elite midwives, familiarity with the literature of the discipline had become a requirement by the 1670s. Evidently, most midwives would not have been able to amass a vast library of midwifery manuals, but the fact that many of these books claimed to condense down and encompass the entire discipline, suggests that less high-status midwives felt the same pressure to acquire textual knowledge. Jane Sharp,[84] for instance, assured her readers that 'I have been at Great Cost in Translations for all Books, either French, Dutch, or Italian of this kind. All which I offer with my own Experience.'[85]

Sharp's approach, both to the body of midwifery literature and to the training of midwives, shows that by latter half of the seventeenth century, midwifery was becoming

[83] Percival Willughby, *Observations in Midwifery,* ed. by Henry Blenkinsop (Wakefield: S.R. Publishers, 1972 [c. 1670]). The midwifery authors cited by Willughby are Rösslin, Guillemeau, Paré, Harvey, Sermon, Sharp, Primrose, Wolveridge, Chamberlayne and Mauriceau.

[84] Jane Sharp is often cited as the first female English midwifery author. However, Katharine Phelps Walsh has recently suggested that Sharp's manual may have been authored by a man under a female pseudonym. See Katharine Phelps Walsh, 'Marketing Midwives in Seventeenth-Century London: A Re-Examination of Jane Sharp's *The Midwives Book*', *Gender & History*, 26:2 (2014), 223-41. Her argument is that Sharp's book is very similar to contemporary male-authored texts, that it does not give a strong sense of female experience of birth. Sharp does not, for example, refer to cases encountered during her practice, as later female writers Sarah Stone and Elizabeth Nihell would do. I do not believe that Walsh provides conclusive evidence: it would, for instance, be entirely understandable for the first female author in the genre to adhere strictly to the existing forms of style and content as a way of claiming legitimacy. However, I will not, in this thesis, place any great emphasis on this book as being more 'authentic' to the experience of the female midwife than any other from the period. Either way, it is worth noting that, in this period, a female name *could* be associated with textual authority in midwifery.

[85] Sharp, *The Midwives Book,* Preface.

established as a textual discipline. She explains that midwifery knowledge, by this time, had to be two-fold:

> *Speculative*; and *Practical*, she that wants the knowledge of Speculation, is like to one that is blind or wants her sight: she that wants the Practice, is like one that is lame and wants her legs, the lame may see but they cannot walk, the blind may walk but they cannot see.[86]

Practical experience of childbirth was still paramount, and still largely set the female practitioner apart from the male author. But increasingly, midwives were turning to books and the legitimising knowledge they could provide, to support their authority as practitioners. This adoption of books was the beginning of the great change that saw midwifery subsumed into medicine and much of the most lucrative practice pass to male practitioners.[87] As Susan Staub has noted, the 'movement of professional men into the reproductive sphere occurred metaphorically in print long before it took place literally'.[88]

The development of the midwifery manual as a key tool for the midwife is reflected in an inscription in a copy of the 1662 edition of Culpeper's *Directory for Midwives* held at the Yale University Medical School Library:

> Jeannot Newton hir
> Booke. Being given to
> hir by Mrs White
> in London 1682

The inscription establishes with certainty that the book was both given and owned by a woman, and it seems likely that the gift was part of an apprenticeship arrangement between Newton and White. This would correlate with Doreen Evenden's research into the apprenticeship system for training midwives in London in the seventeenth century,[89] and with Willughby's descriptions

[86] Sharp, *The Midwives Book*, p. 2.
[87] For histories of the rise of man-midwifery see Forman Cody, *Birthing the Nation*; McTavish, *Childbirth and the Display of Authority*; and Wilson, *The Making of Man-Midwifery.*
[88] Susan C. Staub, 'Surveilling the Secrets of the Female Body: The Context for Reproductive Authority in the Popular Press of the Seventeenth Century', in *The Female Body in Medicine and Literature,* ed. by Andrew Mangham and Greta Depledge (Liverpool: Liverpool University Press, 2011), pp. 51-68 (p. 57).
[89] See Evenden, 'Mothers and Their Midwives'.

of the use of midwifery manuals by young and aspiring midwives.[90] It also accords with Adrian Wilson's argument that literacy was much higher among midwives than among women generally, that most midwives, including country midwives, could read by the mid-seventeenth century.[91]

However, it was certainly not just midwives who read midwifery manuals. Jennifer Wynne Hellwarth has argued that there was an established culture of communal reading, teaching and sharing of knowledge among lay women in this period, both in and outside of the lying-in chamber. This, she suggests, may have included the use of midwifery manuals, with literate or semi-literate women disseminating the text to the illiterate.[92] Laura Gowing suggests that some women of the gentry considered it a duty to attend the births of their community, wherein they acted as trusted witnesses, and sometimes as healers or advisors.[93] Such high-status women were more likely to be literate, and to be book-owners, and they may have brought midwifery manuals to read aloud or consult at lyings-in. Indeed, this scenario is described in Raynalde's translation of Rösslin:

> there be sith the first settynge furth of this booke, right many honourable Ladies and other wourshypfull gentyle wemen, which haue not disdaynyd thoftener by the occasyon of this booke to frequent & haunt wemen in theyr labours, carienge with them this booke in thyr handes, and causynge suche parte of it as doth cheifly concerne the same pourpose, to be red before the mydwife, and the rest of the wemen then beyng present[94]

Though certainly not universally practiced, there is evidence to suggest that some lay women consulted midwifery manuals and shared the content with their female family, friends and wider community. This, it seems, was sometimes practiced in the lying-in chamber, and sometimes in other settings. As Adam Fox has argued, early modern England had a highly textual culture,

[90] Willughby, *Observations in Midwifery*, pp. 72-73.
[91] Wilson, *The Making of Man-Midwifery,* p. 30. See also Evenden, *The Midwives of Seventeenth-Century London,* p. 123.
[92] Hellwarth, '"I Wyl Wright of Women Prevy Sekenes"'.
[93] Gowing, *Common Bodies*, p. 155.
[94] Rösslin, *The Byrth of Mankynde,* (1545), C8v.

despite its low literacy rates.[95] Reading aloud to a group or individual was very common, and even those with low levels of literacy engaged with printed texts.[96]

Scholars such as Wendy Arons and Audrey Eccles have emphasised that the knowledge printed in early midwifery manuals was of a masculine, learned kind that was very different to the empirical way midwives themselves knew the body and practiced midwifery.[97] Noting this, Hellwarth suggests that midwives intentionally guarded and kept secret their hard-won practical knowledge.[98] Other scholars have argued that midwifery manuals were actually mainly read by people looking for a sex manual or for erotic content, and that manuals 'are not the ideal educational tools for someone who seeks to learn how to deliver a child'.[99] Yet we must be careful of judging what kinds of knowledge early modern readers would have deemed 'useful' against our own reactions to these texts. That they might not help *us* to deliver a child says almost nothing about their original 'usefulness'.

We should be critical, too, of the deep divide, described by some scholars, between the empirical knowledge of practicing midwives, and the rarefied knowledge of midwifery manuals. While such a divide did exist, it began to blur from the first publication in print of the first midwifery manual. As Fox argues,

> the three media of speech, script, and print infused and interacted with each other in a myriad way. Then, as now, a song or a story, an expression or a piece of news, could migrate promiscuously between these three vehicles of transmission as it circulated around the country, throughout society and over time.[100]

Midwifery manuals, as cheap, widely available vernacular texts must have been part of the wider textual culture, their content not only shared through reading and reading aloud, but through

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[95] Fox, *Oral and Literate Culture.*
[96] Mary E. Fissell, 'Readers, Texts, and Contexts: Vernacular Medical Works in Early Modern England', in *The Popularization of Medicine 1650-1850*, ed. by Roy Porter (London: Routledge, 1992), pp. 72-98.
[97] See Arons, ed., *When Midwifery Became a Male Physician's Province*, pp. 1-18; Eccles, *Obstetrics and Gynaecology*, p. 11; Evenden, *The Midwives of Seventeenth-Century London*, p. 6.
[98] Hellwarth, '"I Wyl Wright of Women Prevy Sekenes"', p. 53.
[99] Thauvette, 'Sexual Education and Erotica', p. 154.
[100] Fox, *Oral and Literate Culture*, p. 6.

reportage and assimilation into oral and manuscript repositories. Regardless of whether the knowledge was different from what midwives knew from practice, even if it was unhelpful or difficult to understand, it moved, as Fox describes, out of the books and into the wider body culture, increasingly reflecting and affecting that culture as the books themselves became more common. Moreover, as authors talked to or learned from midwives and other healers, knowledge both traditional or empirical, and garnered from texts, might make its way *back* into print as reportage.

With the proliferation of these texts, the images they produced also became widely accessible and culturally pervasive. Indeed, if many people were able to access the text of a midwifery manual directly or indirectly, then even more people could access the images, as even the illiterate could interpret them for themselves. Images, too, take less time to consider than a whole text, and would have been available not only to book owners, but to visitors and guests, to all the women in a lying-in chamber, even to people browsing a bookstall. Moreover, birth figures were extremely mobile: small, cheaply-produced woodblocks could be reused many more times than engraved plates, and could be easily and cheaply copied and recut. Their mobility meant that birth figures moved out of the genre of the midwifery manual, also appearing in surgical texts and in fugitive sheets. Birth figures are reproduced in the anatomical flap sheet *Autumnus*, now extant in only one copy held at Duke University Library (Figures 12 and 62).[101] It is likely that the four fugitive sheets of which this is one were very widely produced, but that almost all copies are now lost due to the way in which they were used and manipulated until torn, worn and thrown away. This suggests that other ephemeral prints, now unknown to us, may also have contained birth figures.

Birth figures were, moreover, not only mobile in their printing, but also physically mobile as impressions were torn or cut from their original books. This is the case for the birth figures in

[101] For more on this flap sheet, see Chapter 4, pp. 193-94; Andrea Carlino, *Paper Bodies: A Catalogue of Anatomical Fugitive Sheets 1538-1687*, trans. by Noga Arikha (London: Wellcome Institute for Medicine, 1999); and H.F.J. Horstmanshoff, A.M. Luyendijk-Elshout and F.G. Schlesinger et. al., eds., *The Four Seasons of Human Life: Four Anonymous Engravings from the Trent Collection* (Rotterdam: Erasmus Publishing, 2002).

most copies of the 1540 edition of Rösslin's *The Byrth of Mankynde*, which suggests not only that birth figures were particularly intriguing to early modern viewers, but that they reached very wide audiences as they left the protective covers of books to circulate alone, to be passed around, pinned to a wall or pasted onto other objects.[102] As well as being popular and mobile, birth figures were also remarkably cohesive in composition and style. This means that while there was a vast amount of textual material in midwifery for a reader to browse through and selectively read, if a person saw a birth figure, it would likely be one of three quite similar sets. This ubiquity makes birth figures a really remarkable resource for investigating how early modern people understood and pictured the pregnant interior.

However, these qualities also make birth figures challenging material for the art historian. As discussed in the Introduction, these images were cheap, often copied, and often anonymous. Addressing them critically has involved rejecting many of the typical metrics by which an image is judged 'successful' or worthy of study. However, looked at in Baxandallian terms, as resources that speak eloquently about the culture that produced them, the collective, ubiquitous nature of birth figures make them *more* valuable resources than the single virtuosic oil painting seen only by the wealthy patron who commissioned it, and their social circle.[103] While birth figures' ubiquity, popularity and iconographic consistency make it difficult to talk about artistic intention, the fact that so many hands and minds went in to their production and reproduction makes them a special kind record of the period's culture. With each reproduction, birth figures became more culturally present, as well as more divorced from the original intentions of any single author or artist. Birth figures are, indeed, as close to a class-, gender- and geography-non-specific image of the body as we might well expect to find in the early modern period.

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[102] The same is true of the single sheet of birth figures produced in Sermon's *The Ladies Companion* (1671) and Cooke's *Mellificium Chirurgiae* (1676, see Figure 11), editions of which now often lack the plate.

[103] See Michael Baxandall, *Patterns of Intention: On the Historical Explanation of Pictures* (New Haven: Yale University Press, 1985).

That birth figures in England were much copied and slow to change in the period up to the 1670s is certain. What is less obvious is why this was so, considering that this was a time in which innovations and new discoveries were being made in so many branches of natural philosophy, in England and abroad. The answer has partly to do with the simple lack of models to draw from: botanical illustrations could continually develop in style, composition and iconography as new artists and authors addressed specimens. However, an artist tasked with producing a set of birth figures had never seen the thing they were drawing. No one could look inside the living pregnant body, and only a few privileged anatomists and students got to see the dissection of a dead pregnant body.[104] Copying, therefore, was a practical response to the lack of a model to drawn upon. But more than this, copying was a way of establishing an image as correct and authoritative. This period predates the invention of copyright, and the widespread cultural obsession with originality. An early modern author and artist who copied an image paid homage to the authority who had used it before, and associated themselves with that authority. As Susan Dackermann puts it, 'artists as well as their scientific colleagues assumed each other's authority as a means of deploying their own expertise.'[105] Where artists had no model in life to draw from, they turned to each other to confirm the accuracy and success of their images. Innovations, therefore, were only slowly introduced, and always consciously integrated with the existing canon of images – the wellspring of medical and natural philosophical authority.

William Ashworth addresses this tendency to copy in natural history books of the seventeenth century.[106] He suggests that artists even felt obliged to copy existing images, because to diverge or to innovate would be to challenge authority. While there were always some pioneers (Vesalius being a good example in anatomy) who actively used images to challenge authority and to present new approaches to investigation and knowledge, the

[104] The scarcity, particularly of pregnant corpses, is noted by Staub, 'Surveilling the Secrets of the Female Body', p. 55.
[105] Dackermann, ed., *Prints and the Pursuit of Knowledge,* p. 24.
[106] Ashworth, 'The Persistent Beast'.

seventeenth century, particularly, seems to have been deeply ambivalent about the twin drives to innovate and to adhere to authority. Ashworth notes the strangeness of this – that Renaissance images exerted such authority despite the fact that the seventeenth was 'a century when practically all other authority was being rapidly cast aside'.[107] Indeed, in botanical and zoological books of the period, as Ashworth, Fabian Krämer and Sachiko Kusukawa have noted, old images are often retained even where new ones are also produced, as authors built up reliability through encyclopaedic collecting.[108]

Clearly both adherence to authority and the lack of models to draw from were important factors in this culture of copying. But another reason might be explored using Katherine Eggert's theory of 'disknowledge'. Eggert argues that the early modern period was so wedded both to old systems of knowing, and to new and innovatory ones, that it developed a 'tricky epistemological maneuver' in which something can be known and not known at the same time, or in which two seemingly contradictory systems of knowledge can coexist.[109] The same 'disknowledge' might have been practiced by viewers of old and much-copied images.

However, these theories cannot tell the whole story, because they tend to assume that an old and outdated image – one that was copied multiple times – was inherently less informative than a new image. In fact, it is entirely possible that old and much-copied images, which might seem to us to be out of date, continued to be relevant for early modern viewers, to provide a useful mode of knowing. The birth figures that were copied throughout the seventeenth century and beyond were copied, I argue, because they continued to serve a purpose. As Percival Willughby pointed out, not without an edge of frustration, young midwives

[107] Ibid., p. 47.
[108] Sachiko Kusukawa, 'Copying as a Form of Knowing: Early Modern Scientific Images', (talk given at the Warburg Institute, London, 11 January 2017); and Krämer, 'The Persistent Image of an Unusual Centaur'.
[109] Katherine Eggert, *Disknowledge: Literature, Alchemy and the End of Humanism in Renaissance England* (Philadelphia: University of Pennsylvania Press, 2015), p. 2.

would find a midwifery book 'defective' if it were not 'furnished with all the schemes, and various figures'.[110]

The early modern period was one in which many and various systems for understanding and imagining the body coexisted. Birth figures reflect this culture, having, in the words of Lianne McTavish, a 'flexible nature and ability to support multiple meanings.'[111] In what follows, I will first examine birth figures in a professional context – how they were textually glossed and how they were used and understood by physicians and midwives – before discussing how they interact with a variety of other modes for understanding the body, some mentioned in midwifery texts, others part of the wider body culture that lay viewers would have brought to their interpretation of birth figures.

Birth Figures as 'Practitional' Images

As discussed in the Introduction, birth figures are not anatomical images, but rather imagined images of the living and labouring body that often functioned alongside and complemented anatomical images. As early as 1545, with the second edition of *The Byrth of Mankynde,* midwifery manuals embraced the contemporary in anatomical research. This edition included images from Vesalius' *De humani corporis fabrica* (1543) which had only just been reproduced in England for Thomas Geminus' anatomical treatise, *Compendiosa totius anatomie delineatio, aere exarata.*[112] This put Raynalde's translation of Rösslin at the cutting edge of anatomical visual culture in England. But the images did not displace birth figures, rather they worked alongside them in a different representational mode. As Kusukawa has argued, Vesalius' anatomical images were produced to aid students in reading dissections – they are keys to and descriptions of the opened body, teaching the initiate how to make sense of the actual body, to

[110] Willughby, *Observations in Midwifery*, p. 341. There are no extant birth figures for Willughby's text because it was never published. However, he states in the text that he intends to include some.
[111] McTavish, *Childbirth and the Display of Authority*, p. 196.
[112] Crummer, 'The Copper Plates'.

locate it within medical and physiological theory.[113] To look at them was, as Raynalde described it, 'as thoughe ye were present at the cuttynge open or anathomye of a ded woman.'[114] Birth figures, on the other hand, work in a different register, imagining rather than observing the bodily interior, and rendering it living and in process. In the early modern period, anatomical images and birth figures could function side by side despite what seem to us contradictions in the way they depict the body because, as Barbara Duden argues, 'the dead body did not yet cast its shadow on the living body.'[115] Indeed, Cynthia Klestinec has argued that, particularly in vernacular texts, anatomy was never sufficient to describe the body: '[i]t was not enough for writers to describe the structural features of the uterus, for example; they also had to describe it as "joyous," happy to be the meeting place for male and female sperm.'[116] Anatomy was not the only, or even the most important, system for understanding or picturing the bodily interior: it was employed 'alongside, not in place of, a wider lexicon of the body.'[117]

After the 1545 edition of *The Byrth of Mankynde*, anatomy was regularly included in midwifery manuals, where it was often presented as a kind of theoretical grounding for midwives. In *The Byrth of Mankynde*, for instance, anatomy was described as 'the foundation and ground, [...] the better to understand how every thyng cummeth to passe within your bodyes in tyme of conception, of baryng, and of byrth'.[118] Almost always restricted to a prefatory section and typically only concerning the female organs of reproduction, anatomy in midwifery manuals was emphasised as theoretical, scholarly knowledge and was heavily associated with the anatomised corpse. Authors, it seems, understood it as peripheral to the main art and skill of midwifery, and as most midwives had no access to education in anatomy, it was, in practical terms, not a necessity. Indeed, even as late as 1737, the midwife and author Sarah Stone was

[113] Kusukawa, *Picturing the Book of Nature,* pp. 195-99.
[114] Rösslin, *The Byrth of Mankynde*, (1545), B3r.
[115] Duden, *The Woman Beneath the Skin,* p. 106.
[116] Cynthia Klestinec, 'Sex, Medicine, and Disease: Welcoming Wombs and Vernacular Anatomies', in *A Cultural History of Sexuality in the Renaissance,* ed. by Bette Talvacchia (Oxford: Berg, 2011), pp. 113-35 (p. 115).
[117] Ibid.
[118] Rösslin, *The Byrth of Mankynde*, (1545), B3v.

still describing her attendance at public anatomies and her reading of anatomical books as useful, but not a central pillar of the discipline. She states, moreover, that without extensive practical experience, anatomical knowledge 'would have signified but little'.[119] Birth figures, on the other hand, refer to the living body in labour with which midwives dealt in their daily practice. As I shall argue in this chapter, this meant that they used very different modes of representation. Though they often contain anatomical details, these are always subordinate to the depiction of fetal presentation. While birth figures and anatomical images were regularly collected together in midwifery manuals, they were practically and perceptually apart. The anatomical was static, theoretical and academic, while birth figures were active, practical and 'practitional'.[120]

The early modern period is characterised by a multifarious, imaginative and inclusive approach to medicine and the body, and one that did not replace 'old' ideas with 'new', but rather collected them into an ever-richer culture. This is particularly well exemplified in thinking about the uterus: it was an organ shrouded in mystery, the source of many of women's illnesses, and the subject of much analogical and symbolic bodily storytelling.[121] Birth figures, in representing the uterus excised from the rest of the body, must have been reflective, to most seventeenth-century viewers, of the very widespread understanding, stemming from classical medicine, of the uterus as autonomous and mobile within the body. Though, by the seventeenth century, it was well established by anatomists that the uterus did *not* move of its own volition, the way this was explained by many authors betrays a certain ambivalence on the topic.[122] 'There is towards the neck of the Womb on both sides a strong ligament near the hanches, binding the womb to the back' writes Jane Sharp, simultaneously describing the stationary

[119] Sarah Stone, *A Complete Practice of Midwifery: Consisting of Upwards of Forty Cases or Observations in that Valuable Art, Selected from Many Others, in the Course of a Very Extensive Practice* (London: T. Cooper, 1737), p. xv.
[120] 'Practitional' is a term I use in this thesis to indicate images that represent the knowledge of practising midwives just as 'anatomical' images represent the knowledge of anatomists.
[121] See Park, *Secrets of Women.*
[122] Laurinda S. Dixon, *Perilous Chastity: Women and Illness in Pre-Enlightenment Art and Medicine* (Ithaca, NY: Cornell University Press, 1995), pp. 48-52; and Park, *Secrets of Women,* p. 113.

uterus while evoking the possibility of movement, and the need to 'bind'.[123] Moreover, whatever anatomy books said, among laypeople there was still widespread understanding that both fluids and organs moved around the body, and that the uterus especially could cause illness by moving upwards. This understanding was also still credited and engaged with by physicians, who risked losing clients by directly contradicting their perceptions of their bodies.[124] In one midwifery manual of 1656, *The Compleat Midwifes Practice*, the authors still describe the mobility of the uterus, and the fact that 'some women doe affirme that is ascends as high as their stomach.'[125] To many women, the way the uterus is disembodied in the birth figure may have reflective a still pervasive understanding of the organ as something other, something not quite controllable, within the body.

Pregnancy might stop the uterus from moving around the body, and both sex and pregnancy were understood as cures for some uterine illnesses.[126] But the uterus did not become less inscrutable when pregnant. Indeed, if anything, it became more mysterious and uncontrollable, and with more serious consequences. A uterus might engender a child, but it might also create a misconception or a monster, it might suddenly let go of a growing child, or it might impress marks or deformities onto that child. During childbirth, too, a labour might go quickly or slowly, the child might fail to come, the mother might haemorrhage or have convulsions, all without clear reasons.[127] For anatomists and physicians, too, the uterus was understood as a great mystery – the fabled seat of generation, and an organ that was constantly and miraculously changing.[128] In the words of the surgeon Jacques Guillemeau:

> certainly it is a thing worthy of consideration, to see how in a little space, yea even in the twinckling of an eye, the necke of the wombe, which all the time of the nine moneths was so perfectly and exactly closed and shut, that the point of a needle could not enter therin: how (I say) in an instant is dilated and

[123] Sharp, *The Midwives Book*, p. 36.
[124] See Stolberg, *Experiencing Illness,* p. 75.
[125] [Chamberlayne?], *The Compleat Midwifes Practice,* p. 33.
[126] See Dixon, *Perilous Chastity.*
[127] Gowing, *Common Bodies*; and Fissell, *Vernacular Bodies.*
[128] Park, *Secrets of Women*, p. 169

> inlarged, to give passage, and way for the child; the which cannot bee comprehended (as the same *Galen* saith) but only wondred at, and admired.[129]

For midwives, too, the uterus was a mysterious place, and one that became deeply troubling in the case of obstructed or lingering labours. When the baby did not come, for many midwives and women in the sixteenth and seventeenth centuries, there was no way to work out why, let alone to fix the situation. The opaque and unpredictable danger of obstructed labour lay heavy over the culture of early modern childbirth. The power of this fear, Laura Gowing has argued, spurred the common use of oaths, both before and during labour, that involved a promise being kept or 'the child and I will never part'.[130] Such an oath had great potency because, as everyone knew, if the child could not be born, both would die. The fear of this particular outcome was undoubtedly made more powerful by its mystery – the fact that it was often not clear *why* the child would not come, or what a midwife could do to help. Over obstructed labour also loomed the spectre of surgical intervention, and the certain death of the child removed in pieces. In extremis, many women preferred to put their trust in divine rather than medical agency, and whether the child would come was often talked about in terms of God's will.[131] Labour, in this culture, was a closed system – a black box.

In most cases, labour could be left to progress without physical intervention into the interior. Most fetuses present head-first and are born spontaneously, only needing to be received by the midwife. In this period, therefore, the midwife's main tasks included care and encouragement of the mother, the administering of various receipts and medicines, and after birth, the cutting of the umbilical cord, delivery of the placenta and washing and swaddling of the child.[132] The physical processes of labour were discussed in largely abstract terms, and there seems to have been a reluctance to visualise the female body or the movement of the fetus in

[129] Guillemeau, *Child-Birth,* pp. 85-86.
[130] Gowing, *Common Bodies*, p. 168.
[131] Cressy, *Birth, Marriage and Death,* p. 24; and Jennifer Wynne Hellwarth, *The Reproductive Unconscious in Medieval and Early Modern England* (London: Routledge, 2002), pp. 43-87.
[132] Adrian Wilson, 'A Memorial of Eleanor Willughby, a Seventeenth-Century Midwife', in *Women, Science and Medicine 1500-1700,* ed. by Lynette Hunter and Sarah Hutton (Stroud: Sutton Publishing, 1997), pp. 138-77 (pp. 143-48).

concrete or mechanical terms.[133] Percival Willughby and Sarah Stone, both authors who were also practicing midwives, described encounters with colleagues who restricted their practice to the bodily exterior and who were unable to visualise what was happening inside.[134] This is also borne out by the complaint of the German midwife-author Justine Siegemund that:

> there are some midwives who do not think about what they are doing and know no more and wish to know no more than how to receive a child when it falls into their hands and how to cut the navel string. They do not concern themselves with anything more, even violently dispute the possibility that a midwife can do anything more, because it is hidden from them.[135]

Some laypeople reported the same thing: the diarist Alice Thornton, for example, recounted one of her own labours in which her 'sweete goodly son was turned wrong by the fall I gott in September before, nor had the midwife skill to turne him right, which was the cause of the losse of his life, and the hazard of my owne.'[136] She reports a case in which it was known that the fetus was positioned wrongly for birth, but that the midwife did not have the skills to visualise the position or turn the child. Indeed, a common solution to malpresentation at this time, and one recommended by Rüff, was to push the fetus back and have the mother toss around, in the hopes of shaking the fetus into a better position. Rüff describes how the presenting limb should be pushed back, and then:

> let the labouring woman move and roll her selfe to and fro in her bed, her head being lower than her other parts, but her thighes and belly higher than the rest, declining backward, untill the Infant shall be perceived to be turned a little, then she is to be brought againe to her labour and travell, and she is to be furthered with all the help that may be.[137]

This solution, while it required that the midwife be aware of the problem of malpresentation, did not require exact thinking about how the fetus was presenting, or the way in which its

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[133] See Park, *Secrets of Women,* p. 262.
[134] Willughby, *Observations in Midwifery*, p. 276; and Stone, *A Complete Practice of Midwifery*, p. 45.
[135] Justine Siegemund, *The Court Midwife*, ed. and trans. by Lynne Tatlock (Chicago: University of Chicago Press, 2005), p. 152.
[136] Alice Thornton, *The Autobiography of Mrs. Alice Thornton, of East Newton, Co. York.* (Durham: Surtees Society, 1875), p. 96.
[137] Rüff, *The Expert Midwife,* pp. 116-17.

position might be corrected. Such concrete thinking about fetal position was, I argue, largely outside of the midwife's purview. It was not that people were incapable of concretely visualising the fetus in a specific position, but that midwifery practice and wider frameworks for thinking about the body did not require this approach. Non-visualisation of the fetus worked, for example, with the widespread understanding of the role of 'Nature' in the body. Hannah Newton has argued that, at this time, 'Nature' was often understood as an active and personified agent within the body who helped to rebalance the humours and purge disease.[138] Within this framework, the midwife who pushes the fetus back in the hopes that it will return to a 'natural', cephalic presentation assumes the role of an assistant, helping the agent 'Nature', within the body, to fulfil her duties. Many midwives, throughout the sixteenth and seventeenth centuries, continued to perceive their role as assistant or attendant to a greater force, be it 'Nature' or God. This role left the uterus un-visualised and un-tampered with – the realm of a greater, more powerful force.

However, there also arose in this period a new way of perceiving the body and the midwife's role, with which birth figures were deeply entangled. Slowly and sporadically, midwives began to intervene *inside* the body. Rather than just pushing back the fetus and hoping it would turn fortuitously, they began to manipulate it themselves. At first, this was still couched within the midwife's role as assistant to nature. Rösslin, for instance, advises the midwife faced with a malpresentation to 'turn the byrth tenderlye with her annoynted handes, so that it maye be reduced agayne to a naturall byrthe'.[139] Rösslin describes the midwife lubricating her hands, probably with oil, before introducing one or both into the vagina and uterus to turn the child so that it presents head-first. This idea works within the logical framework of the natural, as it involves the midwife helping to return the body to a state in which the agent nature can complete the delivery. However, as Adrian Wilson notes, turning to the head, or internal cephalic version, only really works before labour has begun, and even then, it requires great

[138] Hannah Newton, '"Nature Concocts and Expels": The Agents and Processes of Recovery from Disease in Early Modern England', *Social History of Medicine*, 28:3 (2015), 465-86.
[139] Rösslin, *The Byrth of Mankynde*, (1545), f. 62r; see also Rüff, *The Expert Midwife*, p. 118.

skill.[140] Once labour has begun, in practical terms, cephalic version is largely impossible – the head is too large and smooth to be grasped and manipulated by the midwife's hand in the contracted uterus.

One copy of the 1540 edition Rösslin's *Byrth of Mankynde* seems to show a reader's confusion over this concept. The book, held at the Huntington Library, has been annotated in ink, mainly with comments and crosses in the margins, and with catchwords at the tops of pages. One word written multiple times by the annotator was 'stere' or 'stearynge', on pages which deal with fetal presentation and turning the fetus. While we cannot know what the annotator thought about 'stearing', it seems likely that he or she repeatedly wrote the word because they considered it a key, and perhaps a tricky, concept. The writing of such catchwords suggests that it was an idea that the annotator wished to find easily for repeated readings.

The impracticality of cephalic version began to be remarked upon more widely from the seventeenth century. The midwife speaker of *The English Midwife Enlarged*, for instance, complains that 'most Authors advise to change the Figure and place the head so that it may present itself first to the birth; which is very difficult and almost altogether impossible to be performed.'[141] This statement is largely true, but it is also a little piece of propaganda, because by the seventeenth century, a better alternative was circulating in manuals and in practice: podalic version.

Podalic version involves finding the feet of a malpresenting fetus and pulling it out by them. The method was first published by the French surgeon Ambroise Paré in the mid-sixteenth century in France, and was slowly disseminated in text and practice throughout the seventeenth century in England, beginning in 1612 with the publication of *Child-Birth or, The Happy Deliverie of Women*, a translation of a French manual by Paré's pupil Jacques Guillemeau.[142] Podalic

[140] Wilson, *The Making of Man-Midwifery,* pp. 20-21.
[141] [Wolveridge], *The English Midwife Enlarged,* p. 54.
[142] It is possible that some midwives were using podalic version before this time, but it is generally accepted that Paré was the first to publish the technique. See Janet Doe, *A Bibliography, 1545-1940, of the Works of Ambroise Paré, 1510-1590: Premier Chirurgien & Conseiller du Roi* (Amsterdam: Gérard Th. van Heusden, 1976), pp. xiii-xiv.

version allows the midwife to gain a firmer grip on a malpresenting fetus, to alter its position and to exert traction to help delivery. Where it was practiced well, it allowed midwives to deliver fetuses that would otherwise have been delivered using dismemberment or craniotomy. But podalic version was not simply an innovation, it necessitated a completely new way of visualising the body. No longer was the aim to return the body to a state of unseen and independently functioning 'naturalness', but rather to actively intervene in its processes, and to deliver the baby in an 'unnatural' yet much more convenient presentation. To do this, the practitioner had to engage with a process of concretely visualising the body. First, they would have to establish the exact position of the fetus, what presented at the cervix and where the feet were, then they would have to move their hand *inside* the uterus to manipulate the fetus's position and exert traction on its feet and legs, in order to effect delivery. Midwives who practiced podalic version were no longer attendants at a natural, internal and unknowable process: they were agents in a new way, intervening in, correcting and ameliorating the body's processes.

Because this change was so great – not merely 'practitional', but perceptual – it spread only slowly and sporadically. A midwife needed another midwife or physician trained in the technique, a midwifery manual, or a personal flair for innovation in order to learn it. Birth figures, I argue, were essential to the spread of podalic version because they offered midwives a kind of perceptual key onto which they could map the scant knowledge they had of a particular labouring body, extrapolating and guessing at how the fetus might be positioned. This analysis, I argue, accords with Mary Fissell's description of birth figures as 'mnemonic, a brief visual summation of elaborate directions to the midwife and labouring woman.'[143] Yet they were not simply systems for remembering, but more fundamentally images that conveyed an entirely new way of *knowing* the body.

Of course, it is impossible to know exactly how many midwives used birth figures to learn about malpresentation and podalic version, but there is evidence suggesting that at least some did. As already mentioned, Richards has argued for some midwives being 'thoughtful,

[143] Fissell, *Vernacular Bodies,* p. 150.

practical readers' of midwifery manuals, who actively mined such books for information and techniques to improve their practice.[144] Some midwifery manuals, moreover, explicitly describe birth figures being used pedagogically, helping midwives to picture specific malpresentations and how they might be rectified. James Wolveridge's *The English Midwife Enlarged* associates birth figures with learning manoeuvres from the outset, promising that the book 'will not only furnish you with figures, but with directions'.[145] The book is written as a dialogue between a midwife and a physician who instructs her. In the text, the physician refers to the images as if the speakers had access to them, asking: 'Courteous Mrs. *Eutrapelia*, If you perceive a child come with its feet forwards, and the hands drawn downwards to the thighs, according to the next ensuing form, How will you deliver the woman?'[146] The midwife 'Eutrapelia' then explains how she would deliver a fetus in this presentation. So, at least for the author of this text, birth figures were understood as useful pedagogic devices – as keys to remembering and picturing the bodily interior, and to working out how to practice on it.

Indeed, the same use of birth figures is recorded in the work of another author, the German midwife Justine Siegemund. Siegemund was a remarkable midwife, firstly because she published a treatise in a field dominated by male authors, and secondly because she learned her profession not through the traditional system of apprenticeship and practical experience, but from books. Her understanding of the body and of midwifery practice are, therefore, extremely important in understanding how books and their images were understood and used by early modern readers.[147] Siegemund initially began to read about midwifery to satisfy her own desire

[144] Richards, 'Reading and Hearing', p. 461.
[145] [Wolveridge], *The English Midwife Enlarged,* p. 51.
[146] Ibid.*,* p. 52.
[147] Siegemund's testimony is discussed here because it is the only instance I have found of a midwife of the seventeenth century describing how she used birth figures. It is such rare evidence that I believe it is worth examining, despite fact that Siegemund worked and published in Germany, and that her manual wasn't translated into English until 2005. However, the birth figures available to Siegemund are similar to those available in England at the time, and indeed some English practitioners may have read Siegemund's own book in its original German, which went through eight editions. See Lynne Tatlock, 'Volume Editor's Introduction', in *The Court Midwife*, ed. and trans. by Lynne Tatlock (Chicago: University of Chicago Press, 2005), pp. 1-26.

for knowledge after suffering a traumatic misdiagnosis of pregnancy as a young woman. She later became a practicing midwife when local women and midwives, aware of her reading, asked her to consult on difficult labours. In her book, Siegemund describes the first case she was called to attend, one of arm presentation:

> The midwife, that is, her sister-in-law, entreated me, for the love of God, to advise them because she had seen me with books with illustrations of sundry births. So I got out the books and looked to see what postures were depicted there. Because, however, it was impossible for this midwife to determine which picture corresponded to the posture of the laboring woman's child, they despaired.[148]

Siegemund, however, delivered the child and, winning the confidence of the local midwives, began to be regularly called to difficult births. As she gained practical experience, she also honed the skills that allowed her to reconcile actual labours with the presentations depicted in birth figures, becoming more and more able to visualise and rectify malpresentations. Siegemund's narrative describes a community in the midst of great perceptual and 'practitional' changes. The midwives were aware of the usefulness of birth figures, and of books more generally to their practice. Indeed, all were agreed that birth figures might be useful if they could be matched with the malpresentation in question. Yet the midwife with her traditional 'practitional' understanding, and Siegemund with her knowledge exclusively from texts and images, could not readily reconcile the two. It was Siegemund's continued practice, combining practical and textual knowledge, that allowed her to more and more easily enact this reconciliation, and so more easily deliver obstructed births. Eventually, she developed her own method for podalic version and, when writing her own midwifery manual, produced her own birth figures (Figures 27-29 and 40).[149] Siegemund's text is also written largely as a dialogue between herself and a young midwife-pupil. In the same meta-narrative as found in Wolveridge's text, those engravings that are published in the book are also provided, within the narrative, to the fictional pupil as learning aids. This pupil gives voice to Siegemund's own deep conviction that birth

[148] Siegemund, *The Court Midwife*, p. 90.
[149] Siegemund's birth figures are further discussed in Chapters 2 and 3.

figures could teach practice: 'I can grasp it better by looking at a copper engraving together with a detailed report than from the report alone. The copper engravings light up my eyes as it were and place understanding in my hands'.[150] Presumably, many other midwives and surgeons who did not produce treatises went through a similar process of learning to reconcile body, text and image in the pursuit of good practice, though only, it is worth reiterating, where midwives willing to change their habits met with books and those able to interpret them.

I argue that the birth figure's capacity to teach a new system for visualising and practicing on the bodily interior is associated with the particular representational modes it employed. Anatomical images depicted the body as it was seen and known through dissection of the dead. Such images often regularised or standardised the body so that they would teach the viewer what was either typical or ideal. Individual bodies, in the consulting room or on the dissection table, could then be compared to these ideal images. To take, for example, an anatomical image of the fetus, uterus and membranes originally produced for Vesalius' *Fabrica*, but very widely copied, including in both Raynalde's edition of *The Byrth of Mankynde* and Rüff's *The Expert Midwife* (See Figures 3 vii, 5 iii and 13). In these images, there is a focus on anatomical detail, and particularly on the number and nature of the uterine membranes, which was under debate at the time.[151] The images also take an anatomical approach to the fetus, showing it more 'accurately' proportioned and positioned, cramped in the uterus with its limbs curled to its body. These fetuses also sit upright, as was understood to be the universal position until late in pregnancy, when they would take a 'dive' to be born head first.[152] Such images speak about the fetus in anatomical terms, informed by dissection and by the canon of textual anatomical knowledge. These images aim to show the body in its 'naturall and lawfull forme', drawing a line between the regular, typical, 'natural' body, and that which was sick, aberrant and 'unnatural'.[153] The body is here cast in the language of social governance – the normal healthy

[150] Siegemund, *The Court Midwife,* p. 130.
[151] See Rüff, *The Expert Midwife,* pp. 12-15.
[152] See for example Rüff, *The Expert Midwife,* p. 62; Rösslin, *The Byrth of Mankynde*, (1545), f. 46b r-v; and [Wolveridge], *The English Midwife Enlarged*, p. 29.
[153] Rüff, *The Expert Midwife*, p. 115.

body obeys nature's laws.[154] These anatomical fetuses are not just regular in the way they sit upright (or head down, if close to birth) in the uterus. They also tend to deny the gaze of the viewer in some way, by turning away, or by covering their faces with hands or knees (Figures 3 viii, 5 iii, 13 and 14). These fetuses assert their own secrecy: they make the viewer aware of the transgression of bodily and social barriers that has allowed them to be seen.[155] The horror of dissection, and the fact that even dissection cannot expose all the mysteries of generation, are expressed in these poses.[156]

Birth figures, on the other hand, seem to positively invite inspection – the fetuses are posed with limbs akimbo and open eyes. Instead of highlighting the natural secrecy of the fetus *in utero,* these images describe how the malpresenting fetus in labour prematurely loses its secrecy: not because it has entered the world, but because the midwife has brought the world into the uterus, inserting a hand or a tool, manipulating position and effecting delivery. Birth figures are also unlike anatomical images of the fetus in that they are not ideal or typical, but various. While some, such as Rüff's, do contain anatomical elements – the ovaries and the various uterine membranes – these are secondary elements, a framing device to the variety of fetal presentations depicted within (Figures 9-10). These are not the regular, natural or lawful fetuses we see in anatomical images, but irregular and unlawful ones. They are not typical because their job is to show not the general or the ideal body of anatomical study, but to describe the troubling variety of possible malpresentations that a midwife might encounter in their practice. In their numerousness, they speak of the threatening chaos of a body out of order, of all the different ways in which a birth might go wrong.

Birth figures, moreover, are images geared not to describe what the opened body looked like, but to help midwives picture the specificities of the living body in labour. Authors at this time did know, for example, that the fetus by full term is cramped and curled in the uterus, but the uterus in birth figures is spacious, and the fetus tumbles and turns within, limbs

[154] Newton, 'Nature Concocts and Expels', p. 466.
[155] The transgression of barriers is a theme further discussed in Chapters 4 and 5.
[156] See Sawday, *The Body Emblazoned.*

outstretched. The little figure is given plenty of space in these images not from ignorance, but in order to better display its position: to show what presents at the cervix, and where the rest of the body and limbs might be in relation.[157] This mode of representation makes malpresentations more easily understood, memorised and mapped onto the body.

The specific composition and representational mode of birth figures, therefore, contributed to a wider change in body culture. While the pregnant body remained largely mysterious and unseeable, among midwives, a new system for more concretely picturing and intervening in the *labouring* body was emerging. This system came with its own visual culture, which I term 'practitional'. Through text, practice and, of course, images, midwives began to perceive the interior of the uterus and the unborn child as part of their professional sphere. Birth figures acted as both instructional image and mnemonic device, but they also made a statement about the midwife's specialist knowledge – in their unique and specific depiction of the bodily interior, they argued for unique and specific skills in the midwife for visualising and practicing on that interior.

The Analogical Birth Figure

In *Used Books,* Bill Sherman enjoins his readers to have 'an awareness of the gap between the author's words on the page and the meaning particular readers want to derive from them.'[158] I have so far examined the interpretation of birth figures that was encouraged and sanctioned by the text of midwifery manuals. But, as Sherman, Roger Chartier and many others have noted, there is a vast chasm between a text and how it is interpreted by a reader.[159] The same, of course, is true for the viewer of an image, which can be deciphered or understood in many different ways depending on the viewer's cultural context, training and interests, among many other factors. A history of the birth figure, therefore, would not be complete without an

[157] The issue of the 'spacious' uterus if further discussed in Chapter 2, pp. 132-35.
[158] Sherman, *Used Books*, p. 22.
[159] Chartier, *The Order of Books,* pp. 4-8.

exploration of the interpretations unauthorised or even unmentioned by the text. Much of the appeal of birth figures to early modern readers, I will argue in this section, lay not in their 'practitional', diagrammatic or mnemonic applications, but in how they interacted with and represented a rich analogical culture for understanding the body.

Duden describes the seventeenth and early eighteenth centuries as a time in which 'anatomical discoveries, like all of medicine up to the end of the eighteenth century, were still compatible with the miraculous that was slow to disappear.'[160] Various modes of knowing the body, including the miraculous, humoral and analogical systems, were not swept aside by new anatomy and physiology. Instead, anatomy became another layer in the interpretation of the body and birth figures from this period express a body that was at once anatomical and analogical. Daston and Galison also argue that what they call 'epistemic virtues', or what I term modes of knowing, were cumulative in this period, rather than serial.[161] Michael Stolberg, for instance, notes that while in the seventeenth and eighteenth centuries, humoral medicine remained paramount, physicians had increasingly diverse conceptual allegiances:

> Mechanistic and Cartesian physicians understood the body as a kind of hydraulic machine and focused above all on the interaction of fluids and fibers. Helmontians and iatrochemists saw everywhere acrimonies and alcali, fermentation and effervescences at work. In Germany, George Ernst Stahl and his followers elaborated on traditional notions of the body's natural healing powers and attributed all disease to a disturbance of the guiding influence of the soul. In the course of the 18th century, the new concepts of nervous sensibility and irritability took the limelight and many diseases were attributed to the 'nerves'.[162]

Patients, Stolberg notes, often looked with scepticism on this pluralistic medical culture.[163] They might consult various practitioners who subscribed to different systems of medicine, and they might also secretly employ other modes of healing, of which professional physicians might disapprove. These included magical approaches, quack medicines or nostrums, and religious

[160] Duden, *The Woman Beneath the Skin,* p. 70.
[161] Daston and Galison, *Objectivity,* p. 113.
[162] Stolberg, *Experiencing Illness*, pp. 73-74.
[163] Ibid., p. 74.

approaches to sickness and healing.[164] The early modern world of medicine was, therefore, not only pluralistic, but also full of tacit associations of certain modes of knowing with certain kinds of people. We might, therefore, expect all kinds of modes of knowing, from analogy to magic to religion, to have been brought to bear by the early modern viewers of birth figures, but to be studiously omitted from the texts of midwifery manuals.

While everyone would have brought a different set of modes of knowing to the viewing of a birth figure, what is relatively certain is that most people would have been able to read these images within an analogical framework. Analogy was a powerful and widespread mode for understanding the body and, indeed, the universe in this period. It worked on the principle of resemblance, whereby things that look alike were thought to be fundamentally alike. By understanding this system of resemblance or mirroring, the order of the universe, as well as the hidden qualities of specific things, could be understood. Michel Foucault discusses analogy in *The Order of Things*, describing how the 'universe was folded in upon itself: the earth echoing the sky, faces seeing themselves reflected in the stars, and plants holding within their stems the secrets that were of use to man.'[165] Analogy was a way of seeing different realms of the universe as fundamentally connected, reflective of each other. Stars could tell you about the body, the body about plants, and so on. The body was central to this worldview, and is described by Foucault as 'the possible half of a universal atlas' and 'the great fulcrum of proportions – the centre upon which relations are concentrated and from which they are once again reflected.'[166] This fundamental human body was often thought of as a microcosm or miniature world within the macrocosmic universe – each reflected the other. As Nicholas Culpeper wrote:

> Man is an Epitome of the whole world; nay, he was at first made of the very quintessence of it, that so he might hold forth the wonderful power and wisdome of God, and glorifie and praise God [...] Hence is the reason of the

[164] Ibid., pp. 17 and 36.
[165] Michel Foucault, *The Order of Things: An Archaeology of the Human Sciences* (London: Routledge, 2005 [1966]), p. 19.
[166] Ibid., pp. 25 and 26.

> influence of the stars upon the body of man, because he hath a Microcosmical Sun, Moon and Stars in his owne body.[167]

Foucault describes analogy as a fundamental part of knowledge until the end of the sixteenth century, but among lay people, and even informally among physicians and scholars, there is much evidence to suggest that an analogical worldview remained widespread throughout the seventeenth and even the eighteenth centuries.[168] It seems likely that most images of the body would, in this period, have been regularly subject to analogical readings. Indeed, birth figures are, despite their seeming simplicity, analogically rich. The birth figure represents pregnancy through images of little men (indeed, they are most often obviously male) contained in spheres. Thus, these symbols stand both for the fetus in the body, and the man in the world. The simple symbolism of the human figure encompassed or enclosed was reflected in all kinds of objects and images. Moreover, these objects and images were linked together by the power of analogy: they informed each other, were sympathetic with each other, and together communicated the microcosm of pregnancy and the macrocosm of the world.

One common remedy of the early modern period, for instance, was the 'eagle stone'. A complete but hollow stone with a smaller stone inside it, the eagle stone was sympathetic to the uterus because it was also 'pregnant'; it therefore had attractive powers over the organ. Women wore eagle stones around their necks during pregnancy to prevent miscarriage, and tied them to their thighs during labour, to draw the child out. Culpeper writes that 'both Child and Womb follow it as readily as Iron doth the Loadstone, or the Loadstone the North-Star.'[169] He situates the body, the stone, and the heavens in relation to each other, linking them all through the system of analogy and sympathy.

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[167] Nicholas Culpeper, *Mr. Culpeper's Treatise of Aurum Potabile: Being a Description of the Three-Fold World. Viz. Elimentary, Celestiall, Intellectual Containing the Knowledge Necessary to the Study of Hermetick Philosophy* (London: G. Eversden, 1656), p. 17.
[168] Foucault, *The Order of Things*, p. 19. See also Duden, *The Woman Beneath the Skin,* pp. 68-70.
[169] Nicholas Culpeper, *A Directory for Midwives: Or, a Guide for Women, in Their Conception, Bearing and Suckling Their Children* (London: Printed by Peter Cole, 1651), p. 171.

Another container that would have been readily associated with the uterus, and particularly the uterus of Rösslin's birth figures (Figure 4), is the pot, vase, jug or glass flask. Thomas Laqueur has noted the handled vase in the foreground of one of Charles Estienne's erotically charged female anatomies, arguing that it 'may represent the womb – the uterus with handles as "seminal vessels" and the bearded men as ovaries – both linguistically and because of its shape (Latin *vas*, French *vase*, container or vessel)'.[170] Laurinda Dixon has made a similar argument about the small charcoal burners often depicted in seventeenth-century Dutch genre paintings of sick women.

> Given common contemporary references to the womb as a vessel and the female abdominal cavity as a box (a slang term that is current today), this image becomes a conspicuous visual equivalent for the heated, displaced womb implicated in *furor uterinus*.[171]

Dixon argues that pots were a common symbol for the uterus, and thus a broken pot a symbol of birth, miscarriage or loss of virginity. The open and yet enclosing nature of such vessels has obvious associations with the uterus, symbol *par excellence* of the 'leaky' female body. In such paintings as Dixon describes, these charcoal burners draw the viewer's attention to the hidden subject of the painting – the uterus – and they are a kind of medical prognostic: the uterus has moved out of its normal place and is causing problems.

But in Rösslin's birth figures (Figure 4), the uterus resembles a different kind of container – a round-bottomed glass flask. This object would have been familiar to some early modern viewers from the iconography of alchemy. It was central to the special, complex symbolic language in which alchemical secrets and recipes were often recorded. The Ripley Scrolls, for instance, record the method for making the philosopher's stone using a complex set of visual symbols.[172] As has been noted by scholars, the symbols are intended to be cryptic:

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[170] Laqueur, *Making Sex*, p. 131.
[171] Dixon, *Perilous Chastity,* p. 106.
[172] For histories of the Ripley Scrolls, see Aaron Kitch, 'The "Ingendred" Stone: The Ripley Scrolls and the Generative Science of Alchemy', *Huntington Library Quarterly*, 78:1 (2015), 87-125; and Jennifer Rampling, 'A Secret Language: The Ripley Scrolls', in *Art and Alchemy: The Mystery of Transformation*, ed. by Stephen Dupré, et. al. (Düsseldorf: Stiftung Museum Kunstpalast, 2014), pp. 38-45.

indecipherable to the uninitiated, but an enticing puzzle to the scholar familiar with the rich visual language of alchemy.[173] In these scrolls, the flask is often used as a framing device, as a symbol for a generative environment, and to describe the actual glassware used in alchemical experiments. In one Ripley Scroll held at the Wellcome Library, London (Figure 15), for instance, a large alchemical flask is held by a giant alchemist. Within the flask, roundels depict the stages of making the philosopher's stone using the well-known iconography of marriage between 'Sun and Moon, king and queen, Apollo and Diana, or the siblings Gabricus (sulfur) and Beya (quicksilver)', the production of which is the hermaphroditic child the white stone, the balance of opposites and the first stage on the way to the philosopher's stone.[174] In many alchemical illustrations, including many of the Ripley scrolls, this symbolic marriage and birth happens inside a flask which is both the literal flask, and a symbol for the generative uterus. Anne-Françoise Cannella notes that the flask in alchemy was often understood as 'mother' or 'matrix', that the two were analogically and symbolically intertwined, each standing for and explaining the other – both containers and both sites of generation.[175] The macrocosmic generative earth, the microcosmic generative uterus, and the artificial alchemical flask all enacted the same miraculous processes.

In the uterus, according to some ideas of conception, a similar process to the mixing and heating of sulphur and mercury was enacted. The male and female seeds met, mixed, and were heated and contained by the uterus until they formed something finer and purer than the sum of their parts – a child. The theory that there were two seeds – the male and the female – that contributed to the creation of a child was Galenic but was adopted and adapted by many physicians over an extremely long period, and was still being debated in the eighteenth

[173] Rampling, 'A Secret Language', p. 41.
[174] Matilde Battistini, *Astrology, Magic, and Alchemy in Art,* trans. by Rosanna M. Giammanco Frongia (Los Angeles: The J. Paul Getty Museum, 2004), p. 326.
[175] Anne-Françoise Cannella, 'Alchemical Iconography at the Dawn of the Modern Age: The *Splendor Solis* of Salomon Trismosin', in *The Power of Images in Early Modern Science*, ed. by Wolfgang Lefèvre, Jürgen Renn and Urs Schoepflin (Basel: Birkhäuser, 2003), pp. 107-16 (p. 112).

century.[176] The surgeon Ambroise Paré, for instance, describes conception in very alchemical terms:

> the male and female yeeld forth their seeds, which presently mixed and conjoyned, are received and kept in the females wombe. For, the seed is a certaine spumous or foamie humour replenished with vitall spirit, by the benefit whereof, as it were by a certain ebullition or fermentation, it is puffed up and swolne bigger[177]

It would have been natural for an educated viewer to look at Rösslin's birth figures and see both the uterus and the flask, both the literal fetus *in utero* and the symbol of generation, alchemical and bodily.

But while it was common for alchemists and physicians alike to think about generation in analogical terms, some alchemists believed they could even create a human fetus in the alchemical workshop. Flask and uterus were not analogical in a merely rhetorical way, but in so serious and fundamental a way that the two systems might even blur and come to influence each other materially. William Newman, in his book *Promethean Ambitions*, describes how alchemy was felt to be an art that had dangerous powers to exceed or better the processes of nature.[178] The earth naturally created precious metals, and the uterus the child, but alchemy presented the possibility of doing both of these things artificially, better and faster, in the workshop. Some alchemists, including Paracelsus, believed that it was possible to grow a living human fetus, or homunculus, from semen in the alchemical workshop, using a glass flask as a pseudo-uterus.[179] This belief stemmed from the Aristotelian, rather than the Galenic theory of conception, which taught that male semen was the only creative faculty in human generation, and that the woman only contributed matter.[180] Within this system, it was entirely feasible for

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[176] See Keller, *Generating Bodies*, p. 106.
[177] Paré, *The Workes,* p. 885.
[178] William Newman, *Promethean Ambitions: Alchemy and the Quest to Perfect Nature* (Chicago: University of Chicago Press, 2004).
[179] See Lyle Massey, 'The Alchemical Womb: Johann Remmelin's "Catoptrum Microcsmicum"', in *Visual Cultures of Secrecy in Early Modern Europe*, ed. by Timothy McCall, Sean Roberts and Giancarlo Fiorenza (Kirksville, MO: Truman State University Press, 2013); and Amy Eisen Cislo, *Paracelsus's Theory of Embodiment: Conception and Gestation in Early Modern Europe* (London: Pickering & Chatto, 2010).
[180] Keller, *Generating Bodies,* p. 106.

the wonderfully creative semen to produce a child without the female uterus – such children might even be better, purer or more powerful, because they were not subject to the female body's corrupting influences.[181] But Paracelsus was not the only one to experiment with the combination of alchemical and human generation. Tara Nummedal has written about the early modern female alchemist Anna Maria Zieglerin, who claimed to have invented an alchemical oil that could promote generation and nourish the child both before and after birth.[182] Nummedal suggests that Zieglerin's unique approach to human/alchemical generation had much to do with her gender. Fighting for legitimacy in a discipline heavily dominated by men: 'rather than claiming to *be* an alchemist, she presented herself as alchemical vessel and the chosen companion of an adept of mythical stature'.[183] Zieglerin alleged to have physically enacted a version of the symbolic alchemical union with a powerful alchemist husband whom she made up for the purpose. Her body became a mingling of the uterus and the alchemical flask, her children a mingling of the human, and the humorally balanced, perfectly healthy and immortal alchemical quintessence.

While it is not likely that many viewers of Rösslin's birth figures in England would have been familiar with Zieglerin's boundary-crossing body knowledge, both the birth figures and Zieglerin's experiments sprang from the same culture in which the flask and the uterus were not just similar, but were tied so deeply by the power of generation that they could blur into each other. For the alchemically literate, birth figures would have been understood as a multifarious symbol of the generative faculty in the uterus, in the world, and in the alchemist's flask, and thus they symbolised the principle of generation itself, the power that spurred the turning of the universe.

But for those viewers who were unfamiliar with the iconography of alchemy, there was another vessel-analogy that would have been almost universally unmistakeable. If Rösslin's birth

[181] Newman, *Promethean Ambitions,* pp. 164-237.
[182] Tara E. Nummedal, 'Alchemical Reproduction and the Career of Anna Maria Zieglerin', *Ambix,* 48:2 (2001), 56-68 (pp. 61-62).
[183] Ibid., p. 64.

figures look like the round-bottomed glass flasks used by alchemists, they also look like a very similar flask used by uroscopists. Uroscopy, or the examination of urine, was one of the most widely-used diagnostic tools of the early modern era: the colour, consistency and sediments in urine were understood as indicators of sickness in the body, and of pregnancy. Michael Stolberg has recorded that uroscopy was particularly valued as a test for pregnancy that did not rely on the testimony of the mother, who might misinterpret or misrepresent the sensations she felt.[184] In many Dutch genre-paintings of the period, the urine flask is the focus of a scene in which a weeping young woman, often accompanied by angry relatives, has her pregnancy confirmed by the uroscopist. In such paintings, the urine flask is a visible and unequivocal test for something that was otherwise inherently unknowable, mysterious and troubling. It not only stood in for the uterus, indicating its centrality to the image, it also *spoke* about the hidden organ, diagnosing and displaying its condition. This diagnostic capacity is visualised with remarkable literalism *The Doctor's Examination* by Godfried Schalcken (c.1690, Figure 16). In this image, the weeping woman, the angry father and the obscene gesture made by the grinning boy all point to a pregnancy out of wedlock. And the viewer's diagnosis is confirmed in the urine flask, where fine white sediment forms itself into the shape of a child. Such a sight would not have been strange or incongruous to the early modern viewer, for whom the uterus and flask were analogous, and for whom the urine flask specifically was understood to represent and diagnose the uterus. The central focus of the painting, that which the doctor holds up to the light for all to see, is both the diagnostic test and the condition it confirms – the flask and the uterus simultaneously.

Rösslin's birth figures, too, seem to flicker between test and embodiment, between pregnant uterus and flask of urine. Stolberg has argued that uroscopy in the early modern period was a well-respected and reliable diagnostic practice, and one which gave certainty to mysterious internal bodily conditions. The casebooks of physicians Simon Forman and Richard Napier confirm that women regularly sent their urine to be tested for pregnancy, hoping to get

[184] Michael Stolberg, *Uroscopy in Early Modern Europe* (Farnham: Ashgate, 2015 [2009]), p. 119.

a definitive answer well before other physical symptoms could be trusted.[185] As such, linking the urine flask with the birth figure would imbue the image with a kind of medical pedigree and certainty. It associated the new midwifery texts with well-known practices in physic, arguing for the image's authority over the unseeable body. While uroscopy remained very popular among laypeople in the seventeenth century, it generally fell out of favour with physicians and this may be one reason why Rösslin's birth figures were replaced, in most texts produced in the seventeenth century, with Rüff's (Figures 9-10). Many viewers may still have seen or thought of the alchemical and the uroscopic flask when they looked at Rüff's birth figures, but these images also overtly employ a different analogical system, that of verdant analogy.

In the early modern period, pregnancy was perhaps most widely and fundamentally associated and interconnected with the daily processes of the rural agricultural life that most people led. Cyclical processes such as ploughing, sowing and harvesting were regularly used as frameworks for understanding pregnancy and birth. Traditionally female chores too, such as bread and cheese making, were analogies for conception and fetal growth, and the state of pregnancy was closely associated with a wife's duties in hospitality and housekeeping. Many historians have described this system of analogy between the body and the domestic environment,[186] not least Mary Fissell, who writes that the 'material realities of day-to-day existence provided a convenient and persuasive analogy for the human body'.[187] But no one, to my knowledge, has drawn the association between these systems of analogical thinking and birth figures. Rüff's images, for example, which appeared in so many midwifery manuals in the seventeenth century, look extremely fruit-like (Figures 9-10). The uterus, excised from the body, looks like a fruit: the uterine wall and membranes resemble a skin or rind, protecting the tender flesh inside. The ovaries look like raspberries and the vagina even resembles a stem or stalk.

[185] Casebooks Project (Welcome), <http://www.magicandmedicine.hps.cam.ac.uk>, [accessed 28 September 2015].
[186] See Klestinec, 'Sex, Medicine, and Disease', pp. 131-32; and Kathleen Crowther-Heyck, '"Be Fruitful and Multiply": Genesis and Generation in Reformation Germany', *Renaissance Quarterly,* 55:3 (2002), 904-35.
[187] Fissell, *Vernacular Bodies,* p. 32.

Rüff's anatomical images, too, are remarkably verdant, with arteries and veins forming the trunk and branches of a bodily tree, on which organs are hung like fruits (Figure 14). Within this internal landscape, the fetus is simultaneously the 'fruit' (a common verbal as well as visual analogy for children at this time) and a miniature person dwelling, hermit-like, in the maternal/arboreal environment. From farmers to physicians, this kind of verdant analogy was a powerful tool for thinking about the body.

Verdant analogy infiltrated the textual as well as the visual language of midwifery manuals, used both to explain the mysteries of the body's processes, and to produce remedies. The male and medically trained midwife Percival Willughby, for instance, frequently employed agricultural analogy in explaining the logic of his practice:

> Let all midwives observe the wayes and proceedings of nature for the production of their fruits in trees, the ripening of walnuts, and almonds, from their first knotting, unto the opening of the husk, and falling of the nut, and considering their signatures, to take notice, how beneficiall their oiles may bee for use in their practice, for the easing of their labouring woman.[188]

The midwife is enjoined to look carefully at the natural world, and specifically to look for signatures that related to the pregnant and labouring body. Here Willughby links the process of pregnancy and labour to the ripening of nuts. The doctrine of signatures taught that such analogies could be employed to produce medicines: the nut's sympathies with the uterus made nut oils an excellent treatment in labour, presumably as a lubricant, for which most midwifery authors recommended various fats and oils.

Indeed, Willughby's use of analogy went both ways. If knowledge of the nut's resemblance to the belly could produce medicine, then knowledge of the *belly's* resemblance to the *nut* could also dictate good medical practice. Of the process of labour, he writes:

> as the fruit ripeneth, so, by degrees, this husk, of it self, will separate from the shell, which, at last, by it's own accord, chappeth, and, with a fissure, openeth, and, by degrees, separateth from the fruit. Then doth the husk turn up the edges, and give way, without any enforcement, for the falling off the nut.[189]

[188] Willughby, *Observations in Midwifery*, p. 276.
[189] Ibid., pp. 276-77.

At the time of Willughby's writing, there were competing theories about how to ensure the safest labour. One held that the quicker the labour was, the better, and some authors, including Rösslin, advised that the midwife manually dilate the vagina and cervix to hasten delivery.[190] Others, including Willughby, held that labour was safest when left to run its own course, however long that was. He enjoins his readers to wait, because 'the fruit would fall off it-self, when that it was full ripe.'[191] What was known to be true about fruit served also for the uterus. His description of the ripening nut inevitably brings us back to Rüff's ubiquitous birth figures (Figures 9-10). The peeled membranes enact this 'natural' process of birth. The husk, or uterus, slowly peels away, freeing the fetal fruit without need for violence or intervention. Thus, these openings, typically understood as an imagined anatomical cut, are perhaps better understood as symbolic of the natural capacity of the uterus to open during labour.[192]

This kind of verdant analogy is visually striking in Rüff's images, but it is essential to recognise that, for early modern people, it was such a ubiquitous way of thinking, that it would have coloured the way that *all* images of the body were read. Bill Sherman has described one annotated copy of *The Byrth of Mankynde* held at the Huntington Library in which the birth figures have been annotated: 'These ar ye campes or feeldes of mankynde to be engendred yr in.'[193] Even images that are, to us, seemingly bare of verdant analogy, spoke to the early modern viewer of the uterus as fertile field, the fetus as both encamped solider and ripe crop. So essential was analogical thinking to early modern body culture, that artists did not need to use striking visual analogy for the viewer to interpret an image of the body as a reflection of the natural world.

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[190] Rösslin, *The Byrth of Mankynde*, (1540), f. 21r.
[191] Willughby, *Observations in Midwifery,* p. 7.
[192] For an excellent analysis of imagined and material cuts in anatomical imagery, see Rosemary Moore, 'Paper Cuts: The Early Modern Fugitive Print', *Object*, 17 (2015), 54-76. Such understandings of imagined cuts are certainly relevant to birth figures, though, as I argue, they should be balanced against other ways in which the same kind of bodily opening can be interpreted.
[193] Sherman, *Used Books,* p. 61.

As well as agricultural, domestic analogy was often used to understand the pregnant body. Fetuses were regularly described in midwifery manuals as miniature people with agency, who lived in a human relation to the uterus, described as a room or cottage. Indeed, it was common in this period to envision the body as a house, in which the uterus was a private chamber or secret box, housing the inaccessible and much prised fetus. Jakob Rüff, for instance, describes how:

> after the third and fourth moneth from the conception, the Infant doth begin to move and stirre himselfe in the wombe, and somewhat to display and stretch out himselfe, and also to enlarge and amplifie his narrow little Cottage.[194]

This fetus is the same autonomous little being found in so many birth figures, and the uterus his 'little Cottage'. It is particularly significant that Rüff describes the uterus as a house at the moment of quickening. Quickening, or the first time a mother feels the fetus move, was an important moment in an early modern pregnancy. Not only was it the best and most trusted indicator of pregnancy, it was also often thought of as the moment of ensoulment, when the fetus went from being a passive thing to an active living being – when it became human. In the seventeenth century, debate about when exactly the fetus gained a soul raged and for many the answer was considered to be shrouded in holy mystery. John Oliver, in his spiritual guide *A Present for Teeming Women*, declares the topics of conception and ensoulment '*too wonderfull for me.*'[195] However, one popular opinion, expressed by Ambroise Paré, suggested that the fetus gained a soul 'so soone as it hath obtained a perfect and absolute distinction and conformation of the members in the wombe'.[196] For those of this opinion, having a human soul was fundamentally linked to having a human shape, and to independence from the mother. Both of these occurrences can be linked to the time of quickening, when the movements of the fetus declared its presence and its independence. With quickening, a woman would become more confident about her pregnancy, and was likely to be more willing to imagine the fetus as a little

[194] Rüff, *The Expert Midwife,* p. 62.
[195] John Oliver, *A Present for Teeming Women: Or, Scripture-Directions for Women with Child, How to Prepare for the Houre of Travel* (London: Mary Rothwell, 1663), p. 47.
[196] Paré, *The Workes*, p. 895.

person. Rüff describes the fetus suddenly moving, stirring and stretching himself out, like someone waking up. Indeed, as the fetus began to move and kick, the active, independent little child of the birth figure may have become a useful way for the mother to visualise and explain her physical sensations. Moreover, as the fetus and the belly both grow, Rüff describes a process in which the fetus literally stretches out the uterus, creating for himself something more like a little room, and less like a tight covering, and this serves to emphasise the quickened child as an autonomous human with a human-scaled relationship to its living space.

As Fissell shows, the fetus was not just thought of as a miniature human in a domestic environment, he was thought of specifically as a houseguest, and the mother as both housewife and house. Fissell argues that 'the fetus was imagined as a sort of guest within the mother's body, and it was her job to provide appropriate hospitality to it, just as she would in her own home.'[197] This domestic narrative was often used to explain the onset of labour. The uterus, the cottage or room of the fetus, would become insufficient for it as it neared full term. The mother would begin to fail in her ability to give the fetus enough room and enough nourishment, and the amniotic fluid (which was thought, at this time, to be composed of fetal urine and sweat) would become too oppressive. So, like a disgruntled houseguest dissatisfied with the hospitality provided, the fetus would leave. In *The Compleat Midwifes Practice* this process is described:

> The third [reason for labour] is the narrowness of the place where the infant lies, so that he is forced to seek room other-where, which makes him to break the membranes wherein he was contained, pressing and constraining the mother by the sharpness of those waters, to do her duty for his release.[198]

This understanding of the mother's duties of hospitality towards the fetus, and the understanding of the fetus as a human guest with an awareness of his own needs and the ability to leave if they are not met, is reflected in birth figures. The fetuses often look with fixed expressions at the cervix, as if contemplating their escape (see Figures 4 and 9). Indeed, as often as the maternal body is thought of as a house in this period, it is thought of as a prison. So one

[197] Fissell, *Vernacular Bodies*, p. 32.
[198] [Chamberlayne?], *The Compleat Midwifes Practice*, p. 73.

Scottish writer, James McMath, describes childbirth as the fetus 'having thus escaped from its *Prison* through *Nature's* triple *Gates*, ... it appears a new *Guest* upon the World'.[199] The uterus becomes a prison as the fetus grows, the cervix and vagina the gates it must escape through to become a guest no longer upon the microcosmic maternal body but upon the macrocosmic world.

The personified fetus that we see in birth figures, therefore, was part of a larger system for thinking about the unborn child that helped to explain the internal mysteries of conception, pregnancy and labour. A fetus becoming more person-like or ensouled when it quickened, helped women to adjust their pictures of their unborn children – from early conceptions that might be false or monstrous, or might simply slip away – to a more viable child. In labour too, the personified fetus helped women to understand their bodily processes. Although it was well understood among midwives that the mother also worked at a labour, a narrative which personified the fetus allowed people to explain difficult deliveries and still-births.[200] If the fetus was weak or not ready, a labour would take longer, more so if it had died *in utero*. Thus, the mysteries of lingering labours could be rationalised and even blamed on the strength and willingness of the fetus.

From conception to birth, analogical thinking provided a framework for visualising and understanding the pregnant body. In itself a visually inaccessible and mysterious process, pregnancy could be understood through knowledge of the world. This system allowed people of all skills and conditions to acquire knowledge about and abilities in treating the pregnant and labouring body. Indeed, the birth figure could be seen as an emblem for analogical thinking: an image of the fetus within the uterus, hidden and small inside the body, and at the same time an image of man in the world, the microcosm and the macrocosm all at once. These images indicate that pregnancy was a condition that echoed throughout the spheres of the macrocosm, finding

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[199] James McMath, *The Expert Mid-Wife: A Treatise of the Diseases of Women with Child, and in Child-Bed* (Edinburgh: George Mosman, 1694), pp. 119-20.

[200] For further discussion of how pregnancy featured and inspired the telling of stories and narratives, see Holly Tucker, *Pregnant Fictions: Childbirth and the Fairy Tale in Early-Modern France* (Detroit: Wayne State University Press, 2003).

correspondences between body and world that illuminated both. Thus images that might be dismissed by a modern viewer as simplistic, naïve anatomies are, in their own historical context, visualisations of the lynch-pin of life and creation, the innermost point in the great concentric spheres that made up the analogical world view.

The Birth Figure and the Mother

The first scholars to seriously address birth figures in the 1990s tended, as discussed briefly in the Introduction, to argue that they acted, in the words of Karen Newman, to 'suppress completely fetal dependence on the female body by graphically rendering that body as a passive receptacle, the scriptural woman as "vessel"'.[201] Along with the suppression of female agency and centrality in pregnancy, these historians saw in the fetus a symbol of rights-bearing personhood, what Eve Keller describes as 'the paradigmatic Enlightenment hero, a self-directed, rationally ordered, thoroughly modern individual.'[202] They argued that these images, made by and for men, created a link between male practitioner and male child, attempting to erase the role of women in the reproduction and birth of man.

I argue that this 'maternal erasure' analysis dances on the edge of anachronism, drawing much from the feminist debates over agency and the place of medicine in childbirth that arose in the latter half of the twentieth century. These debates have, of course, done much to develop the history of women, childbirth and midwifery, not least by simply establishing their legitimacy as subjects of study. However, the approach employed, and especially its political agenda, has its own blind spots.[203] Firstly, many of these historians have either displayed a reluctance to address images, or have done so anachronistically, without proper consideration of historical context. The 'maternal erasure' theory is a good example of this because it often assumes that an early modern image of a fetus must have been a political object, a means for making

[201] Newman, *Fetal Positions,* p. 33.
[202] Keller, *Generating Bodies*, p. 17.
[203] For a discussion of this issue see Green, 'Gendering the History of Women's Healthcare'.

'scientific' arguments, and a tool for controlling women's bodies, in the same way that it would be today.[204]

Secondly, such theories often pit men and women against each other in an uncomplicated way, assuming a complete divide in attitudes to the labouring body, to treatment, and to the wider social and political place of midwifery, which simply did not exist.[205] Particularly, the idea of the self-assured, enlightened male midwife whose medical authority overrides and makes passive the maternal agency and the maternal body, often rendered in 'maternal erasure' analyses, was simply a textual fiction in the seventeenth and even the eighteenth centuries. Some male and medically trained midwives may have *wished* for patients who were docile and obedient, always submissive to their expert opinion and compliant with their interventions, but this was not the way that any medical practitioner interacted with patients until the nineteenth century. More importantly, the passive, objectified body of institutionalised medicine, the subject of the Foucauldian medical gaze, had not yet arisen: some male medical practitioners may have had ideas about the passive maternal body, but none experienced it in practice.[206] People in this period had a much greater level of authority over their own bodies, the nature of their ailments, and their treatment needs.[207] Our more recent histories of etherisation, caesarean sections and hospital births seem to have, to some degree, erased this awareness from our perceptions of early modern so-called 'man-midwifery'.[208]

In fact, until the nineteenth century, male midwives were admitted to the lying-in chamber only on sufferance. If they did not adequately listen and respond to the wishes of the labouring woman, her family and perhaps even the attending female midwife, they would not

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[204] Duden has written convincingly on the status of the image of the fetus in the late twentieth century: Duden, 'The Fetus as an Object of Our Time', p. 135. It is worth noting, however, that she does not address images in her histories of the early modern body.
[205] This is addressed in Chapter 2, pp. 95-98.
[206] See Michel Foucault, *The Birth of the Clinic: An Archaeology of Medical Perception,* trans. by A.M. Sheridan (London: Routledge, 2003 [1963]).
[207] See Duden, *The Woman Beneath the Skin*; Porter, 'The Patient's View'; and Stolberg, *Experiencing Illness*.
[208] For a history of how childbirth changed in the nineteenth century, see Donnison, *Midwives and Medical Men.* The term 'man-midwifery' is discussed further in the Chapter 2, pp. 93-98.

be permitted to practice. Often what they were allowed to do was limited by issues of propriety, and they regularly found themselves adapting the way they approached and explained a labour to the modes of knowing that were familiar to the women involved. Barbara Duden has suggested that 'mothers seem to have been the real opponents who meddled in the trade of the *medicus*, since their presence extended right into the sickroom, even if the doctor was there.'[209] This, of course, was particularly the case for childbirth, which had always been the province of women healers.

Percival Willughby, for instance, records many and various instances in which other authorities overrode his own. Of one labouring woman, whom Willughby describes as a 'Lady, and Kinswoman', he reports 'shee would not hearken unto my desires, and shee gave too much belief to foolish women, that were about her.'[210] Especially in childbirth, male practitioners and authors had to accept that 'midwives will follow their own wayes, and will have their own wills.'[211] Willughby's assessment demonstrates an acceptance of female authority in childbirth, in which the opinion or advice of midwives was often privileged above that of male doctors or family members. Labouring women, too, were expected to speak authoritatively about their bodies in a time in which physical and visual examinations were far from routine, and much diagnosis was conducted on the basis of patient testimonial.

Finally, the birth figure as image of 'maternal erasure' must be challenged by the fact that the material, visceral presence of the pregnant and labouring body was, in this period, absolutely undeniable and impossible to ignore. In the all-female space of the lying-in chamber, the maternal body in all its physicality was the very centre of attention. For midwives, it was their major professional concern. As Gowing notes, midwives expected the women they

[209] Duden, *The Woman Beneath the Skin*, p. 75. On the power of the mother as healer, see also Seth Stein LeJacq, 'The Bounds of Domestic Healing: Medical Recipes, Storytelling and Surgery in Early Modern England', *Social History of Medicine*, 26:3 (2013), 451-68.
[210] Willughby, *Observations in Midwifery,* p. 65.
[211] Ibid.*,* p. 126.

attended to be strong and work hard in childbirth.[212] And many writers of the period, including Willughby, privileged the mother as both the agent and the most valued person in childbirth.

Thus, we cannot expect the early modern birth figure to have widely described a pregnant body that was erased or disempowered. We cannot see these images, as Keller does, as 'fully dissociated from the *materiality* of the woman's body'.[213] Such interpretations do not fit with what we know of how the pregnant body was thought about and treated in this period. Rather, we can understand the absence of the pregnant body from birth figures in terms of Baxandall's idea of complementarity:

> The best paintings often express their culture not just directly but complementarily, because it is by complementing it that they are best designed to serve public needs: the public does not need what it has already got.[214]

In the seventeenth century, the pregnant body was more impenetrable, and more mysterious than it is today. Pregnancy was identified later, and with less certainty. Even a 'great belly' was no a guarantee of a child. As the author of *The English Midwife Enlarged* describes:

> there are several sorts of great bellies belonging to Women, as hath been said before; there are your natural big bellies which contain a living Child, and those may be called true ones, and others unnatural, or against nature, in which, in lieu of a Child, is engendred nothing but strange matters as wind mixed with waters, which may be called dropsies of the Womb, and false conceptions, and Moles or Membranes full of blood and corrupted seed; for which reason they are called false great bellies.[215]

The belly was a place of inherent uncertainty, which could not be tested or known. People understood that a supposed pregnancy could end in a number of ways, only one of which was the birth of a living child.[216] Even during labour, the body was mysterious, not visually accessible as women gave birth clothed and covered in sheets. Typically, only the midwife was allowed to touch the belly and genitals of the labouring woman, so the functions of the body remained a

[212] Gowing, *Common Bodies,* p. 168.
[213] Keller, *Generating Bodies,* p. 136.
[214] Baxandall, *Painting and Experience*, p. 48.
[215] [Wolveridge], *The English Midwife Enlarged*, p. 139.
[216] See Duden, 'The Fetus as an Object of Our Time', p. 135.

black box for most people. Only when labour was finally over would people know whether the pregnancy had been 'true' or 'false'.

Birth figures, therefore, provided what women did *not* have: a picture of what was inside. These images are not an erasure, but an augmentation of the mysterious pregnant body. As Baxandall argues, images are not mirrors of culture, they are a *part* of culture: they must be understood not as objective historical records, but as participants in that history's culture. Birth figures, by focussing only on the uterus and fetus, provide a kind of window into the physically present but opaque pregnant belly – they enriched and supplemented the already complex thinking about the fetus *in utero*, providing a glimpse at what the body guarded and kept secret. In the context of the lying-in chamber, these images could not deny female agency, but instead were used to enhance the viewer's knowledge of the female body, and to mollify fears about the labour's outcome.

Percival Willughby gives a unique insight into how pregnant women may actually have understood birth figures, as he describes not how he thought the images *should* be used, but how he saw midwives and women actually using them. He describes:

> all the schemes, and various figures, on which midwives look, making their women to think of wonders, by shewing them these pictures of children, assuring them, that, by these, they bee directed, and perfected, and much enlightened in the way of midwifery.[217]

Willughby describes midwives bringing midwifery manuals into the lying-in chamber and showing the figures to the labouring women and other attendants. These images function, he says, as a kind of visual certification for the midwife's skills – they show the laywomen the special knowledge of the body and the fetus that the midwife has. While for some midwives, birth figures may have functioned as 'practitional' keys, for many women, it seems, they were images with a different message: symbols of expertise and rarefied knowledge, offering comfort in a time of pain and uncertainty.

[217] Willughby, *Observations in Midwifery*, p. 341.

The phrase 'to think of wonders', used by Willughby to describe the purpose of birth figures in the lying-in chamber, is a significant one. As Lorraine Daston and Katharine Park have demonstrated in their book *Wonders and the Order of Nature*, the word 'wonder' could have a multitude of different significations in this period. Wonder could mean, 'depending on context, a prelude to divine contemplation, a shaming admission of ignorance, a cowardly flight into fear of the unknown, or a plunge into energetic investigation'.[218] These reactions depended much on who the viewer was: what might strike fear or awe into an uneducated person might spur an educated one into investigation, for instance. Wonder, therefore, was a complex and varied emotion in this period, and exactly what kind of wonder women might have felt when looking at birth figures requires further investigation.

Lianne McTavish has noted the strange contradiction, that birth figures sent 'discrepant messages, alluding to both danger and health, dismemberment and vitality.'[219] These are images of dangerous malpresentations, they illustrate cases in which pain and the risk of death are greatly increased, in which fetuses lie in positions in which they *cannot* be born, and in which they may well die undelivered. Yet the often-serene facial expressions, the floral openings of Rüff's images, and the way the fetuses seem to slip, fall, swim or be poured from the uterus evoke natural, successful and non-interventionist labour. This inherent ambiguity is perhaps a key to why birth figures were so popular. For the midwife, they gave valuable information about fetal presentation in a crisis. For the learned viewer, they engaged in wider philosophical frameworks for understanding creation and the world. But for labouring women and their attendants, these images were perhaps most commonly symbols of expert knowledge, a picture of the fetus inside, and, importantly, an expression of fetal health and liveliness. As well as reassuring the labouring woman of the special skills of her midwife, birth figures present a positive and encouraging view of the *child*. On the most fundamental level, they present a picture of what could not be seen and what was, until birth, always uncertain. A birth figure gave

[218] Lorraine Daston and Katharine Park, *Wonders and the Order of Nature: 1150-1750* (New York: Zone Books, 1998), p. 14.
[219] McTavish, *Childbirth and the Display of Authority*, p. 193.

a picture of exactly what most women in labour hoped for: a healthy, active, well-grown boy child.[220]

Understanding birth figures as reassuring epitomes of fetal health and wellbeing elucidates some of the representational conventions employed in these images. They do not show us fragile scrawny neonates, but chubby active toddlers – they look like *putti.* McTavish has suggested that fetuses were represented as *putti* because that is what artists were trained to draw.[221] Indeed, there are interesting similarities to be found between the fetuses in birth figures and prints of *putti* striking various poses in pattern books and drawing guides, such as William Salmon's *Polygraphice* (Figure 17). Both kinds of image represent chubby, naked, earnest children striking a variety of interesting poses, often represented as if floating.

I suggest, however, that the use of *putti* was not simply an accident of style, but an active choice that made birth figures attractive to early modern viewers. Firstly, all the fetuses shown in these images are boys. Boys in the seventeenth century were not only typically socially and culturally preferred, they were also considered biologically more perfect. As Thomas Laqueur argues with the 'one-sex model', until the mid-eighteenth century, 'there had been one basic structure for the human body, and that structure was male.'[222] While it has become clear, since the publication of Laqueur's *Making Sex* in 1990, that the one-sex model did not universally apply to early modern understandings of the body and gender, it is an idea expressed in many midwifery manuals of the period.[223] Jane Sharp, for instance, explains how the

> whole Matrix considered with the stones and Seed vessels, is like to a mans yard and privities, but Mens parts for Generation are compleat and appear

[220] Certainly, this was not a universal hope in the early modern period. Some women wished for girls, and other women did not wish to be delivered of live children at all, particularly if they had become pregnant out of wedlock. However, this thesis explores how birth figures might have been widely and generally used by women, for most of whom, the bearing of legitimate and male children was not only a personal and familial joy, but something that elevated their social status. See Tim Reinke-Williams, *Women, Work and Sociability in Early Modern London* (Basingstoke: Palgrave Macmillan, 2014), pp. 15-43.
[221] McTavish, *Childbirth and the Display of Authority*, p. 192.
[222] Laqueur, *Making Sex,* p. 10.
[223] See King, *The One-Sex Body on Trial;* and Wendy D. Churchill, 'The Medical Practice of the Sexed Body: Women, Men, and Disease in Britain, *circa* 1600-1740', *Social History of Medicine*, 18:1 (2005), 3-22.

> outwardly by reason of heat, but womens are not so compleat, and are made within by reason of their small heat.[224]

The female body was, within this framework, nothing less than an inferior and imperfect version of the male: a body lacking the heat to extrude its genitalia. Because the female body was inferior rather than dimorphic, the conception of a boy proved that the child was strong and healthy. Moreover, it also stood as testament to the vigour and health of both parents, who were able to produce a boy child. Many midwives took this preference for boys even further, arguing, as Jane Sharp did, that:

> a Boy is sooner and easier brought forth than a Girle; the reasons are many, but they serve also for the whole time she goes with Child, for women are lustier that are with Child with Boys, and therefore they wull be better able to run through with it.[225]

Thus, an image of a boy child was, for the viewing mother, a picture of her own health and that of her child, and a promise of easier labour.

Not just showing boy children, but specifically showing *putti*, was also arguably a technique to reassure maternal viewers. John Heilbron has identified that *putti* were regularly employed in early modern images to 'domesticate' or make approachable new scientific experiments and techniques. He argues that '[p]layful small angels demonstrating the laws of optics or working an air pump might indicate the harmlessness, innocence, and correctness of experimental natural philosophy.'[226] *Putti* not only associated natural philosophy with pleasure, amusement, youthful mischief and love, they also embodied the ideal infallible experimenter. Indeed, one of the woodcut initials used in the 1555 edition of Vesalius' *Fabrica*, the letter 'I', appears to depict a group of *putti* taking the place of the midwife and gossips and attending a woman in labour (Figure 18). They gather around the adult female figure who sits in a birthing chair, protected by a curtained canopy. Two *putti* carry a large basin, two more comfort and

[224] Sharp, *The Midwives Book*, p. 37.
[225] Ibid., p. 168.
[226] John Heilbron, 'Domesticating Science in the Eighteenth Century', in *Science and the Visual Image in the Enlightenment,* ed. by W.R. Shea (Canton, MA: Science History Publications, 2000), pp. 1-24 (p. 1).

encourage the woman, and a fifth kneels before her, playing the part of the midwife. In this image, then, the *putti* can be seen both as angelic and perfect birth assistants, and as expressions of labour's ideal outcome. The same qualities may be seen in birth figures, which present an idealised view of childbirth to the lay viewer in which the fragile, intensely vulnerable fetus is represented as an embodiment of health, activity, wisdom, playfulness, even angelic immortality. Thus, a set of birth figures might be read by a midwife as a catalogue of complications, but it could equally be read by laywomen as a series of youthful hijinks, a positive and encouraging view of a healthy boy child, with plenty of room in the uterus and plenty of strength and agility with which to get out.

As well as being generally encouraging images, birth figures may have been images that were imbued with power to aid or guide a labour. Prayer, for instance, was still a fundamental part of the childbirth ritual in this period.[227] Of course, which prayers were spoken, how frequently, and by whom varied not only between creeds, but between personal levels of piety. But the popularity of devotional books with prayers written specifically for labouring women, midwives and attendants suggest that private and collective prayer were regular features of the lying-in.

In Catholic countries and communities, prayers to saints and the use of relics in childbirth were widespread. Women in labour might pray to the Virgin Mary or to the patron saint of childbirth, Saint Margaret.[228] Prints made up a significant part of this devotional culture: cheap, mobile and reproducible they were routinely used as focuses for devotion and even as conduits of divine power. Rose Marie San Juan and Judith Karr-Schmidt have both recorded print images of saints that were touched, pressed to the body and even eaten to cure sickness and to aid childbirth.[229] In Switzerland, Austria and Southern Germany, paper girdles printed with

[227] Cressy, *Birth, Marriage and Death*, pp. 15-34.
[228] Allison Adair Alberts, 'Spiritual Suffering and Physical Protection in Childbirth in the South English Legendary Lives of Saint Margaret', *Journal of Medieval and Early Modern Studies*, 46:2 (2016), 289-314.
[229] San Juan, *Vertiginous Mirrors*, pp. 9, 86 and 101; and Karr Schmidt, *Altered and Adorned*, p. 68. See also Adair Alberts, 'Spiritual Suffering', pp. 305-6.

prayers and divided into sections the length of the Virgin Mary's foot, called 'Marienlänge' or Mary lengths, were wound about the belly of pregnant women to ease the pains of childbirth.[230]

After the Reformation in England, the use of relics and devotional objects in childbirth was suppressed.[231] Prayers and the use of relics also changed as women began to pray directly to God or Christ, rather than requesting the intercession of saints such as Anne, Margaret or the Virgin Mary.[232] This does not mean, however, that the use of relics and devotional objects was entirely abandoned – indeed there were still many practising Catholics in England in the sixteenth and seventeenth centuries. And while more puritanical portions of the Protestant community were quite comprehensively iconoclastic, it is likely that many people still used devotional images as aids to worship.[233] It seems likely that some viewers used their birth figures, therefore, as an aid to devotion – an object on which to focus their attention and to shape their supplications for a healthy child and safe delivery.[234] As Walter Melion describes, an image that was the focus of devotional meditation could effect a kind of transformation: 'the spiritual process whereby pictures are taken in by the eyes and then taken up by the soul, wherein they are imprinted and transformed.'[235] The image guides and aids in a moving of the soul towards holiness or resemblance to God. While, in England at this time, more overtly religious images might have been suppressed as too Popish, birth figures may have been more subtly turned to this meditative purpose. Through looking, touching, kissing and perhaps even consuming, such images could become direct conduits for divine aid.

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[230] Thomas Staubli, ed., *Werbung für die Götter: Heilsbringer aus 4000 Jahren* (Freiburg: Universitätsverlag, 2003), p. 140; and Oliver Krüger, *Die mediale Religion: Probleme und Perspektiven der religionswissenschaftlichen und wissenssoziologischen Medienforschung* (Bielefeld: Transcript, 2012), pp. 216-17.

[231] Fissell, *Vernacular Bodies*, p. 52.

[232] See Crowther-Heyck, '"Be Fruitful and Multiply"'; and Christine Peters, *Patterns of Piety: Women, Gender and Religion in Late Medieval and Reformation England* (Cambridge: Cambridge University Press, 2003).

[233] Cressy, *Birth, Marriage and Death*, p. 24.

[234] The role of religion in the interpretation of images of the pregnant body is investigated further in Chapter 4, pp. 208-18.

[235] Walter S. Melion, 'Meditative Images and the Portrayal of Image-Based Meditation', in *Ut Pictura Meditatio: The Meditative Image in Northern Art, 1500-1700*, ed. by Walter S. Melion, Ralph Dekoninck and Agnes Guiderdoni-Bruslé (Turnhout: Brepols, 2012), pp. 1-60 (p. 3).

However, prayer and the use of relics was not the only way for the early modern mother to affect the outcome of her pregnancy. Maternal imagination was a potent force in the sixteenth and seventeenth centuries. Marks and disfigurements, even illnesses and character flaws in the child were routinely attributed to shocks, frights or strong feelings experienced by the mother during pregnancy.[236] Such beliefs about the power of the maternal imagination to impress and shape the unborn child lingered long in the popular imagination, and indeed were still being actively debated by scholars in the eighteenth century.[237] The most common result of maternal imagination was a birthmark on the child in the shape of something the mother had craved while pregnant. But, as Jane Sharp notes, 'Imagination can do much, as a woman that lookt on a Blackmore brought forth a child like to a Blackmore; and one I knew, that seeing a boy with two thumbs on one hand, brought forth such another'.[238] Pregnant women, therefore, actively tried to avoid being frightened or startled, were wary of seeing aberrant and strange things, and dwelled anxiously on things that had disturbed them.

While early modern midwifery manuals and pamphlets tended to focus on the negative impacts of maternal imagination, there is evidence to suggest that the mystical power was also employed by women to positively shape their unborn children. Frances Gage, for instance, has argued that scholars have underestimated the degree to which maternal imagination 'informed attitudes toward and practices of reproduction'.[239] She suggests that the use of all kinds of images as aids to positive maternal imagination was so widespread and well known that it was rarely recorded, and so goes under-recognised by historians.[240] Other scholars have studied

[236] See Paul-Gabriel Boucé, 'Imagination, Pregnant Women, and Monsters in Eighteenth-Century England and France', in *Sexual Underworlds of the Enlightenment,* ed. by G.S. Rousseau and Roy Porter (Manchester: Manchester University Press, 1987), pp. 86-100; Frances Gage, *Painting as Medicine in Early Modern Rome: Giulio Mancini and the Efficacy of Art* (University Park, PA: Pennsylvania State University Press, 2016), pp. 87-119; and Katharine Park, 'Impressed Images: Reproducing Wonders', in *Picturing Science, Producing Art,* ed. by Caroline A. Jones and Peter Galison (New York: Routledge, 1998), pp. 254-71.
[237] See Forman Cody, *Birthing the Nation,* pp. 120-51; and Rebecca M. Wilkin, 'Essaying the Mechanical Hypothesis: Descartes, La Forge, and Malebranche on the Formation of Birthmarks', *Early Science and Medicine,* 13:6 (2008), 533-67.
[238] Sharp, *The Midwives Book*, p. 118.
[239] Gage, *Painting as Medicine,* p. 94.
[240] Ibid., p. 115.

isolated incidences of objects used to positively aid maternal imagination. Morten Steen Hansen, for example, suggests that a sculpture of the Christ child by Paolo Bernini was made for Queen Maria Theresa because 'it was important that pregnant women behold *noble and agreeable objects* as the sight of these would affect the child positively'.[241] Katharine Park has also argued that *deschi da parto* – painted wooden trays often given as gifts to pregnant women in early modern Italy – tended to be decorated with robust, beautiful infants which the women could use as objects for focusing their maternal imagination. 'By gazing attentively at these objects' Park argues, 'mothers could literally shape their offspring, raising their chances of producing a well-formed son.'[242]

The particular *descho* that Park uses as an example, attributed to Franceso del Cossa (Figure 19), employs much of the same iconography as Rösslin's and Rüff's birth figures. The child, like the fetus of the birth figure, is chubby, healthy, well-grown and male. In the birth tray, he also wears coral – commonly worn by children to protect them from illness – and he carries cornucopias symbolising abundance.[243] The landscape behind him, and the way he is closely bounded by the rim of the tray gives the image the same microcosmic associations as a birth figure. Both tray and birth figure show the unborn child in the microcosmic bodily world, as well as the healthy, grown, ideal child in the macrocosmic one.

Birth figures, like the paintings on birth trays, are images of positive power, depicting infant health and safety for a culture that understood images not just as representations, but as active agents in a body culture that made no firm distinctions between reality and image, between 'science' and 'culture'. An early modern pregnant woman might well have understood birth figures as images that not only represented her body, but which, through processes of contemplation, prayer or imagination, could *shape* her body. Indeed, Helen Smith has argued that reading, too, 'was understood to be a bodily and embodied practice: an act of consumption

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[241] Morten Steen Hansen, 'The Infant Christ with the "Arma" Christi: François Duquesnoy and the Typology of the Putto', *Zeitschrift für Kunstgeschichte*, 71:1 (2008), 121-33, (p. 133).
[242] Park, *Secrets of Women*, p. 145.
[243] Hope Werness, *The Continuum Encyclopedia of Animal Symbolism in World Art* (New York: Continuum Publishing, 2006), p. 103.

that was productive and reproductive in physical as well as intellectual terms.'[244] It is not enough, therefore, to say that birth figures were part of the culture of childbirth, or that they might have heartened and encouraged the pregnant woman. These images were deeply entangled with the bodily condition of pregnancy itself, shaping bodies as well as understandings of bodies in a culture which did not make such firm distinctions between the two.

Multifarious Birth Figures

The anatomical flap sheet titled *Autumnus* (Figures 12 and 62) is one of four prints that describe the four seasons, four ages of man, and much else.[245] Watermarks on the paper date the only extant impression to 1680-1710, and analysis of the ink suggests that the plates had been used many times before this impression was pulled. An analysis of the informational content of the prints dates the production of the plates to somewhere around 1640, and to England.[246] This suggests that multiple print runs were produced over the course of the seventeenth century and that the prints were popular.

Autumnus, which shows a mature male and pregnant female figure, demonstrates neatly the way in which modes of knowing were adopted, combined, and mingled in the early modern period. The prints are described by Horstmanshoff et. al. as 'a kind of health calendar': a condensing of all the different types of knowledge that might inform the viewer about the body, or aid in its treatment. Horstmanshoff et. al. describe the 'main themes' in these prints as 'medicine, alchemy and astrology', but we find also horticulture, analogy, anatomy, uroscopy, zoology, erotica, palmistry, geography and religious iconography.[247] The *Autumnus* figures are surrounded by calendars and volvelles, they stand in a luscious landscape, and each carries a

[244] Helen Smith, *'Grossly Material Things': Women and Book Production in Early Modern England* (Oxford: Oxford University Press, 2012), pp. 178-79.
[245] For a detailed investigation of the history and iconography of these prints, see Horstmanshoff, et. al., *The Four Seasons of Human Life*; and Carlino, *Paper Bodies.*
[246] Horstmanshoff, et. al., *The Four Seasons of Human Life,* pp. 15-17.
[247] Ibid., p. 84.

urine flask. Everything in this busy print serves to instruct the viewer on the interpretation of the body and the world, how to read its messages and cure its ills. Both figures are composed of multiple superimposed flaps which show anatomical elements of the body. The female abdomen is made up of seven flaps which show the woman's skin, the uterus, the uterine membranes and the fetus she carries. Such anatomical flap-sheets, as Carlino notes, were popular in this period, but what appears to be unique about this example are the twelve tiny birth figures printed on the paper support, beneath the flaps representing the anatomy of the female figure's pregnant belly. They are copies of Rüff's figures, migrated out of the midwifery manual and now to be found at the very root and centre of the analogical female figure.

These fugitive sheets, in the words of Horstmanshoff et. al., 'represent a kaleidoscopic bird's-eye view of medical and natural science in an age of transition from ancient tradition to modern science.'[248] As such, the print demonstrates neatly the argument of this chapter: that birth figures are entangled with the many and various modes of knowing and treating the body that made up the pluralistic culture of the period. They were ubiquitous, they were receptive to all kinds of interpretation and appropriation, they did many things for many people and were fundamental to the period's body culture. Just as I have argued in this chapter, these birth figures coexist with – literally inhabiting the same bodily space as – the anatomical, and they both reflect and inform the whole multifarious analogical world within and beyond the body.

Birth figures are images that, in their multiple interactions with body culture, challenge our assumptions about the body as a subject for historical study. They pull together types of knowledge about the body that are more typically treated separately, and they bring to the fore types of popular body knowledge that are often eclipsed by the study of medical innovations. To look at these images is to be confronted with what seem to us to be contradictions – images of medical practice, influenced by anatomy, that are also verdant and analogical, alchemical and humoral, even wondrous. Only by looking at these images as working simultaneously in multiple

[248] Ibid., p. 40.

registers can we reconcile these seeming contradictions and gain a more thorough understanding of early modern body culture.

The multiplicity, and the remarkably wide viewership, which makes it so hard to ascribe just *one* function or reading to these images, makes them valuable sources for looking at a culture that was essentially inclusive, imaginative and multifarious in its thinking about the body. Birth figures remind us that this was a period in which learned and vernacular, old and new, male and female ways of knowing met, interacted and mingled at the site of the pregnant body. Just as the early modern woman could look at a birth figure as a window onto her own mysterious bodily interior, so we can approach these images as windows onto the rich and complex body culture of early modern England.

Chapter 2

Experiments and Innovations: Birth Figures in the Early Enlightenment

From the late seventeenth century, great changes were afoot all over Europe in many disciplines of medicine and natural philosophy. New ideas and new ideals about how enquiry into the natural world should be conducted, what could be known about the natural world, and how that knowledge could be communicated, were springing up.[249] In the world of midwifery, between the 1670s and the 1730s – a period I shall be terming the 'early Enlightenment' – innovations came thick and fast.[250] Many histories of midwifery in Britain tend to neglect this period, focussing either on the seventeenth century, or on the period after 1730, when British midwives began to innovate, teach and publish in a new way, and to develop a consciousness of living in a new era.[251] The period of the mid- to late eighteenth century was certainly an important one for British midwifery and its visual culture, and one that will be treated in the last chapter of this thesis. The following two chapters, however, aim to redress an imbalance in scholarship, in which the images produced for figures such as William Hunter, William Smellie and Charles Jenty are assessed as remarkable, unprecedented advancements.[252] In fact, the period of the early

[249] Key works on natural history and philosophy in this period include: Daston and Galison, *Objectivity*; Loraine Daston and Elizabeth Lunbeck, eds., *Histories of Scientific Observation* (Chicago: University of Chicago Press, 2011); Matthew Hunter, *Wicked Intelligence: Visual Art and the Science of Experiment in Restoration London* (Chicago: University of Chicago Press, 2013); Roy Porter, ed., *The Cambridge History of Science: Volume 4, Eighteenth-Century Science* (Cambridge: Cambridge University Press, 2003); Pamela H. Smith, *The Body of the Artisan: Art and Experience in the Scientific Revolution* (Chicago: University of Chicago Press, 2004); Charles T. Wolfe and Ofer Gal, eds., *The Body as Object and Instrument of Knowledge: Embodied Empiricism in Early Modern Science* (Dordrecht: Springer, 2010).

[250] Some works on the Enlightenment that have informed this research include: Dorinda Outram, *The Enlightenment* (Cambridge: Cambridge University Press, 2013); Carole Reeves, ed., *A Cultural History of the Human Body in the Age of Enlightenment* (Oxford: Berg, 2010); and Anne C. Vila, ed., *A Cultural History of the Senses in the Age of Enlightenment* (London: Bloomsbury, 2014).

[251] Both Pam Lieske and Adrian Wilson cite the 1730s as the beginning of this new era. See Lieske, ed., *Eighteenth-Century British Midwifery*, III, p. viii; and Wilson, *The Making of Man-Midwifery,* particularly p. 110.

[252] These authors are addressed in Chapter 5.

Enlightenment was also one of great innovation and experimentation in the production of midwifery books and birth figures in Europe, and it had an influence on English midwifery which is often not fully acknowledged. This chapter will examine how early Enlightenment birth figures introduced new frameworks for understanding and new modes for representing the pregnant body, and it will argue for the importance of investigating such images, both as the heirs of early printed birth figures, and as the precursors to the high Enlightenment midwifery images of the mid-eighteenth century.

While early printed birth figures have often been misinterpreted or denigrated within histories of medicine and visual culture, those produced in the early Enlightenment tend to be ignored completely. After the 1670s, Europe saw the rise of large, highly detailed anatomical engravings of the fetus *in utero*, the first of which might be identified as those produced for Govert Bidloo's atlas, *Anatomia humani corporis* (1685, Figure 20), illustrated by Gerard de Lairesse and engraved by Abraham Blooteling.[253] Scholars have, by and large, ignored birth figures produced after the 1670s in favour of such detailed, naturalistic, anatomical images. The implication of this inattention, whether it is the result of conscious excision or accidental neglect, is that birth figures after the mid-seventeenth century are often understood as an irrelevant, outdated mode for representing the body. This chapter aims to demonstrate that early Enlightenment birth figures are worthy of study: that they are images that changed and developed with trends in midwifery and anatomy and that, as such, they have much to say about the midwifery and body culture specific to this period.

As discussed in the Chapter 1, birth figures prior to the 1670s in England were remarkably iconographically and stylistically cohesive.[254] A few models served for the production of many birth figures throughout the sixteenth and seventeenth centuries. From the 1670s, however, much greater variance and innovation entered the genre: birth figures began to offer

[253] See Mechthild Fend, 'Drawing the Cadaver "Ad Vivum": Gérard de Lairesse's Illustrations for Govard Bidloo's *Anatomia Humani Corporis*' in *Ad Vivum,* ed. by Tom Balfe, Joanna Woodall and Claus Zittel (Leiden: Brill, [forthcoming]).
[254] See Chapter 1, pp. 45-48.

different views of the bodily interior, reflecting the increasingly varied approaches to that interior taken by authors. They became more individuated, more exploratory, more medicalised, more professionalised and rarefied. This chapter will investigate how and why this change and diversification occurred, and what it can tell us about how midwifery and body culture changed in the early Enlightenment in England and in Western Europe more broadly.

This chapter will begin with a short history of the medical and social changes associated with midwifery in England between 1672 – the year in which the first English edition of François Mauriceau's *Traité des maladies des femmes grosses* (*The Diseases of Women with Child and in Child-Bed*) was published – and around 1730 – when a new home-grown culture of midwifery teaching, practice and publication sprang up in England. I will then investigate the various changes made to birth figures by Mauriceau, Hendrik van Deventer (*Manuale operation,* 1701), Cosme Viardel (*Obervations sur la pratique des accouchemens,* 1671) and Justine Siegemund (*Die Kgl. Preußische und Chur-Brandenburgische Hof-Wehemutter,* 1690), and what these transformations meant for how the body was envisioned and practiced upon. All these authors lived and worked outside of England: in France, the Netherlands and Germany, yet each had a Europe-wide influence on midwifery through the circulation of their books. For England, this was a period in which midwifery was still highly dependent on imported knowledge, and the birth figures produced for the above works were key to how English body culture was shaped at this time.

The Rise of 'Man-Midwifery'

The early Enlightenment was a period of significant change for midwifery: it saw a significant rise in the number of male practitioners; and the growth of a more medicalised and professionalised approach to practice. In England, for most of the seventeenth century, men were a rare but not unheard-of sight in the lying-in chamber. Most commonly, a surgeon might be called to a difficult or obstructed labour in which hope of a good outcome for both mother and baby had been all but lost. However, there were also some male practitioners, such as

Percvial Willughby and the Chamberlens, who built careers on the ability to attend complicated labours and deliver the fetus alive.[255]

From the late seventeenth century, the number of male practitioners surged and their place in the landscape of practice altered and expanded.[256] Adrian Wilson has called this process 'the making of man-midwifery', describing how and why some male practitioners moved away from medicine or surgery and towards practice specifically as a 'man-midwife'.[257] Some acted as emergency consultants, while others attended the normal births of the wealthy. Innate male competence, thorough medical training and the ability to use secret tools and manoeuvres to deliver obstructed children, were the reasons offered to persuade wealthy women, or those who underwent difficult labours, to call men-midwives to their aid. Slowly, women became generally more willing to admit men into the lying-in chamber, and readier to follow their advice. Through the rise of man-midwives and the books they published, the general perception of childbirth became more medicalised.

Scholars have been at odds as to whether the rise of man-midwifery actually improved practice.[258] Male practitioners brought an increased understanding of anatomy, new tools and new manoeuvres to the practice of midwifery, but such knowledge did not always lead to improved outcomes for women and their infants. Moreover, as many women found themselves prey to untrained and incompetent male quacks as suffered at the hands of 'ignorant' female midwives.[259] The change also lead to women losing a key source of respectable income, as men-midwives worked hard to degrade the reputation of their female colleagues. Some scholars

[255] See Wilson, *The Making of Man-Midwifery,* pp. 47-64.
[256] For histories of this change, see: Donnison, *Midwives and Medical Men*; Forman Cody, *Birthing the Nation*; Helen King, *Midwifery, Obstetrics and the Rise of Gynaecology: The Uses of a Sixteenth-Century Compendium* (Aldershot: Ashgate, 2007); McTavish, *Childbirth and the Display of Authority*; Wilson, *The Making of Man-Midwifery*; and Woods and Galley, *Mrs Stone & Dr Smellie*.
[257] See Wilson, *The Making of Man-Midwifery,* pp. 65-106.
[258] See, for example, Vincent De Brouwere, 'The Comparative Study of Maternal Mortality Over Time: The Role of the Professionalisation of Childbirth', *Social History of Medicine,* 20:3 (2007), 541-61; and Woods and Galley, *Mrs Stone & Dr Smellie*, particularly pp. 9-42.
[259] For a history of the idea of the 'ignorant' female midwife, see Evenden, *The Midwives of Seventeenth-Century London*, pp. 2-5.

argue that labouring women also lost the security and power that had sprung from the tight-knit, all-female community that oversaw childbirth before the eighteenth century.[260]

The rise of the man-midwife did not happen instantaneously, and it wasn't until the late eighteenth century that midwifery was established as a medical discipline. In Paris, the presence of training hospitals such as the Hôtel Dieu and a more general acceptance of men in the lying-in chamber allowed men-midwives to establish themselves in the latter half of the seventeenth century.[261] According to Wilson, the same was not true of England until around 1730, but his analysis is mainly based on the lack, until this time, of English-authored midwifery manuals, and of places in London offering midwifery teaching.[262] In fact, from the 1670s England was increasingly under the influence of man-midwifery. While the numbers of men exclusively practicing midwifery were still low, the visual and textual culture of medicalised, professionalised man-midwifery was coming to dominate, and to pave the way for the profession to expand in practice.[263]

Early histories of midwifery tended to argue that women in this period were either delivered by a medically-trained 'man-midwife', or by an ignorant and untrained female midwife.[264] In more recent decades, feminist histories have challenged such denigrations of traditional female practice and have criticised scholarly blind faith in the 'improvements' of male medicalised practice. However, a focus among historians on the gender *difference* in midwifery practice still remains.[265] While gender is an important factor in histories of early modern midwifery, and while the existence of antagonism between the genders is undeniable, professional struggles in midwifery were, as Pam Lieske argues, 'more complex, uneven and

[260] See, for example, Donnison, *Midwives and Medical Men*; Harley, 'Provincial Midwives'; and Londa Schiebinger, *The Mind Has No Sex? Women in the Origins of Modern Science* (Cambridge, MA: Harvard University Press, 1989), pp. 104-11.
[261] See McTavish, *Childbirth and the Display of Authority.*
[262] Wilson, *The Making of Man-Midwifery,* pp. 3 and 110.
[263] See Staub, 'Surveilling the Secrets of the Female Body', p. 57.
[264] See Evenden, *The Midwives of Seventeenth-Century London*, pp. 2-5; and Green, 'Gendering the History of Women's Healthcare', pp. 488-98.
[265] See Donnison, *Midwives and Medical Men*; and Harley, 'Provincial Midwives'.

shifting' than many histories have suggested.[266] This thesis, therefore, will address not only divides and disjunctions caused by gender difference, but also those caused by levels and kinds of training, medical knowledge, use of tools, geographical location and wealth levels. Following Monica Green's assertion that 'we have perhaps focused too much attention on obstetrics as a site of combat between professional rivals ('male control' vs 'female control') and too little on obstetrics from the patient's point of view', I will investigate: the different contexts, apart from gender, that defined practitioners; the way midwives were seen by patients as well as by other medical professionals; and the ways in which different kinds of midwife learned from, collaborated, and clashed with each other.[267]

In England, where there were no midwifery schools until the 1730s, male and female practitioners learned through experience, apprenticeship and from books.[268] Both men and women practitioners varied in learning and practical skill: we know that some women used tools, though they were meant to be restricted to surgeons,[269] and we know that some women also authored midwifery manuals.[270] A better distinction to make, therefore, is between 'regular' and 'emergency' midwives.[271] Broadly speaking, most female midwives were 'regular'. They served

[266] Lieske, ed., *Eighteenth-Century British Midwifery*, I, p. xx. See also Lianne McTavish, 'Blame and Vindication in the Early Modern Birthing Chamber', *Medical History*, 50 (2006), 447-64.
[267] Green, 'Gendering the History of Women's Healthcare', pp. 496-97.
[268] See Evenden, *The Midwives of Seventeenth-Century London*, pp. 186-204; and Lieske, ed., *Eighteenth-Century British Midwifery*, VII.
[269] Harley, 'Provincial Midwives', p. 41 notes that women used tools 'on occasion' in the seventeenth century. The eighteenth-century midwife-author Margaret Stephen was open about her use of tools, see Lieske, ed., *Eighteenth-Century British Midwifery*, VII, p. 263. It seems likely, moreover, that as tools were officially forbidden to midwives, some used them secretly and left no record.
[270] Martha Mears, *The Pupil of Nature: Or Candid Advice to the Fair Sex* (London: The Author, 1797); Elizabeth Nihell, *A Treatise on the Art of Midwifery: Setting Forth Various Abuses Therein, Especially as to the Practice with Instruments* (London: A. Morley, 1760); Sharp, *The Midwives Book*; Margaret Stephen, *Domestic Midwife: Or, the Best Means of Preventing Danger in Child-Birth* (London: S. W. Fores, 1795); and Stone, *A Complete Practice of Midwifery.* Evenden has also argued that both [Chamberlayne?], *The Compleat Midwifes Practice*, and R.C., I.D., M.S. and T.B. [Thomas Chamberlayne?], *The Compleat Midwifes Practice Enlarged* (London: Nathaniel Brooke, 1659), were authored by female midwives, though the works are more generally attributed to Thomas Chamberlayne. See Evenden, *The Midwives of Seventeenth-Century London,* pp. 8-11.
[271] This distinction is modelled on Wilson's division of man-midwives into those attending mainly 'emergency' or mainly 'booked' calls. However, my distinction is not specific to male or female practitioners. See Wilson, *The Making of Man-Midwifery*, p. 100.

their local area and tended to be booked ahead of the birth, attending the woman for the entirety of her labour and often providing care during pregnancy and after delivery as well. Such 'regular' midwives could, as Doreen Evenden has shown, be highly skilled, have served long apprenticeships, and be respected as skilled professionals by both their neighbours and parish authorities.[272] They did not, however, receive institutionalised medical training. Broadly speaking, most male midwives were 'emergency': they had received some kind of medical training and professed some book-based expertise in midwifery. They served a larger area and attended births when a complication had arisen that could not be remedied by the regular midwife.

However, there was no strict gender divide: some men practiced as 'regular' midwives, often combining midwifery with surgery or apothecary in a rural profession Roy Porter describes as a 'proto-GP'.[273] Some of these male midwives had little or no training or experience to qualify them for this particular work.[274] Some women, moreover, were highly trained, medically knowledgeable emergency practitioners. These women sometimes gained their skills from formal, informal or familial apprenticeships to physicians or surgeons, sometimes they acquired their skills from books, and sometimes simply from long practice, trial and error.[275] This thesis, therefore, will use the term 'man-midwife' sparingly, and rather describe midwives as 'regular' or 'emergency'. As Londa Schiebinger, among others, has argued, in science and medicine, a focus on universities, societies and published material has led to the misconception that women

[272] Evenden, *The Midwives of Seventeenth-Century London*, pp. 68-78.
[273] Roy Porter, 'William Hunter: A Surgeon and a Gentleman', in *William Hunter and the Eighteenth-Century Medical World,* ed. by W.F. Bynum and Roy Porter (Cambridge: Cambridge University Press, 1985), pp. 7-34 (p. 16).
[274] See Donnison, *Midwives and Medical Men*, p. 42.
[275] As with many professions and branches of natural philosophy, women often attained expertise by helping husbands, fathers or brothers. Percival Willughby had a daughter who practiced as a midwife and collaborated with him, see Wilson, 'A Memorial of Eleanor Willughby'. Hendrik van Deventer's wife was a midwife and Lieske argues that she helped Deventer to develop his midwifery practice, see Lieske, ed., *Eighteenth-Century British Midwifery*, III, pp. 159-60.

were largely excluded from these disciplines in the early modern period.[276] Yet, the fact that much experimentation in natural philosophy and practice in medicine happened in private and domestic spaces meant that women *were* often able to contribute.[277] By making a distinction between 'regular' and 'emergency', rather than between female and male midwives, I aim to contribute to the making visible of women experts in the early modern period.

I will also employ the term 'midwife-author' to describe those midwives who published midwifery manuals or treatises. This term is also designed to be non-gendered, rather drawing attention to the divide between those midwives who published, and those who did not. Most but not all midwife-authors were men, just as most were 'emergency' rather than 'regular' practitioners. This term is intended to emphasise that a study such as this one, which is based on published texts, will invariably reflect a marginal, rarefied kind of practice, dominated by a male learned viewpoint and accessible only to those who had the time, literacy and money to seek some level of midwifery training. Thus, while midwifery manuals become a more direct source for how the pregnant body was understood and practiced upon once midwives themselves began to write them, they must still be understood to give a partial view of the period's body culture.

Midwifery Manuals in Transformation

The new emergency midwives – men and women who combined medical knowledge with midwifery practice and who developed new ways to deliver obstructed fetuses alive – began, from the late seventeenth century, to produce new kinds of midwifery manuals. Before this period, the sphere of learned textual knowledge, and the sphere of 'practitional' knowledge,

[276] Londa Schiebinger, 'Women of Natural Knowledge', in *The Cambridge History of Science: Volume 3, Early Modern Science,* ed. by Katharine Park and Lorraine Daston (Cambridge: Cambridge University Press, 2006), pp. 192-205.
[277] See, for example, Alix Cooper, 'Homes and Households', in *The Cambridge History of Science: Volume 3, Early Modern Science,* ed. by Katharine Park and Lorraine Daston (Cambridge: Cambridge University Press, 2006), pp. 224-37; Heilbron, 'Domesticating Science'; and LeJacq, 'The Bounds of Domestic Healing'.

had rarely intersected in one individual.[278] Particularly in England, women treated the body in labour and men wrote about it. This meant that in midwifery books, there was a strong reliance on classical medicine and medieval gynaecological texts. Most books said largely the same things and innovation, especially innovation that contradicted conventional knowledge, was treated with caution. The same is true of birth figures which, as I have argued in my first chapter, remained stylistically and iconographically very cohesive.[279]

Yet, gradually, two things began to change in midwifery practice. One was the increased number of practitioners who were both medically trained and regularly practicing midwifery; the other was a general shift in focus, towards knowledge based on direct and empirical observation and away from adherence to established authority. The early move towards observation and away from authority is described in many histories, for example Kusukawa's *Picturing the Book of Nature,* and is addressed in my first chapter.[280] However, the ideals of empiricism and observation began to grow and become more widespread and institutionalised in the late-seventeenth century. In histories of science, this period is often characterised by the adoption of Baconian ideals by the early Royal Society. Charles T. Wolfe and Ofer Gal describe the rhetoric of empirical study on which the Royal Society was founded as 'an open, collaborative experimental practice, mediated by specially-designed instruments, supported by civil, critical discourse, stressing accuracy and replicability.'[281]

However, if we may say that the early Enlightenment was characterised by an increased valuing and adoption of observation and empiricism in medicine and natural philosophy, we must also establish what observation and empiricism *meant* in this period. In recent decades, many seemingly constant ideas such as observation, empiricism, objectivity and truth, have

[278] For a discussion of the term 'practitional', see Chapter 1, pp. 48-50.
[279] See Chapter 1, pp. 45-48.
[280] See, for example, Kusukawa, *Picturing the Book of Nature,* pp. 198-248; and Chapter 1, pp. 99-101.
[281] Wolfe and Gal, eds., *The Body as Object*, p. 1

themselves become the subject of historical studies.[282] Scholars have discussed how these scientific ideals were temporally, culturally and geographically specific, meaning different things in different periods. Wolfe and Gal, for instance, emphasise the embodied nature of empiricism in the seventeenth century, that it 'meant a new attention to the senses and their function from a physiological, practical and epistemological point of view, and all those were never far apart.'[283] This is different to our modern understanding of empiricism as something ideally detached from the unreliably subjective senses. Daston and Galison in *Objectivity,* and Daston and Lunbeck in *Histories of Scientific Observation,* have made similar arguments, looking at the different 'epistemic virtues' associated with the ideas of objectivity and observation.[284] In the seventeenth century, such ideals were often much more situated in the skilled individual, and in the embodied senses combined and regulated by knowledge and training, than they are in our own mechanical age.[285] Steven Shapin, moreover, has demonstrated the social and cultural construction of the seemingly atemporal idea of 'truth', demonstrating how it was an idea tied up with the condition of being a 'gentleman' in the early modern period, and with the education, class and social standing that was associated with the appellation.[286]

Such ideals as empiricism and observation, therefore, are neither atemporal nor constant, but they did both flower in the late seventeenth century, as investigation in natural philosophy and medicine transformed. Though very different to the empiricism and observation of today, they signalled a new value placed on the individual's experience of the world, their reasoning, and the collaborative process of experiment. For midwives of the period, these growing ideals provided a new way to establish authority over the pregnant body. While classical medicine and textual knowledge was still important, the direct experience gained by attending

[282] Wolfe and Gal, eds., *The Body as Object*; Daston and Galison, *Objectivity*; Daston and Lunbeck, eds., *Histories of Scientific Observation*; and Steven Shapin, *A Social History of Truth* (Chicago: University of Chicago Press, 1994).
[283] Wolfe and Gal, eds., *The Body as Object*, p. 3.
[284] Daston and Galison, *Objectivity.*
[285] Daston and Galison, *Objectivity*, particularly pp. 39-42; Daston and Lunbeck, eds., *Histories of Scientific Observation,* particularly pp. 4-5.
[286] Shapin, *A Social History of Truth*, particularly pp. 65-125.

labours was also increasingly valued as a source of knowledge and authority. Increasingly, too, it was such empirical, observational knowledge that was shared, in institutions, schools and between colleagues, but also through letters, publications and pamphlets. This new attitude is exemplified in the midwife-author Mauriceau's address to the reader:

> tho I design to instruct you here in whatsoever concerns *Women with Child*, or *in Labour*, yet I would not divert you from reading other learned Authors who treat of it, but only advise you that the most part of them, having never practised the Art they undertake to teach, resemble (in my Opinion) those *Geographers*, who give us the description of many Countries which they never saw[287]

Mauriceau was unwilling to reject outright the wisdom of the ancient authors, but in comparing them to geographers, he associates midwifery with a discipline that was obviously more advanced in the modern than in the ancient era. Both, he argues, have flourished in his own period through new advances in exploration, observation and discovery.

Midwifery manuals such as Mauriceau's broke new ground in making empirical knowledge a basis for professional authority. They did so, moreover, not only through text, but also through images, as birth figures were adapted and diversified to communicate new discoveries, new understandings of the body, and new approaches to practice. These developments made the old cohesive iconography, and the widespread copying of images, suddenly problematic. For midwifery in England, this new world of innovative and unique images was ushered in with the translation into English of the above mentioned Mauriceau.

Mauriceau: A Transitional Figure

François Mauriceau was a prestigious Parisian man-midwife, training and later working at the Hôtel Dieu, a lying-in hospital which trained midwives, the likes of which was completely unknown in England. He was part of a generation of male practitioners working in Paris who are

[287] Mauriceau, *The Diseases of Women with Child,* To the Reader.

generally credited by medical historians with turning midwifery into a medical discipline.[288] Mauriceau was part of a network of new Parisian practitioners who proposed innovations in practice and published manuals and treatises. This network included the Mauriceau's cousin Pierre Dionis, his teachers Philippe Peu and Guillaume Marquest de la Motte and his antagonists Peu and Cosme Viardel.[289] It was the writings of these men, in French and in translation, that English midwives largely depended on throughout the late-seventeenth and early-eighteenth centuries.

Almost as soon as it was published, Mauriceau's book was generally agreed to be the best and most up-to-date midwifery manual available in England. It maintained a good reputation well into the eighteenth century, with John Douglas commenting in 1736 that it was the 'first rational account we ever had of delivering women in labour'.[290] However, modern scholars have more varying and more circumspect interpretations. Pam Lieske argues that Mauriceau 'helped to dispel folk beliefs about pregnancy and labour, differentiated between the male and female pelvis, originated a method to deliver the head during breech birth, and recognized how to induce labour by rupturing the membranes'.[291] On the other hand, Robert Woods and Chris Galley have argued that he 'purports to demonstrate how advanced learning and training allows the practitioner to intervene appropriately, thereby saving lives, but the scientific basis of his understanding was virtually non-existent and his practical surgical techniques were rudimentary'.[292] Mauriceau's book can be understood, therefore, both as innovative and conventional. Indeed, in this, it reflected the transitional period in which the author lived and worked: Mauriceau had one foot in the traditions of previous centuries, and the other in the fledgling medical discipline of midwifery that he helped to bring about. The

[288] For histories of Mauriceau, see McTavish, *Childbirth and the Display of Authority*; and Lieske, ed., *Eighteenth-Century British Midwifery*, III.
[289] Lieske, ed., *Eighteenth-Century British Midwifery*, III, p. ix. For more on this network of French midwives, see McTavish, *Childbirth and the Display of Authority.*
[290] John Douglas, *A Short Account of the State of Midwifery in London, Westminster, &c.* (London: The Author, 1736), p. 2.
[291] Lieske, ed., *Eighteenth-Century British Midwifery*, IX, p. xiv.
[292] Woods and Galley, *Mrs Stone & Dr Smellie*, p. 242.

same, as this chapter demonstrates, was true of his birth figures. Both text and images had an enormous impact on the culture and practice of midwifery in England for many decades after their publication.

The images printed with Mauriceau's book are where we begin to see transformations in the visual culture of midwifery. As such, it is worth giving a detailed history of their production. Mauriceau's images held a new material and intellectual status within the book itself: they were produced in 28 copper plates which are interspersed amongst, and sometimes share a page with, the text (see Figure 21). While some earlier texts had interspersed woodcuts with letterpress, the process of interspersing intaglio prints is more complex as it involves printing each page twice. This suggests that Mauriceau valued his images highly and felt it was important that they be embedded in the text rather than printed on separate plates. This would allow the reader to consult image and text together, as media that worked together. The choice of engraving as a medium is also significant: since the early experiment with engraving in *The Byrth of Mankynde*, most birth figures had been produced as cheaper and longer-lasting woodcuts. But engraving was a technique with a higher level of prestige and it allowed for greater levels of detail and tone. The increased value placed on the artistic skill required to create these images is evident in the fact that many of the plates bear the names of draftsmen and engravers. We know, for instance, that Mauriceau's frontispiece (Figure 41) was designed by Antoine Paillet and engraved by Guillaume Vallet. Both artists were members of the Académie Royale de Peinture et de Sculpture in Paris, and the valorising frontispiece they produced for Mauriceau indicates a new concern for self-presentation and for the establishing of authority on the part of the author. The use of known and institutionally validated artists, the elegant style, and the use of symbolic figures and tools all point to a new social and professional dimension to midwifery.[293] Some of the illustrations also bear the names of artists: the draftsman Paul Androuet du Cerceau and the engravers Karl Audran and one 'Lombars'. The illustrations are also more complex, employ more varying techniques, and appear more geared to the display of

[293] This phenomenon is further examined in Chapter 3.

artistic skill, than many of those produced in the preceding century.[294] Their material production and placement within the book, and the representational modes and styles they employ indicates, therefore, the newly elevated position both of midwifery as a discipline, and of images within it.

In the English editions, a cheaper method of reproduction was used, and most of the images were re-engraved onto four large copper plates (Figure 22). In some copies, the four large plates can be found whole, folded and bound in at the back of the book. In others, each plate has been carefully cut up into its constituent images and each image has been tipped or pasted in as a flap at the relevant page (Figure 23). The re-engraving of the images on four large plates suggests that the English publishers were more concerned to reduce production costs than their French counterparts, perhaps because there was a less established professional market for such a work in England. But the careful interspersion of the images in some copies suggests that at least some English readers also valued the images highly, either paying a binder to intersperse them or spending time on the task themselves.

Mauriceau and his contemporaries adopted the new medium of engraving, new representational styles and new kinds of knowledge in their birth figures in order to raise the status of their practice and to communicate their new understandings of the body. Equally crucial to the culture of the period, however, was the way that these midwife-authors *individualised* their birth figures. Mauriceau's images were not included simply for convention's sake, nor were they added by a publisher as decoration or as an incentive to buyers, as is sometimes argued of earlier birth figures.[295] Rather, these images were intended to complement Mauriceau's *specific* text, and to communicate his *specific* ideas on midwifery and the pregnant body.

[294] The production of images that display and engage with artistic skill are examined in detail in Chapter 4.
[295] Fissell, *Vernacular Bodies,* p. 6; and Kusukawa, *Picturing the Book of Nature,* p. 64.

Observation and Anatomical Style

Mauriceau's images, like his text, are both conventional and innovative. His anatomical images follow the convention set down by Vesalius of presenting organs in hollow torsos (Figure 24). But he also provided images that were new to the visual culture of midwifery manuals, for instance: an image of the external genitalia, legs and buttocks of a woman (this image was censored from the first two English editions); one of the fetus in the uterine membranes; and one of the male and female pelvises. His birth figures (Figures 21-23), too, are both like and unlike those produced for Rüff (Figures 9-10): there is the same balloon-like uterus, a child-as-fetus floating within. But in Mauriceau's images, the anatomical details have been audited: gone are the fruit-like ovaries, and the umbilical cord now consistently leads to a visible placenta rather than wandering off to stage right. These changes likely had to do with a refocusing of the birth figure on what knowledge was crucial to midwifery practice: the ovaries and theories of conception were ancillary, but the tying of the umbilical cord and the delivery of the placenta were key duties. These changes are, in fact, indicative of a radical shift enacted in Mauriceau's birth figures, away from the diverse symbolism and analogy of Rüff's birth figures, and towards a closer adherence to the body as it was physically experienced by midwives, communicated through an adoption of the new observational, detailed style of contemporary anatomical illustration.

As already discussed, this period placed a new value on observation and empiricism, and this was reflected in the way that many kinds of medical and philosophical images were made. Matthew Hunter, quoting Robert Hooke, asserts that '[p]hilosophy's impending experimental reformation depended [...] on "a *sincere Hand*, and a *faithful Eye* to examine, and to record, the things themselves as they appear."'[296] Of course, as Mechthild Fend has argued, investigators and artists were certainly aware of the complexities of such an ideal: that there could be no simple or indexical relationship between object and image.[297] Yet the rhetorical ideal – of skilled

[296] Hunter, *Wicked Intelligence*, p. 33.
[297] Fend, 'Drawing the Cadaver "Ad Vivum"'.

investigation, faithful observation and accurate visual description – largely ruled the way that anatomical illustration changed in this period.

This new preoccupation with making images from close observation of specific anatomical preparations is associated, Fend argues, in de Lairesse's images for Bidloo, with various representational techniques, including: life-size images; the development of rich tonal engravings that emphasise the three-dimensionality of the objects depicted; and the depiction of incidental objects such as pins, knives and flies which serve to argue for the specificity and 'realness' of the image. Fend makes the important point that artists such as de Lairesse, who produced images that were composed to convince the viewer of their faithful, observational relation to the object, were also deeply aware of the complexity and artificiality of such a project. In Fend's words, the images 'aim to be accurate while constantly reminding us of their artificiality'.[298] Both inventing a new visual persuasiveness, and a pendant visual self-reflexiveness, these images, as Dániel Margócsy has described, move away from the 'abstract, idealized image of the human body' and towards 'chaotic nature in all its whimsical particularities.'[299]

Midwife-authors and their artists were keen to adopt this ideal and style of observational accuracy but had their own issues and complexities to deal with. As well as the necessary work of composition and representation that goes into any anatomical image, however 'naturalistic' it may look, midwife-authors faced the further problem that their subject – the interior of the living pregnant body – could not be drawn from observation at all. Indeed, birth figures remained essentially 'practitional' in this period, but also adopted the style and veneer of observation, if not its practice. For instance, in Mauriceau's birth figures (Figures 21-23), the uterine wall and membranes are cut with a crucial (cross-shaped) incision and pinned back at four corners, as was commonly done in dissection, and as is described in anatomical images (see, for example, Figures 20, 61 and 65). The fetuses look less like *putti*: while they still

[298] Ibid.
[299] Dániel Margócsy, *Commercial Visions: Science, Trade, and Visual Culture in the Dutch Golden Age* (Chicago: University of Chicago Press, 2014), p.151

do not have the scrawny bodies of neonates, they are less cherubic and they seem more concretely to inhabit the space of the uterus. They are also less performative, they seem less conscious of the viewer's gaze, they are more introspective and private. This seems to be a move towards, although not a complete adoption of, the private, unconscious, totemic, secret fetus of anatomical imagery, as discussed in Chapter 1.[300] Comparing Rüff's image of twins with Mauriceau's (Figures 10 ii and 25), for example, Rüff's fetuses arrange themselves side by side as if posing for a portrait, enacting the symbolism of fraternal affection. Mauriceau's birth figure, in contrast, shows the fetuses less active, seemingly only semi-conscious, clearly discomfited yet unable to untangle themselves from each other, and more confined by the limited space of the uterus.

Originality and Truth-Value

The style and representational conventions of observational anatomy were adopted by midwife-authors and their artists as part of a wider project to make new claims for their profession. These authors wished their images to be read as 'true' in a new way, informed by first-hand experience and observation of the living, labouring body, and borrowing from anatomy worked as a shorthand for these ideals. An example of this new approach to observation and originality is found in Mauriceau's accusation of plagiarism against a fellow midwife-author. Before this period, as discussed in Chapter 1, copying images had been an essential way to establish truth value.[301] Now the opposite became the case. Mauriceau accused his colleague and rival Philippe Peu of copying his birth figures as if such an act were criminal.[302]

Debates over what kind of copying was appropriate in medicine and natural philosophy have a long history. Both Kusukawa and Parshall have discussed the lawsuit fought by two German publishers in 1533, wherein Johannes Schott accused Christian Egenolff of copying

[300] See Chapter 1, pp. 59-61.
[301] See Chapter 1, pp. 46-48.
[302] This incident is discussed in McTavish, *Childbirth and the Display of Authority,* p. 33.

images made for him by Leonhart Fuchs.[303] Egenolff made the interesting defence that he had not had the images copied, but that images drawn of the same natural object were bound to look alike, if faithfully made. The debate, Kusukawa argues, boils down to the way the relationship between object and image is understood, and how much creative license the artist is believed to have.

Peu, in countering Mauriceau's accusation of plagiarism, underwent similar contortions to defend his images. Comparing the two sets (Figure 22 and 26), it is clear that some copying has taken place – Peu's uteri look very similar to Mauriceau's – but there are also clear differences in how the fetuses are represented. Such copying and adaption was not unusual, of course, but the process suddenly became problematic as authors gained new anxieties about their images being both original and drawn in some way from observation. Peu, in his published defence, manages to hit both of these new requirements by arguing that:

> A l'égard des enfans & de leurs postures, j'ai fait connoître à mon *dessinateur* ma pensée sur de petites marionettes que vous n'avez pas vûës, & que j'ai chez moi pour cela. Il sufit pour moi qu'il l'ait exprimée. Je m'embarasse peu où il a pris de quoi l'éxécuter; mais j'ai trop bonne opinion de sa capacité tres-connuë d'ailleurs, pour croire qu'il ait eu besoin pour cela de vos marmots, joint que les postures sont évidemments diférentes indépendamment même de *la conduite du cordon.*[304]
>
> [With regards to the children and their postures, I acquainted my draughtsman with my thinking on some small puppets which you have not seen, and which I have at my house for that purpose. It suffices for me that he has expressed it. I don't care much what he took to execute the drawings; but I have too good an opinion of his capacity, by the way well known, to believe that he had need of your little figurines, in addition the postures are evidently different independent even of the umbilical cord.]

Peu argues that his images cannot have been copied from Mauriceau's because they were instead copied from dolls or puppets that he posed and placed in front of his artist like specimens. Unable to actually observe the living pregnant interior, Peu settled for the form and

[303] Kusukawa, *Picturing the Book of Nature*, pp. 87-90; and Parshall, 'Imago Contrafacta'.
[304] Philippe Peu, *Réponse de Mr Peu aux observations particulieres de Mr Mauriceau sur la grossesse et l'accouchement des femmes* (Paris: Jean Boudot, 1694), p. 94.

act of observational drawing, using a substitute object. His images gain truth-value at one remove: the empirical knowledge of the body is transferred by the midwife onto the puppet, and then the puppet is drawn by the artist.

Peu also assumes another technique of the observational anatomist, simultaneously praising the capacities of his artist to draw faithfully what he saw and downplaying the process of interpretation by which the artist turns what he sees into an image.[305] He also goes on to denigrate the truth-value of Mauriceau's images. Firstly, he notes that Mauriceau has not *seen* his puppets: he denies his rival direct experience of the object represented, and so denies his right to comment on the images' accuracy or quality. Moreover, while Peu's own images are drawn from 'marionettes', flexible objects responsive to the manipulation of the practitioner, Mauriceau's are 'marmots', a pejorative meaning grotesque small figurines. They are mere toys to Peu's professional tools.

This is the first instance I have found of copying being addressed as a problem within the visual culture of midwifery. Before this time, birth figures were simply a kind of common property, icons of the genre as a whole. As Kusukawa describes it, they were 'generally rather than specifically relevant to the text next to which they were placed'.[306] What changed, of course, is that birth figures not only adopted the rhetoric of observation, they also became individualised statements about the author's special knowledge and skills. When someone copied such images, they were illegitimately piggybacking on the author's hard-won knowledge, authority, and professional reputation. In the early Enlightenment, new rules were being written about what made an image 'true', what methods were acceptable for making new images, and what kinds of knowledge such images could communicate. Birth figures often adopted forms and styles from anatomy because it was a discipline in which images of the body successfully made claims for truth, but as this and the following chapter will demonstrate, these images also

[305] The agency of artists in medical and anatomical imagery is discussed further in Chapters 4 and 5. See also Daston and Galison, *Objectivity,* pp. 94-97.
[306] Kusukawa, *Picturing the Book of Nature*, p. 65.

developed their own modes for representing the body, exclusive to midwifery, that were, indeed, sometimes diametrically opposed to those of anatomy.[307]

Empiricism, Experience and the 'Case Study'

Matthew Hunter, in his book *Wicked Intelligence: Visual Art and the Science of Experiment in Restoration London*, describes 'educational reform which runs like a red thread through early modern natural philosophy'.[308] He characterises this thread of reform as one that rejected classical authority in favour of 'integrating new technologies, giving new credence to the evidence of observation, and profiting from an expanded field of printed sources'.[309] It is this reforming thread that is taken up in the images produced for Mauriceau and his contemporaries: adopting new engraving techniques; giving new prominence to the act of observing; and placing a new significance on the printed image as a conduit of knowledge. But the reforming thread also had another characteristic, which saw 'university-educated scholars [...] gaining new contact with and respect for the skilled manipulations of matter achieved by artists and craftsmen.'[310]

This new valuing of practical skills and empirical knowledge radically changed the discipline of medicine in this period. Harold Cook, for instance, describes the seventeenth century as one in which empiricism triumphed over theory: classical systems for understanding the body, such as 'the four elements, four qualities, four humours, six non-naturals, and the ways these combined to yield individual temperaments and constitutions' were gradually being discarded or superseded by 'empiricism and medical specifics'.[311] This change also destabilised the traditional rhetoric that endowed physicians with more authority than surgeons because the

[307] See Chapter 3, pp. 168-69.
[308] Hunter, *Wicked Intelligence*, p. 34.
[309] Ibid.
[310] Ibid. See also Smith, *The Body of the Artisan.*
[311] Harold J. Cook, 'Victories for Empiricism, Failures for Theory: Medicine and Science in the Seventeenth Century', in *The Body as Object and Instrument of Knowledge: Embodied Empiricism in Early Modern Science,* ed. by Charles T. Wolfe and Ofer Gal (Dordrecht: Springer, 2010), pp. 9-32 (p. 9).

former worked with theory and did not touch their patients, while the latter worked empirically, and with their hands.[312] Such hierarchies were never simple or concrete, as will be discussed further in Chapter 3, but this period saw the classical framework that placed theory, sight and hearing above investigation and touch begin to crumble.[313]

The privileging of makers and artisans of all kinds was also eagerly seized upon by midwifery writers, who, until this time, had suffered within hierarchies of medicine because their job was inextricably linked to physical practice upon the body,[314] and moreover on the female body in the vaguely shameful, vaguely polluted state of pregnancy and birth.[315] Indeed, the new value placed on manual skills was fundamental not only to the rise in status of midwifery practice, but also to the development of midwifery manuals: only when manual skills and empirical practice became more acceptable did midwifery become a professional medical discipline, and only then were manuals authored by those who also practiced.

In midwifery manuals, as in other medical texts, an important signifier of the new value placed on practical experience and empirical knowledge was the 'observation', or 'case study'. Lauren Kassell has described how a new genre of casebooks emerged in the second half of the seventeenth century, which recorded not learned theory but empirical experience of practice, and which served 'the dual purpose of advertising expertise and establishing credit.'[316] Gianna Pomata also notes how the genre of 'observationes' was 'an important sign of the new significance of observation itself in medical culture.'[317] Observations, or case studies, were

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[312] See Cynthia Klestinec, 'Practical Experience in Anatomy', in *The Body as Object and Instrument of Knowledge: Embodied Empiricism in Early Modern Science,* ed. by Charles T. Wolfe and Ofer Gal (Dordrecht: Springer, 2010), pp. 33-58.
[313] See Chapter 3 pp. 149-50.
[314] See, for example, Porter, 'William Hunter'.
[315] Pre-Reformation, the post-partum body was widely believed to be impure and in need of re-integration into the Christian community through the ceremony of 'churching'. By the late-seventeenth century, such ceremonies had largely been reformulated as 'thanksgiving', but it is a matter of debate among scholars as to whether the post-partum body was still considered impure. See Cressy, *Birth, Marriage and Death,* pp. 197-232; and Wilson, *Ritual and Conflict,* pp. 191-210.
[316] Lauren Kassell, 'Casebooks in Early Modern England: Medicine, Astrology, and Written Records', *Bulletin of the History of Medicine,* 88:4 (2014), 595-625 (p. 622-23).
[317] Pomata, 'Sharing Cases', p. 199.

descriptions of a particular patient or problem that the author had experienced. As experience of particular instances of a disease, sickness or medical complication became more important (and as knowledge of abstract medical theory became less important), collecting such cases became a good way for practitioners to keep a record of their findings, to draw connections, and to prove their experience.

Observations were an important development in midwifery manuals, too, not least because they signified that the author was also a practitioner and had first-hand experience of childbirth.[318] They often also functioned to defend the author's actions in particular cases, or to denigrate the actions of a rival. In the period treated in Chapter 1, cases in midwifery manuals are rare, because the authors tended not to be practitioners. But as soon as midwives did begin to write, we see the genre arise: Percival Willughby's manual, for instance, is full of first-hand accounts of specific labours he attended.[319] Mauriceau is again a transitional figure in this regard: his midwifery manual, published in 1668 in French and 1672 in English, followed the traditional format and contained no cases, but he perhaps came to see this as a flaw, as he published a separate volume of cases in 1694.[320]

An early French work that adopted observations as proof of newly valued empirical and manual skills was the midwifery manual by Cosme Viardel, *Obervations sur la pratique des accouchemens naturels contre nature et monsteux* [Observations on the Practice of Natural, Unnatural and Monstrous Deliveries] published in 1671, three years after Mauriceau.[321] Viardel's book largely follows the conventional framework, beginning with a section on theories of conception, then a second on labour itself and a third on ailments of the mother and the new-

[318] It is important to note that the terms 'observation' and 'case' had slightly different meanings depending on discipline, geography and period. Observation seems to have been used in midwifery manuals later than it was in the medical texts examined by Kassell and Pomata.

[319] Willughby, *Observations in Midwifery*.

[320] François Mauriceau, *Observations sur la grossesse et l'accouchement des femmes, et sur leurs maladies et celles des enfans nouveaux-nez, etc.* (Paris: [n. pub.], 1694).

[321] Viardel's manual went through three French editions (1671, 1674, 1748) and while it was never translated into English, his birth figures would have been familiar to some English readers because they were copied in the *Bibliotheca Anatomica* published in London between 1711 and 1714.

born infant. Yet in Viardel's manual, the second book is by far the largest and it is comprised of 'plusieurs observations que j'ay fait sur toutes les sortes d'accouchement, tant naturels que contre nature' [several observations that I have made on all the kinds of delivery, so much natural as unnatural].[322]

Little is known about Viardel, except that he was probably advanced in age by the time he published his manual, and that he was the Queen's surgeon, but not a member of the guild of surgeons.[323] This is significant because his lack of guild membership *could* have prevented his advancement within the profession, stamping him as a low-status practitioner. Yet his vast practical experience seems to have given him a different route to prominence, and this is reflected in his extensive publication of cases. As Pomata notes, the *sharing* of cases by medical professionals was a statement of status: while low status healers and quacks kept their remedies and experiences secret, knowledgeable professionals shared theirs for the good of the medical community.[324] Lianne McTavish notes that there was criticism of Viardel's bid for authority from guild members such as Mauriceau, but times were changing and case studies were soon a regular feature of the midwifery manual.[325]

Observations, therefore, both shaped and aided developments in practice, disseminating new discoveries and techniques, and helping midwife-authors to develop a new kind of public persona. The midwife-author Justine Siegemund provides an interesting case of this kind of persona production. As a prominent female midwife-author and emergency practitioner, Siegemund faced hostility from male practitioners. In one instance, a male physician publically accused her of malpractice – a libellous claim that she contested successfully in court.[326] Siegemund's manual is largely written as a dialogue between her alter-ego Justina and an imagined regular midwife Christina. But the manual also contains observations from

[322] Cosme Viardel, *Obervations sur la pratique des accouchemens naturels contre nature et monsteux* (Paris: The Author, 1671), Contents.
[323] McTavish, *Childbirth and the Display of Authority*, p. 133.
[324] Pomata, 'Sharing Cases', p. 231.
[325] McTavish, *Childbirth and the Display of Authority*, p. 133.
[326] Tatlock, 'Volume Editor's Introduction', p. 6.

Siegemund's practice and testimonials written by women she delivered. For Siegemund, in a precarious position as a female author in a field dominated by men, observations not only acted pedagogically to teach the reader, they were also a way to publically defend her actions and to support her claims to authority and knowledge. As Lynne Tatlock puts it, the 'format and composition of her book pointedly, indeed aggressively, invoke the authority of her own personhood and experience'.[327]

But Siegemund did not just use text to record observations, she took the radical step of turning birth figures into case studies. Indeed, it is important to recognise Siegemund's role in the changes to learned midwifery and its visual culture, as it is a realm so often assumed to be completely male, and completely divorced from female experience of childbirth. Yet in her manual, a set of seven birth figures are presented as a description not of presentations or interventions in general, but as a record of a *particular* case of arm presentation which Siegemund attended (Figure 27).[328] In the text, Justina describes the details of the case to her pupil with reference to the engravings:

> Look at this first engraving which shows you a child lying closed in quite tight and how I found it large and swollen and squeezed by the pains with all the waters run off too, and how it was impossible for me to push the child up high enough so I could get my arm far enough inside even to get to the nearest foot or the child's knee, just as you see here how my arm is swollen up large.[329]

Before this, birth figures had a much more abstract, general relationship to the actual body in labour. But Siegemund's birth figures are specific in a new way – they are visual 'observations'. They are not, however, images drawn directly *from observation.* They adopt the rhetoric of case studies and observational empiricism, yet they are just as much imagined constructions of an unseen bodily interior as other birth figures.

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[327] Ibid., p. 2.

[328] Siegemund's artists and engraver are unidentified, but she does report that she had the plates produced in Amsterdam. The two anatomical plates are copied from Bidloo and Reinier de Graaf, and the birth figures seem to have been influenced both by Viardel's and Mauriceau's images. See Tatlock, 'Volume Editor's Introduction', p. 15.

[329] Siegemund, *The Court Midwife*, pp. 130-31.

What these case study birth figures do provide, however, is a more specific description of the conditions of labour. The case they illustrate was one of severely impacted arm presentation, and we see the particular significance of the lack of room in the uterus reflected in the way the fetus is depicted as larger and more cramped in the uterus. In most of Siegemund's birth figures (see Figures 28-29 and 40), the vagina is shown cut open to display the cervix, but in this set (Figure 27), most show the vagina closed, to emphasise the narrowness of the space in which Siegemund worked.

For Siegemund, the case study birth figure was 'true' in a new way. It related specifically to an actual case, provided a record of the situation and a justification for Siegemund's actions – she *had* to remove the arm of the fetus before she could deliver it. The images, used pedagogically within the narrative of the text itself, also make an argument for the importance of case studies and empirical learning in the training of midwives. By publishing cases, in image and text, Siegemund and other midwife-authors ensured that a wide readership could learn from their personal experiences of specific cases. In this, we might understand Siegemund's book as a newly textual, public emulation of the old apprenticeship system, now valorised as empirical learning. As such, birth figures for Siegemund are an object lesson and a public defence, a teaching aid and a novel kind of professional accreditation.

The Mechanical Body

Along with the rise of observation, empiricism and the valuing of manual skills in midwifery and its imagery in the early Enlightenment, came a whole new way of conceptualising the world, described by Peter Reill as 'mathematical mechanism':

> during the first half of the Enlightenment, roughly from the late 1680s to the 1740s, this form of natural philosophy, expressed in a myriad of sometimes conflicting forms, displaced traditional Aristotelian natural philosophy. During that period, the central project of mechanical natural philosophy was to incorporate the methods and assumptions of formal mathematical reasoning into explanations for natural phenomena. Its overriding impulse was to

> transform contingent knowledge into certain truth, to reduce the manifold appearances of nature to simple principles.[330]

Mechanism was a theory brought to bear on many fields of research. It offered a framework in which the whole of nature could be reduced to a set of mathematical and mechanical laws, or as Jonathan Sawday puts it, it offered a 'masculine interpretation of the "mechanical laws" by which a feminized nature was held to function'.[331] It offered, therefore, the promise of knowledge and control of a world that had previously been understood as inherently various and mysterious.

Mechanism was particularly crucial to how anatomy was conceptualised at this time. According to Domenico Bertoloni Meli, this period at the end of the seventeenth century 'was the golden age of mechanistic anatomy: an increasing number of anatomists sought to explain the operations of the body in terms of machines of varying nature and complexity.'[332] Minsoo Kang further argues that 'the automaton, or a self-moving machine, emerged as the central intellectual concept of the period.'[333] Within this dominant framework, therefore, the body was no longer a place of mysterious humoral variety, but rather a concrete, mechanical structure powered, according to Cartesian dualism, by an immaterial soul.[334] In the eighteenth century, theories of anatomical and bodily mechanism moved away from dualism, fracturing and

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[330] Peter Hanns Reill, 'The Legacy of the "Scientific Revolution"', in *The Cambridge History of Science: Volume 4, Eighteenth-Century Science*, ed. by Roy Porter (Cambridge: Cambridge University Press, 2003), pp. 21-43 (p. 25).
[331] Sawday, *The Body Emblazoned*, p. 248.
[332] Domenico Bertoloni Meli, 'Machines and the Body Between Anatomy and Pathology', in *Modèle Métaphore Machine Merveille*, ed. by Aurélia Gaillard, Jean-Yves Goffi, Bernard Roukhomovsky and Sophie Roux (Bordeaux: Presses Universitaires de Bordeaux, 2012), pp. 53-68 (p. 53).
[333] Minsoo Kang, 'From the Man-Machine to the Automaton-Man: The Enlightenment Origins of the Mechanistic Imagery of Humanity', in *Vital Matters: Eighteenth-Century Views of Conception, Life, and Death*, ed. by Helen Deutsch and Mary Terrall (Toronto: University of Toronto Press, 2012), pp. 148-73 (p. 150).
[334] See Jessica Riskin, 'Medical Knowledge: The Adventures of Mr. Machine, with Morals', in *A Cultural History of the Human Body in the Age of Enlightenment,* ed. by Carole Reeves (Oxford: Berg, 2010), pp. 73-91.

diversifying into various 'materialist' and 'vitalist' factions in the search for scientific explanations for the human body and the world at large.[335]

While for some scholars the question of mechanism was a complex philosophical problem, as it spread to reach a wide audience of anatomists, physicians and lay people, it was often more simply employed as a way of conceptualising the bodily interior and explaining illness.[336] Bertoloni Meli describes how anatomical dissection began to resemble the process, in mechanics, of disassembling a machine into its simple constituent parts, in order to understand its make-up and functionality.[337] Mechanism made the body simple and rational, and it meant that anatomy could elucidate all of its secrets: a concrete mechanical body could, in theory, be studied and known fully – nothing could be hidden from the investigative gaze of the anatomist. As Sawday notes, anatomists:

> no longer stood before the body as though it was a mysterious continent. It had become, instead, a system, a design, a mechanically organized structure, whose rules of operation, though still complex, could, with the aid of reason, be comprehended in the most minute detail. At least, that was the theory.[338]

Mechanism was also employed in investigating 'the whole process of generation – from conception to birth', which, Eve Keller notes, was understood as 'the heart of Nature's mystery'.[339] While Keller suggests that conception and generation 'adamantly resisted reduction to mechanical explanation', it was nevertheless a widely applied theory.[340] Rebecca Wilkin, for

[335] Timo Kaitaro, '"Man is an Admirable Machine" – a Dangerous Idea?', *La lettre de la maison français d'Oxford*', 14 (2001), 105-22; Minsoo Kang, 'From the Man-Machine to the Automaton-Man'; and Ann Thomson, 'Mechanistic Materialism vs Vitalistic Materialism?', *La Lettre de la maison française d'Oxford*, 14 (2001), 21-36.
[336] See Séverine Pilloud and Micheline Louis-Courvoisier, 'The Intimate Experience of the Body in the Eighteenth Century: Between Interiority and Exteriority', *Medical History*, 47 (2003), 451-72 (p. 460).
[337] Bertoloni Meli, 'Machines and the Body', p. 56-57.
[338] Sawday, *The Body Emblazoned*, p. 31.
[339] Eve Keller, 'Embryonic Individuals: The Rhetoric of Seventeenth-Century Embryology and the Construction of Early-Modern Identity', *Eighteenth-Century Studies,* 33:3 (2000), 321-48 (p. 323).
[340] Ibid.

instance, has described how Descartes and other mechanists investigated the phenomenon of maternal imagination using a mechanical methodology.[341]

In most midwifery manuals, the theory and philosophy of mechanism was not much engaged with. But its broader influence as a way of understanding the bodily interior is plain to see in changes to how the pregnant and labouring body was described and visually represented. Mauriceau, for instance, exchanges earlier analogical descriptions of pregnancy and birth through crop-growing or housewifery, for a mercantile, navigational language.[342] In doing so, he imposes a technological order on nature's variety and creative faculty, engaging with a mathematical mechanism that could, in Reill's words, 'escape the perceived horrors of contingent – and hence, unsure – knowledge.'[343] He describes fetal presentation in the following terms:

> just as there are four Cardinal points, to which all the rest of the thirty two Winds may be reduced on the Compass, and to one of the four more than to the other, according as they participate of more or less of that point: so likewise all the particular and different wrong Postures, that a Child may present, can be reduced to the above-named four general ways, according as they approach more to the one than to the other of them.[344]

Mauriceau describes fetal presentation plotted onto a set of axes, akin to the four compass points. This system regularises the previously troubling, mysterious and multifarious problem of fetal malpresentation, suggesting not only a system for defining it, but consequently for controlling and correcting it. This is reflected, too, in Mauriceau's birth figures (Figures 21-23): the regular crucial incision, with four equal corners of uterine wall turned back, creates a square frame and a set of axes onto which fetal malpresentation can be plotted. The earlier floral openings of birth figures such as Rüff's (Figures 9-10), with their variable shapes, are here regularised, in accordance with a mechanical understanding of the body, to four cardinal points.

[341] Wilkin, 'Essaying the Mechanical Hypothesis'.
[342] See Mauriceau, *The Diseases of Women with Child*, pp. 57-58. This trend is identified with the period around 1700 more widely by Mary Fissell, see Mary Fissell, 'Remaking the Maternal Body in England, 1680-1730', *Journal of the History of Sexuality*, 26:1 (2017), 114-39.
[343] Reill, 'The Legacy of the "Scientific Revolution"', p. 27.
[344] Mauriceau, *The Diseases of Women with Child*, pp. 201-2.

However, the most significant development that mechanistic anatomy brought to midwifery was an increased attention to the pelvis. In traditional midwifery and midwifery theory, the pelvis had not been much thought-of, because it could not be seen or felt. Some authors averred that the pelvis broke during childbirth to allow the fetus to pass, while others declared that such a breakage was impossible and would prevent newly-delivered women from walking.[345] However, this debate was academic, and the general unconcern for the pelvis among midwives is expressed by Siegemund, who declared:

> Let us say the pelvic bones would have to part. Even so, it is not possible to know they do, because you cannot feel the pelvic bones on account of the flesh around the birth passage. Thus it is not necessary for you or me to know whether they separate because we cannot tell or get any information from it.[346]

Siegemund, along with many contemporaries, recommended making sure that the fetal chin did not catch on the pubic bone during a podalic or breech delivery, but she does not theorise more broadly on the mechanical process by which the fetus passes through this bony passage.[347] Such a knowledge, because she cannot know it from experience of the body, is irrelevant to her practice.

However, the midwife-author Hendrik van Deventer, who published his midwifery manual *Manuale operatien* in Dutch and Latin in 1701,[348] and in English in 1716, placed a new significance on knowledge of the shape of the pelvis and the relational position of the uterus:

> Perhaps it may seem strange to most, to instruct Midwives in the Knowledge of the *Pelvis* and its Bones, and of its various Form and Figure; but it is my Opinion that they are mistaken, who think the Knowledge of the *Pelvis* useless, or not necessary; I am so far from being of their Opinion, that I assert the Contrary; that it is not only useful to Midwives, but highly necessary, so that without a clear Knowledge of that Matter, they proceed uncertainly, and, make use of their Hands, like those that are blind, if they are sent for to assist a Woman in

[345] See, for example, [Wolveridge], *The English Midwife Enlarged*, pp. 44-49.
[346] Siegemund, *The Court Midwife*, p. 73.
[347] Ibid., p. 112.
[348] Deventer published an earlier book on midwifery, *Dageraet van vroet-vrouwen,* in 1696, but it was unillustrated and seems not to have been widely known or disseminated. It was the manual of 1701 that was translated into Latin, English and French; saw multiple editions; and for which the birth figures were produced.

> Labour, when the Infant is in an ill or unnatural Posture, so that they must be guilty of a great many Mistakes.[349]

Deventer was born in the Netherlands and joined the Labadist religious sect as a young man. In this community, he trained as a physician, maintaining a special interest in rickets. Likely learning from and working with his wife, who was a midwife, Deventer also came to practice emergency midwifery.[350] Deventer's book introduced many ideas new to midwifery and became highly influential in English midwifery after its translation in 1716.[351] According to Wilson, it included 'the first account of the size, shape and obstetric significance of the female pelvis'.[352]

Deventer's major new theory was that the uterus could be positioned in various ways in relation to the pelvis: if the uterus was tilted, in labour it would direct the fetus against, rather than through the pelvis, causing an obstructed labour. Deventer also published a new technique in which the coccyx is pressed back to afford more room for the fetus to pass through the pelvis; and he described the problems that a rachitic pelvis could cause in labour. Deventer's attention to the pelvis involved a much more detailed, mechanical understanding of labour and childbirth, including how parts of the body that could not be seen or felt were shaped, moved, and interacted with each other. As Deventer writes:

> a Midwife cannot altogether make a true Judgment by the Touch, who does not know [...] how the Secret Parts of Woman answer the *Pelvis,* &c. For one that is unskilful in these Things, can neither distinguish what is sublime, depressed, direct or oblique, prone, or supine, but labours under a perpetual Confusion of Thought[353]

For Deventer, it was not sufficient for the midwife to know the body's exterior, nor even to be able to conduct such interventions as podalic version in the body's accessible interior. He argued

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[349] Hendrik van Deventer, *The Art of Midwifery Improv'd. Fully and Plainly Laying Down Whatever Instructions are Requisite to Make a Compleat Midwife and the Many Errors in All the Books Hitherto Written Upon this Subject Clearly Refuted* (London: E. Curll, J. Pemberton and W. Taylor, 1716), p. 18.
[350] See Lieske, ed., *Eighteenth-Century British Midwifery*, III, pp. 159-60.
[351] See Lieske, ed., *Eighteenth-Century British Midwifery*, III, p. 160; and Wilson, *The Making of Man-Midwifery,* pp. 79-91.
[352] Wilson, *The Making of Man-Midwifery*, p. 79.
[353] Deventer, *The Art of Midwifery Improv'd*, p. 303.

that, on top of these skills, the midwife needed to have an abstract, mechanical, technical picture of how the body worked and fitted together. Previously, birth figures had provided midwives with pictures of those parts of the body that they could touch but not see: the vagina, cervix and interior of the uterus. But Deventer's birth figures, produced by Philibert Bouttats (Figure 31) and copied in the English edition by his pupil Michael van der Gucht (Figure 30), incorporate the pelvis and the spine, as well as the contour of the belly, not only making the picture of childbirth more anatomical and mechanical, but also more theoretical.[354] While what can be known through sight and touch is still at the heart of Deventer's midwifery, this knowledge is combined with a theoretical grounding in building a three-dimensional and mechanistic picture of the entire physiological system of birth. Such images are not a peek into a mysterious bodily interior, but a careful, complete description of the mechanics of a labour.[355]

Deventer's ideal of a newly mechanical birth figures was, however, problematic both for the author and viewer. These birth figures, unlike those that had gone before, showed the body from different perspectives. We tend to assume that all birth figures show a frontal view, with the uterus opened at the mother's belly, as it would be in a dissection. However, the perfect roundness of the uterus, and its excision from the bodily context make this uncertain. Indeed, this uncertainty is manifest in the first two birth figures in Mauriceau's manual (Figure 21), which seem to show the fetus facing forwards, towards the mother's belly, and backwards, towards her spine. Reading the accompanying text, however, indicates that these images actually show the *same* presentation, from the front and back.[356] Traditional birth figures, therefore, were ill-equipped to describe horizontal rotation, but this was less of a problem before a mechanical

[354] Many of the plates bear the legend 'Phi. Bouttats fecit', which suggests that Bouttats, known as an engraver of book illustrations, was both the draftsman and engraver.
[355] As such, Deventer's birth figures are a clear precursor to those produced in the mid-eighteenth century for William Smellie. This link, and the fact that Deventer is rarely credited for his role in breaking the ground for midwives like Smellie, is discussed in Chapter 5.
[356] François Mauriceau, *Traité des maladies des femmes grosses et accouchées* (Paris: Jean Henault, Jean D'Houry, Robert de Ninville and Jean Baptiste Coginard, 1668), p. 229; and Mauriceau, *The Diseases of Women with Child*, pp. 169-70.

understanding of the pelvis was assimilated into midwifery. Fetal rotation was, before this time, not quite irrelevant, but much less important than fetal presentation.

By adding the pelvis and spine, Deventer's birth figures gained a new capacity to describe the horizontal rotation of the body, giving views from the front and the side. While this new kind of view purported to give midwives a more comprehensive understanding of how childbirth worked, and thus more guidance for delivery, it also required new interpretative skills on the part of the viewer in order to *unlock* this new understanding. Firstly, viewers needed to have a three-dimensional understanding of the pelvis in order to read the degree of rotation. Such knowledge was not widespread, as is indicated by Thomas Dawkes' midwifery manual of 1736, which is written as a dialogue between a physician and a midwife. The physician declares that 'the PELVIS is of so odd a Figure, that I cannot undertake by Words, to give you any tolerably satisfactory Description of it', electing instead to show the midwife a prepared skeleton because viewing it will give 'a better and much truer idea of it, than Words are capable of expressing'.[357] Dawkes' use of a skeleton as a midwifery teaching tool is certainly a borrowing from anatomy: it serves to give a more mechanistic and anatomical understanding of childbirth, as well as to establish with expensive and specialist objects his authority over the midwife. The text suggests that, in the early eighteenth century, knowledge of the pelvis was still something that regular midwives were not expected to have – something that they might learn only from a surgeon or physician. This must have made Deventer's birth figures a distinct interpretive challenge for many midwife viewers.

Apart from osteological knowledge, the viewer is also expected to be able to interpret a mixture of representative systems. In Deventer's birth figures (Figures 30-31), the fetus and pelvis are depicted as concrete, three-dimensional objects. The uterus is also physically concrete, nestled in the basin of the pelvis, but with the traditional imagined cut-through giving a view of the fetus without releasing it or the waters. However, the outline of the belly works in

[357] Thomas Dawkes, *The Midwife Rightly Instructed: Or, the Way, which All Women Desirous to Learn, Should Take, To Acquire the True Knowledge and Be Successful in the Practice of, the Art of Midwifery* (London: J. Oswald, 1736), pp. 24 and 25.

a different mode, a two-dimensional line that does not fit into the three-dimensional world of the bones and uterus. It is oddly layered between the spine and the uterus and pelvis, employing a more abstract mode for describing how the body's exterior shape fits with this interior view. Bouttats, in this case, was faced with the problem of representing multiple elements which visually obscure each other. His solution is reminiscent of the way that bodily elements are shuffled together and layered in early modern flap-anatomies.[358]

These birth figures, therefore, require the viewer to read in multiple modes: three-dimensional and concrete bodily elements; rotation; imagined cut-aways; and bodily elements layered not as they are actually arranged in the body, but rather so as to give the most comprehensive view. In some birth figures (see Figure 31 ii-iii) we are given a side-on view, and the *os ilium*, which would normally obscure the view of the fetus, has a wiggly cut-through window which we are to understand as an imagined view rather than a physical property of the bone. While our own visual culture trains us to read such diagrammatic representational systems with ease, it was clearly more of a problem for Deventer, who complained to his reader that 'it is very difficult to represent all the Bones which constitute the *Pelvis* in their natural Position or Constitution at once, because the one Part being in view, easily obstructs the Sight of the other'.[359]

Indeed, Deventer writes explicitly about the difficulties of producing these newly mechanical, three-dimensional images of the body when glossing Figures 34-36 (Figure 31):

> the Engraver could not satisfy my Desire in expressing accurately the genuine Postures of those Infants: But afterwards most of the Figures being engraved, when I read over again the Description of the 34th Figure, to see if it was to be corrected; then, indeed, I perceived that his Figure would afford but little Light to the Reader, except I explained this by the other two, that he might see one and the same Figure on every Side; wherefore I added this double Figure.[360]

[358] For examples, see Figures 12 and 62; Karr Schmidt, *Altered and Adorned*; and Massey, 'The Alchemical Womb'.
[359] Deventer, *The Art of Midwifery Improv'd*, p. 18.
[360] Ibid., p. 274.

The passage gives a rare glimpse into the development process of an illustrated midwifery book. Clearly, Deventer gave Bouttats an initial brief on the figures, and then undertook an extensive editing process. Here, he is both unsatisfied with Bouttats' attempt, and frustrated with the capacity of images in general to describe the body, finding that three images must be made to describe one presentation. Indeed, there is further confusion and disjoint between text and image in that Figure 36 (Figure 31 iii) actually depicts a different presentation from the preceding two: with the fetus's back towards rather than away from the maternal spine. Such experiments, trials and confusions reveal the great difficulties artists and authors of the period had with inventing and employing new representational modes, and thus how important a project the production of such images was felt to be.

This newly technical style of representation was a challenge for both author and artist because they were creating a new iconography of the body, using what Kostelnick and Hassett, in their book *Shaping Information*, term 'conventions'.[361] Kostelnick and Hassett argue that conventions allow designers and viewers to agree on the meanings of particular systems of representation, but they are also in a process of constant change driven by both artists and viewers. The development of new conventions allows for innovation and change, but it also opens the possibility of misinterpretation. A convention only works once established: when the artists and viewers are in rough accord as to what it means, and this is the problem faced by Bouttats and Deventer, who found that the new information they wished to impart would necessitate new conventions of visual language that might not be widely readable.

In facing this challenge, Bouttats and Deventer turned to the representational systems of other disciplines. In the quest to depict the body as a three-dimensional, mechanical object, for instance, Bouttats adopted conventions from mechanical illustration. Paolo Galuzzi has noted that the fifteenth century in Italy saw the rapid growth of a technical visual language to

[361] Charles Kostelnick and Michael Hassett, *Shaping Information: The Rhetoric of Visual Conventions* (Carbondale, IL: Southern Illinois University Press, 2003).

describe machinery.[362] He describes this new language as being based on developments in perspectival drawing, citing Leonardo da Vinci as having 'an exceptional mastery of perspective: views in elevation and in plane, exploded views, and geometrical schematisations.'[363] Galuzzi, moreover, associates da Vinci's technical drawings with his anatomical ones, noting that his anatomies are 'extraordinarily innovative' because the representational style 'does not derive from a dilation of observation, but appears rather as a transfiguration of reality through drawing, in order to visualise the direct and necessary connection between observed evidence and intrinsic causes'.[364] It is highly unlikely that Bouttats or Deventer would have had direct access to da Vinci's drawings, which were not well known or widely disseminated until later in the eighteenth century. However, the distinction between a simple observation and a more diagrammatic visual explanation of functions and causes is something that came slowly to characterise both mechanical and anatomical diagrams in the intervening centuries. By the late seventeenth century, exploded views, rotations and cut-throughs were all common to the visual language of mechanism, and were adopted by Bouttats and Deventer to describe their newly mechanical pregnant body. Indeed, this association of the body with mathematical mechanics is made clear by Deventer, who demands:

> Away with this Negligence, and this pernicious Ignorance of Midwives, who know not how to relieve a Woman or Infant seasonably. But who shall accuse them, who had never been taught better? Hitherto no Body had explained this Art *upon firm and mathematical Foundations and Demonstrations*; [my italics] What Wonder is it then, if they continue inn such thick Clouds of Ignorance?[365]

While the adoption of such a mechanical visual language allowed Deventer to express his new understanding of the body, it was also another way in which the images became less readable to a general audience. Many midwives with limited education would not have been familiar with the representational conventions borrowed by Deventer and Bouttats from mechanics.

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[362] Paolo Galuzzi, 'Art and Artifice in the Depiction of Renaissance Machines', in *The Power of Images in Early Modern Science*, ed. by Wolfgang Lefèvre, Jürgen Renn and Urs Schoepflin (Basel: Birkhäuser, 2003), p.47-68 (p. 47).
[363] Ibid., p. 55.
[364] Ibid., p. 61.
[365] Deventer, *The Art of Midwifery Improv'd*, p. 249.

Thus, in his drive to help midwives to a more thorough understanding of the body, Deventer actually contributed to a rift in practice and understanding – between the untrained regular midwife and the medically trained emergency midwife – that was to stand for centuries.[366] Mechanical birth figures can be understood as an important element of visual culture in the early Enlightenment – as contributing to new understandings of the body. However, these images were less widely seen and read than those that had gone before, they were part of a visual culture that was smaller, more rarefied, and more confined to the thinking of an educated elite. The new and complex conventions they employed effectively excluded many kinds of lay viewer.

Manual Skills and the Technical Image

The increased value placed on empirical learning, observation and manual skills, as well as the rise of a mechanical view of the body, led to wholly new ideas both about how the body could be understood, and how it could be represented. For birth figures, this was reflected not only in the introduction of case study images and the use of a mechanical visual language, but also in the production of abstract, technical and diagrammatic conventions.

Midwifery manuals were, in this adoption of the technical, part of a wider trend which saw, in the late seventeenth century, an explosion of print material describing and discussing knowledge of all kinds – from physics to religion – and the rise of images as a means for thinking through and representing new kinds of knowledge. Particularly, as Lori Anne Ferrell has noted, this period saw the development of the 'how-to' genre:

> Whether in luxury folio or cheap quarto, the prefaces to how-to books spoke immediately to a non-Latinate class. They flattered readers with the promise of insiders' knowledge, extolled the usefulness of the information they purveyed, and touted the merits of their newly devised methods – especially those

[366] This rift, between the visual and textual culture of educated emergency midwives and largely uneducated regular midwives, is also discussed in Chapter 5, pp. 232-33.

> methods' capacity to impart information accessibly. They often ascribe their pedagogical effectiveness to the material formatting of their contents.[367]

Such books purported to give information and to teach skills that had previously been secret, protected by professional guilds and societies. They formed part of what Ferrell calls the 'loudly clamoring world of new information'.[368] These books were creative and various in their use of images to teach knowledge and skills, and often employed abstracted, technical and diagrammatic modes.

However, addressing the diagrammatic or technical image within art historical research can be challenging. As James Elkins has noted, for a long time, such images were not considered to be within the scope of art historical study because they were 'like half-pictures, or hobbled versions of full pictures, bound by the necessity of performing some utilitarian function and therefore unable to mean more freely.'[369] However, in what Peter Miller has called a 'healthy imperialistic grab by art historians', all kinds of images encompassed under the term 'visual culture' – from advertising to cheap print to scientific images – have become part of the discipline in recent decades.[370]

Since this diversification of attention in art history, individual scholars and research groups have addressed different kinds of technical image.[371] Scholars such as Elkins have also discussed exactly why and how the exploration of such images is worthwhile. Indeed, my own analysis of birth figures follows Elkins' argument that what he calls 'information images':

> engage the central issues of art history such as periods, styles, meanings, the history of ideals, concepts of criticism and changes in society; that they can present more complex questions of representation, convention, medium, production, interpretation, and reception than much of fine art; and finally, that

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[367] Lori Anne Ferrell, 'Page *Techne*: Interpreting Diagrams in Early Modern English 'How-To' Books', in *Printed Images in Early Modern Britain: Essays in Interpretation,* ed. by Michael Hunter (Farnham: Ashgate, 2010), pp. 113-26 (p. 115).
[368] Ibid.
[369] Elkins, 'Art History and Images that Are Not Art', p. 553.
[370] Peter N. Miller, 'Foreword', in *The Technical Image: A History of Styles in Scientific Imagery,* ed. by Horst Bredekamp, Vera Dünkel and Birgit Schneider (Chicago: University of Chicago Press, 2015), pp. viii-x (p. viii).
[371] For a picture of the scope of research on the technical image, see Horst Bredekamp, Vera Dünkel and Birgit Schneider, eds., *The Technical Image: A History of Styles in Scientific Imagery* (Chicago: University of Chicago Press, 2015).

> far from being inexpressive, they are fully expressive, and capable of as great and nuanced a range of meaning as any work of fine art.[372]

However, the newness of this field of art history, as well as the fact that it is highly multi-disciplinary, has led to a lack of cohesion in how to address, analyse, discuss and even describe technical images.

There is much work to be done, therefore, in the art historical analysis of diagrams and technical images, though such research is unlikely to reach any consensus on what diagrams are, or how they function, because of the wide diversity and creative potential of such images. Here, I adopt Brian Baigrie's simple definition that technical images 'are not meant to depict a world but are designed to help us to conceive how it might work'.[373] They are in some degree abstracted images that aim to describe not how something can be sensed, but more fundamentally how it functions. To a certain extent, birth figures fall into this category because the living bodily interior they describe *couldn't* be directly experienced, and was represented in images in partly observational, and partly abstracted and diagrammatic modes.

Indeed, the fact that birth figures are hybrid images – incorporating observational as well as abstract modes of representation – means that they are not often addressed by scholars of technical images, who tend to favour more completely abstracted images. However, as this thesis demonstrates, early modern print images employed multiple modes of representation, and were read in an open, creative, pluralistic way by contemporary viewers. In some ways, birth figures described what the bodily interior looked and felt like, but they were also abstracted, technical images that described how it worked. They were, as Lianne McTavish puts it, 'structures promoting thought.'[374]

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[372] Elkins, 'Art History and Images that Are Not Art', pp. 553-54

[373] Brian S. Baigrie, 'Descartes's Scientific Illustrations and "La Grande Mécanique de la Nature"', in *Picturing Knowledge: Historical and Philosophical Problems Concerning the Use of Art in Science*, ed. by Brian S. Baigrie (Toronto: University of Toronto Press, 1996), pp. 86-134 (p. 87).

[374] McTavish, *Childbirth and the Display of Authority*, p. 190.

Birth figures have always had a diagrammatic, abstract element to them, but the early Enlightenment saw midwife-authors and their artists introduce new diagrammatic conventions with the aim to teaching new kinds of knowledge. Both Siegemund and Viardel saw their birth figures as images which could not only teach modes of thinking and understanding the body, but also specific techniques and manoeuvres for aiding or ameliorating childbirth. They produced birth figures which, for the first time, described movements in space and time, using two modes borrowed from technical imagery: the operative hand, and the image in series.

The iconographic convention in which disembodied hands enact skilled movements is likely an early modern invention. E.H. Gombrich has suggested that 'a treatise on the art of catering of 1639' was perhaps 'one of the first to illustrate the exact position of the hands in performing the task as well as the desired result'.[375] Certainly, the disembodied demonstrative hand is closely associated with the instructional and technical literature which burgeoned in the seventeenth century. Such hands are to be found in many surgical illustrations of the seventeenth century, but they were first introduced into midwifery manuals by Mauriceau and Viardel. Mauriceau's manual contains an illustration showing how the hands should be positioned to pull on the umbilical cord to aid delivery of the placenta (Figure 32). These hands divorce the action of pulling from the actual bodily context of labour, but they may have been an influence on Viardel's images, which introduce the operative hand into the birth figure itself. These images describe how to 'touch' the labouring woman – feeling the cervix to establish fetal presentation – and how to manipulate and exert traction on the fetus in order to deliver it (Figures 33 and 50). The introduction of hands into the birth figure closes the gap between practice and image, encouraging the viewer to imagine themselves as the practitioner, seeing in the image their own hand and arm operating on the labouring body. Thus, the way the body is haptically experienced by the practitioner, and how it is visually represented by the artist, are brought closer together. These birth figures teach not only how to visualise the body, but also

[375] E.H. Gombrich, *The Uses of Images: Studies in the Social Function of Art and Visual Communication* (London: Phaidon, 1999), p. 236.

how to practice upon it – the hands and arms elegantly describing how the fetus can be felt, manoeuvred and delivered.[376]

It seems likely that Siegemund saw Viardel's images, for hers employ the same convention of the operative hand, represented up to the elbow, delicately practicing upon the bodily interior (Figures 27-29 and 40). Siegemund understood the potential of images to teach various kinds of knowledge and practice, and they hold a remarkably central position in her pedagogy. As discussed in Chapter 1, images were not only key to how Siegemund herself learned to practice midwifery, but also how she chose to teach it.[377] When commissioning her own birth figures, she adopted Viardel's operative hand, but she also introduced another technical mode of representation – the image in series – and she introduced a new level of cohesion between image and text. These innovations extended the birth figure's ability to describe manoeuvres and techniques by depicting, over a series of images and accompanying text, movement in time.

For one set of five birth figures that describe Siegemund's method for podalic version (Figure 29), Siegemund provides the following textual gloss:

> look at figure 17; it shows you, as I said before, how the midwife intervenes by introducing her entire arm, along with the little rod, into which a string has been pressed, how her left hand has to get it to her right hand, how her right hand takes hold of the loop from the little rod and removes it, and how she puts the loop round the child's foot. Look at figure 18; you will see how to snare the child and how you can do it in such postures when the child's feet are up above its body. Figure 19 shows how to intervene by turning the child, namely, how your left hand pulls on the feet, which have had loops put round them, how your right hand makes some space for the feet by pushing up the child from under its arm, and how the child is pulled out little by little. Take a look at the child's legs so you can see the woman cannot be hurried and the midwife cannot pull the feet at once with her hands. Figure 20 shows more of turning where the child is already turned over, how, by being pulled and pushed up, it gradually can yield until it is finally born up to the head, as figure 21 indicates[378]

[376] The operative hand will also be addressed in terms of touch in Chapter 3.
[377] See Chapter 1, pp. 57-59.
[378] Siegemund, *The Court Midwife*, p. 111.

Siegemund blurs the divide between the reader and the fictionalised interlocutor Christina: we both sit and regard the same engravings, our eyes and our understandings guided by Siegemund's instructive words. We both look where she indicates, note what she thinks is important, and build up a picture of how podalic version works in the invisible bodily interior. The text encourages us, moreover, to read the images as 'snapshots' of the fluid and four-dimensional process of manual intervention. Where the hand goes, how it moves, and over what time, are all described by this series of images in a way that single, distinct birth figures could not achieve.

With these images, Siegemund also weds text and image together with a new closeness. The two media complement each other, the image giving us a better picture of the placement of the hand in the uterus, the text clearing up the vagaries of directional movement and purpose, as well as embellishing the visual medium with haptic descriptions. The text also gives a sense of pace: as we read it, and as our eyes move between it and the images, we are nudged into an awareness of time passing as movements happen. Siegemund's careful, instructional tone guides our interpretation of the images, as pictures that together show fluid movement. She encourages us to imagine our own hands making these movements, as well as to imagine the mechanical processes and material reality of the bodily interior: our hand will fit here; we must move slowly at this point; the ribbon will help keep a firm grip on the slippery leg. Siegemund saw, in a new way, how print could be used to evoke the whole sensorium of midwifery practice and to impart, through looking and reading, embodied knowledge.

Indeed, Siegemund uses rhetoric that draws direct parallels between the process through which a print is made, and through which manual skills can be acquired. Her birth figures, she argues, through looking and handling, could 'impress' knowledge of the body and of midwifery practice onto the mind of the viewer.[379] As discussed in Chapter 1, print images of the body were materially powerful, able to change the mind and the body of the person who looked at them. The way that a plate impresses an image onto paper mimicked the way that the

[379] Ibid., p. 54.

sight of the image would impress itself onto the understanding of the viewer. While earlier in the century, such material power was often cast in religious or wondrous terms, here it is given an Enlightenment twist. So Siegemund's fictional pupil declares 'I can grasp it better by looking at a copper engraving together with a detailed report than from the report alone. The copper engravings light up my eyes as it were and place understanding in my hands'.[380] The rhetoric of illumination, of making clear and showing truth that was fundamental to the Enlightenment, is here associated with the birth figure. Moreover, the prints endow understanding not only visually into Christina's mind, but physically into her hands. The birth figure becomes a conduit for both empirically observed knowledge, and empirically learned skills.

Regarding Failure and the Case of the Spacious Uterus

Siegemund's passage suggests that her images have the capacity to teach practice seamlessly, to endow knowledge and ability on the viewer. However, just as Deventer encountered problems in the depiction of the new three-dimensional, mechanistic body, so did Siegemund in reconciling the technical and diagrammatic elements of her birth figures with the drive towards observational, naturalistic representation. These two modes of representation were both part of the early Enlightenment project to advance the birth figure, but they represented the labouring body in very different, potentially contradictory ways, and reconciling the two seems to have caused Siegemund a multitude of problems.

As had been the case since Raynalde's *The Byrth of Mankynde*, with its anatomical images copied from Vesalius, Siegemund's manual combined birth figures with the cutting edge in anatomical imagery. She commissioned copies of anatomical images produced for the anatomists Govert Bidloo and Reinier de Graaf (Figure 34). But, as already discussed, early Enlightenment midwife authors also adopted a more observational, anatomical style in the birth figures themselves, and this new style did not sit well with more symbolic, diagrammatic, and

[380] Ibid., p. 130.

technical modes. This contradiction seems to have come to a head in a debate over the spaciousness of the uterus. As discussed in Chapter 1, the large, spacious, balloon-shaped uterus had always been a representational convention geared towards giving a clear understanding of fetal presentation, rather than an accurate depiction of the amount of space in the uterus during labour.[381] And while the spacious uterus was retained in the birth figures of the early Enlightenment because of this capacity, authors became newly anxious that this diagrammatic mode might be misread as observational. Of the spacious uterus, Deventer wrote:

> it is not to be thought, that an Infant can be turned suddenly at once, and be freely turned every way, as if it were in a wooden Vessel; by no means; if it be too much confined in the Womb, if you should turn it all at once, either you would hurt the Womb or the Infant.[382]

Siegemund, too, was anxious to emphasise that the spacious uterus was a device that did not literally correlate with the body the midwife encountered in practice. Both authors attempt to counter this potential misinterpretation with quotidian similes. Deventer identifies the uterus as *not like* a barrel, Siegemund identifies it as *like* a wet cloth clinging to the body:

> The child lies in the womb as in a wet cloth that clings to the child's body. So consider this then: what if I had on a wet chemise that was over my head as well and you were to pull me out of it? I will show you the reverse: pulling the chemise off me ought to be possible, while pulling me out of the chemise is certainly possible, but hard; however, it would be harder still if I were to be turned around in it.[383]

In both cases, a description of an everyday tactile experience is intended to emphasise, through contrast, the non-material, diagrammatic mode in which the *image* represents the body: one should not read the spacious uterus an observational description of the body, it is not rigid and spacious like a barrel, but close and clinging like wet cloth. The point is that neither author wants to *give up* the spacious uterus: the mode works much better than observational anatomy for describing fetal presentation and practice. But they *do* want to control the way in which the

[381] See Chapter 1, pp. 60-61.
[382] Deventer, *The Art of Midwifery Improv'd*, p. 229.
[383] Siegemund, *The Court Midwife*, p. 105.

viewer interprets the image, directing reading in different modes to different aspects of the image.

Siegemund dealt with the disparity between observational and diagrammatic modes by producing one set of birth figures which aimed to give a more materially accurate picture of the bodily interior. This series of images has already been discussed in this chapter for its innovative depiction of a particular case attended by Siegemund (Figure 27). Returning to Siegemund's textual description of the images, her preoccupation with the spacious uterus becomes clear:

> Look at this first engraving which shows you a child lying closed in quite tight and how I found it large and swollen and squeezed by the pains with all the waters run off too, and how it was impossible for me to push the child up high enough so I could get my arm far enough inside even to get to the nearest foot or the child's knee, just as you see here how my arm is swollen up large.[384]

Siegemund uses descriptive, haptic language to emphasise that these images give more attention to how the body is experienced, than to how it functions in the abstract. But, as with all birth figures, these images still combine the observational with the diagrammatic, simply leaning more towards the former. It is the ability of the birth figure to work in multiple modes that made it so widely-used and long-lasting a form, but this does not mean that all birth figures communicated successfully in multiple modes. Siegemund, it seems, wanted these birth figures to remain 'practitional' while also adhering more strictly to the visually and haptically observed reality of the body. Certainly, they show the fetus more cramped in the uterus, and they show how little space there is for the practitioner's hand. But in the attempt to still *also* show process and position, the artist has produced images that are much less convincing, indeed much less readable, than others in the book. Indeed, the style and quality of the engraved line in this set of birth figures suggests that they were produced by a different, less skilled engraver. The fetus is not nestled tightly into the uterus, as it is in the observational anatomy copied from Bidloo (Figure 34), but it is also not clearly demonstrating position and placement of limbs, as the regular birth figures do (Figure 29). How the head attaches to the body and where the non-

[384] Ibid., p. 130-31.

presenting arm is positioned is often unclear in this set of images. The result is birth figures that, rather unfortunately, bespeak a violent impossibility in the act of turning and delivering a child. They do not seem 'realistic', but neither do they have the easy flow of more abstract birth figures.

The early Enlightenment saw midwife-authors experimenting with various new conventions for describing the body in labour and midwifery practice. Some, such as Deventer's inclusion of the pelvis and mechanistic representation (Figures 30-31), were widely adopted in the eighteenth century, while others, such as Siegemund's birth figures depicting a specific case (Figure 27), went unrepeated. Ultimately, however, the problems, difficulties and insufficiencies experienced by both authors in the production of their birth figures must not be dismissed from histories of midwifery or visual culture for being failures on the part of the author or the artist, or for being poor examples of the genre. Rather, they are the best evidence we have for understanding how these early Enlightenment midwife-authors engaged thoughtfully and creatively with the potentialities of images. Experiment with representational modes should be understood as an inherent part of a discipline in transformation. The way birth figures were moulded to communicate new kinds of knowledge can give us a rich picture of the period's body culture. If the observational conflicts with the diagrammatic in these images, then perhaps we may say that it reflects a similar struggle occurring within body culture more broadly, as the cohesive hegemony of classical medicine was broken open by a variety of new approaches.[385] Thus, the early Enlightenment experimentation with birth figures shows how adaptive the form was, how it responded and remained relevant to midwifery practice, bodily understanding and visual culture as those disciplines changed. These birth figures are crucial to understanding midwifery in the period: they make clear the links with earlier image practices and modes of knowing, and they point the way to the midwifery culture of the mid-eighteenth century, which is too often understood as an unprecedented and radical advancement.[386]

[385] See, for an exploration of the new variety of modes for treating the body, Stolberg, *Experiencing Illness,* pp. 73-74.
[386] See Chapter 5.

Addressing Viewers and Interpretations

While it is worth establishing Mauriceau, Deventer, Viardel and Siegemund as innovative figures who developed and diversified the birth figure in the quest to communicate new kinds of knowledge, it is equally necessary to take into account how such innovative images were actually read and understood by different kinds of contemporary viewer. This history is challenging to reconstruct, because people did not regularly record how they deciphered or understood images. Indeed, in the case of birth figures, one of the richest sources for understanding how viewers read and misread images comes from the midwife-authors themselves, in moments when they vent frustration at the problems inherent in their educative projects.

Midwife-authors of this period often understood their midwifery manuals as proxies that could teach the reader in place of an instructor. Images and text worked together to communicate the physical experiences, abstract understanding and manual skills that midwives traditionally gained through practice. Such books were presented by their authors as wondrously portable, reproducible and affordable reconstructions of the whole empirical, practical experience on which midwifery as a profession was founded. Indeed, Deventer's second volume, *Nader vertoog* (1719), translated into English in 1724, contains several letters of approbation, one of which reports how a physician used the book in exactly this way – as a proxy for Deventer himself – to instruct a local regular midwife:

> I, theoretically, at least, instructed her with your Counsel and Admonitions; which having willingly received, and successfully put in practice, it is a wonder how much Benefit thereby accrued to the Public, so that the said *Midwife* is not only called abroad to Women in Labour of the Prime Nobility, but several other Women also, who have hearkened to her Instructions.[387]

The book, standing in for Deventer, is credited with turning a regular midwife into an emergency midwife, a practitioner to nobility, and a teacher in her own right. Mission accomplished, except

[387] Hendrik van Deventer, *New Improvements in the Art of Midwifery* (London: T. Warner, 1724), pp. xxvii-xxviii.

for the tricky presence of the letter's writer – a trained physician who acts as intermediary between book and midwife. It was uncomfortably obvious to these early Enlightenment midwife-authors that, as their manuals became more engaged with new kinds of knowledge and practice, they simultaneously became less accessible to the regular midwives for whom they were intended. Authors were, in fact, rather uncertain about how many of these uneducated regular midwives would gain any benefit from the newly technical manuals.

Indeed, authors as widely spaced as Percival Willughby in 1670s England to Madame du Coudray in 1750s France, provide ample examples of regular midwives who, even when presented with both books and emergency midwife teachers, failed to learn or adopt the new practices and understandings they were taught. Both Willughby and du Coudray report cases of midwives who were taught a new technique of emergency midwifery, but who were later discovered to have abandoned, or even absolutely forgotten, the practice.[388] Whatever midwifery manuals claimed, the developments of empirical observation, mechanical thinking, and medical interventions inside the uterus, all remained largely foreign, largely unwelcome concepts for many regular midwives and the women they attended. Outside of urban centres such as London and Paris, traditional practices and systems for understanding the body were upheld by communities and regular midwives. Older midwifery manuals were still printed, circulated and used by midwives, and newer ones may not have been used as intended by the authors, either through an inability or an unwillingness to understand on the part of the reader.

Indeed, authors were all too aware of the actual differences between a printed text or image, and how it was experienced by the viewer. Deventer's manual, for instance, includes a remarkable passage in which he imagines a horde of regular midwife readers carping at him from the other side of the medico-perceptual divide:

> But methinks I hear the Midwives crying out against me; *Whatever you write, there is a great deal of Difference betwixt Saying and Doing: Things do not always succeed according to our Thought: Who can know all Things so*

[388] See Nina Rattner Gelbart, *The King's Midwife: A History and Mystery of Madame du Coudray* (Berkeley: University of California Press, 1998), p. 226; and Willughby, *Observations in Midwifery*, p. 126.

> *accurately? And though we could know, yet our Women will not suffer it; they will not be touched, except with one or two Fingers at the most, and so that you must not put them to Pain, for they will suffer no Hardships, especially those that are rich, who will not be handled, except with the softest Touch.* I answer, That I am not ignorant that there is a great deal of Difference betwixt Saying and Doing, and that it is easier to write of this Matter, than to perform it well.[389]

Through the voice of these imagined midwives, Deventer is able to admit what all authors knew, but were loath to acknowledge: however clear one's writing, however excellent one's images, a book was no substitute for an actual teacher, and practice at actual labours. These imagined regular midwives, too, found that Deventer's teaching did not always match with their own experience, his practices did not always work, his new medicalised, mechanised midwifery did not fit so neatly into the world in which they worked. And this was not only because of their own inability to think and act precisely as he prescribed; the women they attended also refused these new techniques and new proclamations on how their bodies functioned. Deventer mounts no defence against these attacks – they are, after all, produced by his own pen. What he acknowledges in this lapse of authorial power is that his Enlightenment project, by and large, existed only in books.

The situation was, arguably, even worse with images than texts, as they were even more subject to multiple interpretations and appropriations. So Siegemund, usually so vociferous about the pedagogic potential of her images, also acknowledges the disparity between her ideals and the way her images might actually be interpreted. Placing, like Deventer, criticisms in the mouth of an imagined regular midwife, she writes of Figures 17-21 (Figure 29):

> Many women will be horrified when they have read this book and properly contemplate the copper engravings showing the turning of the child, where you set to work in the belly with your entire arm as well as with a rod with a ribbon wedged into it, as figure 17 indicates. It is hardly possible to believe that it can happen. Plenty of faultfinders will doubtlessly determine that it is impossible and cannot happen.[390]

[389] Deventer, *The Art of Midwifery Improv'd*, p. 250.
[390] Siegemund, *The Court Midwife*, pp. 135-36.

Siegemund's innovative technical birth figures, employing new representative techniques to impart new skills to readers could, it turns out, be something entirely different, depending on the viewer. For the regular midwife unwilling to learn about or admit new emergency practices such as podalic version, these birth figures are images of torture, or *impossible* images, showing an intervention inside the body that no woman would permit, and no midwife would be able, physically or conceptually, to complete. In moments of optimism, Siegemund imagined her images impressing knowledge and skills directly onto the viewer's hands and minds in a process of image consumption that left no place for interpretation. But the objection of her pupil Christina gives the lie to this ideal.

All early Enlightenment birth figures had this capacity for multiple readings, for a variety of sanctioned and unsanctioned interpretations. Indeed, their very production was part of the further fragmentation of midwifery culture into regular and emergency, poor and rich, 'ignorant' and educated, female and male. Those who could read and use birth figures as intended entered the latter sphere, and those that couldn't or wouldn't, the former. Birth figures were, therefore, flexible and adaptive images that allowed authors and artists to communicate new ideas and modes of knowing, and that allowed viewers a broad freedom of interpretation. This flexibility prevented birth figures from falling out of use as the discipline developed, and it makes them crucial resources for writing histories of midwifery: of institutionally sanctioned, medicalised midwifery but also of other, regular, unlearned, popular and female-dominated midwiferies. Indeed, these images are particularly valuable in that their production and interpretation was not only diverse, but also fraught and complex. Looking at where birth figures experimented with new representational conventions and modes of knowing; where they succeeded or failed; and where they were accepted or misread, provides a key to those things that were most important and most troublesome to authors, artists and viewers of the period.

Chapter 3

Touch and Identity: Making the Persona of the Enlightenment Midwife

Authorial Self-Fashioning

Birth figures and midwifery manuals in the early Enlightenment took on new roles for teaching knowledge and practice to midwives, but they also served to construct and disseminate a public persona for the author. For Mauriceau, Siegemund, Deventer and their contemporaries, images that made claims to give new information and utilise new representational modes were as much a tool for selling, as they were a tool for teaching. Thus, birth figures of the period can tell us not only how midwifery practice in this period was changing, but how the role of the midwife – as practitioner, as author, and as public persona – was changing too. Particularly, these images engage with the issue of touch: both as a problematic sense that was nevertheless inherent to the midwife's profession; and as a sense that could be communicated in a visual image in many different ways.

From around the 1670s, authors from all around Europe were constructing a new kind of public and textual community – one in which they were visible to readers from many countries and many backgrounds, in which they could interact with, and be judged against, one another. Previously, midwifery authors such as Rösslin, Guillemeau, or Culpeper might be well known, but they were not professional midwives. Their books were not intended to serve as advertisements of their own midwifery practice, but rather as works for the public good that would more generally raise their status as physicians or surgeons. Practicing midwives, on the other hand, while they were certainly concerned with their public reputations, established this reputation almost exclusively by word of mouth.[391] Professional jostling, which certainly did occur, mainly happened among geographically proximate practitioners and in a social rather

[391] Evenden, *The Midwives of Seventeenth-Century London*, p. 93.

than a textual arena. Yet beginning with Mauriceau and his contemporaries in Paris, literate midwife-authors began to compete for position and for custom in print. Pamphlets, prefaces and notes to the reader presented authors with the perfect opportunity to fashion a public persona for themselves, the characteristics of which were typically benevolence, knowledge, pedagogy, and a commitment to the Enlightenment ideals of clarity, reason and rationality.[392] Siegemund's manual was, for instance 'published, at her own expense, [...] to honor God and to serve her neighbor and at the most gracious and fervent desire of many illustrious highborn persons'.[393] And Deventer's was 'not only of the greatest Use to Midwives, but […] an excellent Vindication of Divine Providence, and of the Humanity wherewith Midwifery ought to be practiced.'[394]

While, in the late seventeenth and early eighteenth centuries, English midwife-authors were rare, English readers would have been familiar with this form of textual persona-construction from imported or translated continental works, and the technique was sometimes adopted by English translators and editors. For instance, Hugh Chamberlen, the emergency midwife who translated Mauriceau's manual, used the work to advertise his own practice by highlighting his ability to deliver obstructed fetuses using forceps (a tool he and his family kept secret at this time) in cases where Mauriceau recommended craniotomy.[395] In the 1720s and '30s, when English midwives began to publish original midwifery manuals, they adopted the same textual systems for persona-construction. Lisa Forman Cody, for example, has demonstrated how the midwives of this period 'functioned as public – almost political – authorities', moving between the private domestic space of the lying-in chamber and wider political and public realms, holding 'a uniquely privileged position and a duty to serve both

[392] For the French context, see McTavish, *Childbirth and the Display of Authority*. And for the English, see Forman Cody, *Birthing the Nation*; and Sheena Sommers, 'Transcending the Sexed Body: Reason, Sympathy, and "Thinking Machines" in the Debates Over Male Midwifery', in *The Female Body in Medicine and Literature*, ed. by Andrew Mangham and Greta Depledge (Liverpool: Liverpool University Press, 2011), pp. 89-106.
[393] Siegemund, *The Court Midwife*, p. 33.
[394] Deventer, *The Art of Midwifery Improv'd,* Preface.
[395] Mauriceau, *The Diseases of Women with Child*, Translator's Preface.

mothers and the community'.[396] Male midwives, she also emphasised, created an Enlightenment persona of 'idealized masculine subjectivity', 'personifying both reason and feeling, showing others how to be a man of the world and one of the home'.[397] This chapter will address how both the early Enlightenment authors addressed in the last chapter, and the first generation of English midwife-authors, employed print to construct public personas,[398] and how they did so through complex debates over the status of touch.[399]

Lorraine Daston and Otto Sibum have defined 'persona' as '[i]ntermediate between the individual biography and the social institution', 'a cultural identity that simultaneously shapes the individual in body and mind and creates a collective with a shared and recognizable physiognomy.'[400] A persona is a kind of type, more culturally specific and rich than that conferred simply by doing a particular job, but neither so specific as that of the individual. Personae, they argue:

> create new ways of being in the world, modifying everything from perception (the botanist's refined sense of color) to character (the patience and perseverance of the precision measurer) to forms of problem solving (the technocrat's pinpoint focus) to bodily demeanor (the professor's voice and posture). No specific individual scientist ever fully incorporates the scientific persona, but individuals can be molded by their masks or portraits, Dorian Gray fashion.[401]

Midwifery, as it became professionalised and institutionalised from the late seventeenth century, also developed a persona – one that shaped how midwives practiced and saw

[396] Forman Cody, 'The Politics of Reproduction', p. 479.
[397] Ibid.
[398] For more on seventeenth-century print and ideas of public exchange, see Joseph Monteyne, *The Printed Image in Early Modern London: Urban Space, Visual Representation and Social Exchange* (Aldershot: Ashgate, 2007).
[399] Evelyn Lincoln has investigated the way early modern surgeons in Rome used texts and images to construct their professional personae. See Evelyn Lincoln, *Brilliant Discourse: Pictures and Readers in Early Modern Rome* (New Haven: Yale University Press, 2014), pp. 115-62.
[400] Lorraine Daston and H. Otto Sibum, 'Introduction: Scientific Personae and Their Histories', *Science in Context*, 16:1/2 (2003), 1-8 (p. 2).
[401] Ibid., p. 6.

themselves, but one that midwife-authors were also keen to actively shape and define in their publications.

Exactly what constituted the persona of the midwife will be explored in this chapter, but it is certain that for many midwife-authors, the persona they wished to create was one of an enlightened, benevolent and disinterested public figure whose work was as much a public service as a profession and whose actions and motivations were unimpeachable.[402] Midwifery had always been something of a public position. In England, midwives were expected to attend all labouring women, at any time and in any weather, even those too poor to pay them. Indeed, licenced midwives had to swear that they would do as much.[403] In the early Enlightenment, this ideal moved into the realm of print, as authors began to vie not just for custom in the place where they practiced, but for a more general, more public, approbation.

Indeed, this new public persona was tied up with the very idea of public knowledge that print facilitated. In places such as Germany and France, where there were public training institutions and public positions to be held, it paid to disseminate one's knowledge, in order to gain prestige and clients.[404] This, however, was not the case in places that lacked such public positions for midwives. In England, for example, until about the 1730s, most midwives kept their skills and knowledge secret, as a way to retain their client base and to protect themselves from competition, and so had no reason to publish. But as midwife-authors began to see themselves as public figures as well as private practitioners, the authority and prestige associated with teaching and disseminating knowledge began to outweigh the financial benefits of keeping it secret.[405]

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[402] See Forman Cody, 'The Politics of Reproduction'; Forman Cody, *Birthing the Nation,* particularly pp. 152-97; and Wilson, *The Making of Man-Midwifery,* pp. 161-84.
[403] Evenden, *The Midwives of Seventeenth-Century London,* pp. 27-31.
[404] In many other Western European countries, midwives were regulated and sometimes instructed by state- and town-elected physicians rather than church bodies. This meant that teaching and regulating midwifery knowledge could be a lucrative career in these countries, in a way that it was not in England. See Evenden, *The Midwives of Seventeenth-Century London*, pp. 24-25.
[405] This phenomenon is investigated with relation to natural philosophy more widely in: William Eamon, 'From the Secrets of Nature to Public Knowledge', in *Reappraisals of the*

Print culture made the public midwife. As Justine Siegemund explains to her readers:

> I had the pictures of the postures of birth engraved and printed out of love of my neighbour at my own expense, so I could repay the world with love and after my death could leave to the world the enlightenment in this art and experience that God gave me in this world.[406]

Siegemund casts the production of her birth figures in the light of a public service, a gift to her reading public and to midwives generally. Her provision of the figures, at her own expense, defines her as disinterested and benevolent, while the images themselves prove her expertise (Figures 27-29, 34 and 40). Siegemund also presents the images as both her intellectual and her familial legacy – unable to have children of her own, the images become her children and her contribution to the continued flourishing of the state. Indeed, the images become symbolic of the midwife's role in helping to deliver living, healthy children which was, in this period, being newly recast as a necessary public service to supply the state with sufficient soldiers and labourers.[407] Finally, the images are her monument, that which will last after her passing and stand testament to her identity and her good works. Print, therefore, offered a wider and more public reputation for authors, a place in history, and posthumous influence over the generations of practitioners to come.

The Midwife's Public Persona

The persona of the midwife was, in some ways, similar to those of other Enlightenment public figures such as physicians and natural philosophers. The ideals of public service, of disinterestedness, of a seeking after truth and newly rational systems of knowledge were

Scientific Revolution, ed. by David C. Lindberg and Robert S. Westman (Cambridge: Cambridge University Press, 1990), pp. 333-65.

[406] Siegemund, *The Court Midwife*, p. 53.

[407] See, for example: Forman Cody, 'The Politics of Reproduction', pp. 482-84; Forman Cody, *Birthing the Nation*, pp. 169 and 269-70; Gelbart, *The King's Midwife*, p. 91; Lieske, ed., *Eighteenth-Century British Midwifery*, IV, p. 193; and Wilson, *The Making of Man-Midwifery,* p. 5.

common to many personas of the period.[408] But for midwives, their identity was fundamentally and specifically bound up with the complex issue of touch. Touch was not only a central and defining aspect of the profession, it also became a focal point for professional, cultural and social discussions of the midwife's persona.

Midwifery requires the practitioner to touch the labouring woman, to feel parts of her body that are usually both visually and haptically off-limits, as well to perform medical interventions with the hands. For regular midwives, this kind of touch was part of a well-established tradition of childbirth procedures and rituals, and it was what defined her special social position. Adrian Wilson, for example, argues that what distinguished the midwife from the other attendants was power over the mother and her family (who might have been of a much higher social status), payment for her attendance, and the fact that 'she alone was entrusted with the right to touch the mother's "privities" – her labiae, vagina and cervix.'[409] That this touch was well established did not mean, however, that it was uncontentious. The midwife's touch could cause pain, injury and even death. It could be practiced well, aiding delivery, or badly, injuring women, retarding labour and mutilating the unborn child. Bad midwives were often accused of rough handling, and of rash and uninformed intervention. Percival Willughby, for instance, described poor women who turn to midwifery without proper training and, as a consequence, 'travailing women suffer tortures, by their halings, and stretchings of their bodies, after which followeth the ruinating of their healths, and sometimes death.'[410]

However, touch gained a new level of contention with the rise of new emergency midwifery. This new type of midwifery involved increased 'touching' or manual examinations and new interventions such as podalic version or manipulation of the coccyx. It also saw increased practice by male midwives, and an attendant increase in the use of tools, which were

[408] For an excellent summary account of the Enlightenment see Outram, *The Enlightenment*. For more in-depth investigations of the ideals of natural philosophers in this period see Hunter, *Wicked Intelligence*; and Shapin, *A Social History of Truth*, pp. 65-125.
[409] Wilson, *The Making of Man-Midwifery*, p. 26.
[410] Willughby, *Observations in Midwifery,* p. 72. Sarah Stone, too, describes some midwives who damage the mother's body in labour, see Stone, *A Complete Practice of Midwifery*, pp. 24-25, 41, 52-53 and 89.

technically forbidden to female midwives.[411] While emergency midwives were keen to show how such kinds of touch helped to ensure safe delivery, they were not guaranteed permission to practice them. Such touches were often refused on the grounds both of pain and propriety. Deventer, for instance, gives voice to the complaints of midwives that:

> *though we could know, yet our Women will not suffer it; they will not be touched, except with one or two Fingers at the most, and so that you must not put them to Pain, for they will suffer no Hardships, especially those that are rich, who will not be handled, except with the softest Touch.*[412]

Indeed, even in the mid-eighteenth century, when both 'touching' and internal intervention in labour were well established in both the literature of midwifery and in emergency practice, William Smellie still complained that touching had to be undertaken with one finger because 'when two are introduced together, the patient never fails to complain.'[413] As emergency midwives began to practice new interventions and move away from the standard rituals of childbirth, they had to negotiate, cajole, and compromise over the kinds of touch that would be performed.

The touch of emergency midwifery was also different in that it was more likely to be isolated: conducted by an unknown practitioner who had been called in only when a difficulty arose, and who was more likely to be male.[414] The touch of regular midwifery was part of a wider social and cultural process of care-giving that covered pregnancy, birth, and post-partum recovery for mother and child, encompassing roles from prescribing medicines, to washing and swaddling the infant and carrying it to its baptism.[415] Emergency midwives, who were often men, had a more medicalised view of the process, intervening in a complicated labour, delivering the infant and placenta, and occasionally prescribing medicines, but largely divorced from the wider social and nursing aspects of the profession, which remained the job of the regular midwife or a hired nurse. The development of this model of emergency midwifery, although it was practiced

[411] Though, of course, some women did use tools. See Chapter 2, p. 96.
[412] Deventer, *The Art of Midwifery Improv'd*, p. 250.
[413] Smellie, *A Treatise,* Vol. 1, p. 184.
[414] See Chapter 2, pp. 96-97 for a discussion of regular and emergency midwifery.
[415] See Cressy, *Birth, Marriage and Death*, pp. 15-96.

by some women, clearly benefited men in that it allowed them to make one part of midwifery into a medicalised and professional discipline, to attend and collect fees for larger numbers of labours, and to avoid low-status nursing work.

In Thomas Dawkes' *The Midwife Rightly Instructed*, the difference between regular and emergency midwifery is articulated. The surgeon interlocutor instructs his midwife pupil to manually remove the placenta as soon as the fetus is delivered. The midwife objects:

> MIDW. Well, but Sir, if I do this, I must be obliged immediately to commit the Child to some other Woman in the Room; and that is not a customary thing with us midwives.
> SURG. True, LUCINA, neither is it customary, with the generality of Midwives, to practice means that are consistent with Reason, and the Nature of Things[416]

Passing over the text's overtly misogynistic tone, the exchange demonstrates the difference between regular midwifery, centred around the whole care of mother and child, and emergency midwifery's exclusive focus on internal intervention and the completion of delivery. The regular midwife is reluctant to give up her important social right – to cut the umbilical cord and to wash and swaddle the infant – in order to enact a manual intervention. But for the learned surgeon, such a qualm indicates the irrationality of the regular midwife's practice. For the regular midwife, their rights to touch were part of a wider role in giving care and protection to the bodies of both mother and child. For the emergency midwife, the right to touch was rarefied and professionalised, associated only with delivery itself, and with the rhetoric of rational medical practice.[417]

However, if emergency midwives throughout the seventeenth and eighteenth centuries were negotiating new kinds of touch with their clients, they also faced the disapprobation that touch brought them from the realm of learned medicine. The problem lay in the symbolic associations of touch in the early modern world. In recent decades, scholars of the senses have established that touch held a contradictory position within the hierarchy of the senses.[418] Touch

[416] Dawkes, *The Midwife Rightly Instructed,* p. 56.
[417] See Sommers, 'Transcending the Sexed Body'.
[418] Works on the senses that have informed this chapter include: W.F. Bynum and Roy Porter, eds., *Medicine and the Five Senses* (Cambridge: Cambridge University Press, 1993); Constance

was simultaneously the first sense – that which was developed first and was the most essential and corporeal – and it was the lowest and basest sense, associated with low-status work, with the erotic and with the bodily rather than the spiritual or intellectual world.[419] The midwife-author John Maubray, for instance, ranked the senses in the following way:

> the *Eyes*, placed in the uppermost part, are the most *pure*, and have an Affinity with the nature of *Fire* and *Light*. The *Ears* have the second Order of *Place* and *Purity*, and are compar'd to the *Air*. The *Nostrils* take the third Order, and have a middle Nature betwixt *Air* and *Water*. Then the *Organ* of *Tasting*, which is *grosser*, and most like to the Nature of *Water*. And, lastly, *Touching* being diffus'd through the whole *Body*, is compar'd to the *Grossness* of *Earth*.
>
> And of these, the more *pure Senses*, are those which perceive their *Objects* farthest off; as first *Seeing*, then *Hearing*, then *Smelling*, which are all more pure than *Taste*, which doth not perceive but what is *nigh*: whereas the *Touch* perceives *both Ways*; it perceives *Bodies nigh*: And as *Sight* discerns by the *Medium* of the *Air*; so the *Touch* perceives, by the *Medium* of a *Pole*, Bodies *hard, soft, dry, moist*, &c.[420]

As this passage demonstrates, the five senses fitted into the wider system of thinking about the universe in terms of analogical and interlinked sets and correspondences.[421] Here the senses are ranked, and their rankings confirmed by their correspondences to the elements and the humours – each set confirming the logic of the other. Touch was firmly couched in this web of thinking as fundamental, but also base, earthy, and requiring of direct contact, which carried a troubling sexual potential.

Within the realm of medicine, too, touch was integral to the system of professional hierarchy. In the simplest terms, the fact that physicians did not touch their patients, but that surgeons did, separated them into intellectual and physical, and therefore high and low,

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Classen, *The Deepest Sense: A Cultural History of Touch* (Urbana, IL: University of Illinois Press, 2012); Gowing, *Common Bodies*; Elizabeth D. Harvey, ed., *Sensible Flesh: On Touch in Early Modern Culture* (Philadelphia: University of Pennsylvania Press, 2003); Porter, 'A Touch of Danger'; Herman Roodenburg, ed., *A Cultural History of the Senses in the Renaissance* (London: Bloomsbury, 2014); and Vila, ed., *A Cultural History of the Senses*.

[419] See Elizabeth D. Harvey, 'Introduction: The "Sense of All Senses"', in *Sensible Flesh: On Touch in Early Modern Culture,* ed. by Elizabeth D. Harvey (Philadelphia: University of Pennsylvania Press, 2003), pp. 1-21 (p. 1).

[420] John Maubray, *The Female Physician, Containing All the Diseases Incident to that Sex, in Virgins, Wives and Widows* (London: James Holland, 1724), p. 14.

[421] See Chapter 1, pp. 61-76.

professions. In fact, this distinction was never that simple: as scholars such as Cynthia Klestinec and Michael Stolberg have shown, physicians did touch their patients, and surgeons became increasingly respected during the early modern period, despite their association with touch.[422] A more nuanced distinction might be, therefore, between *kinds* of touch: physicians mainly palpated the body for diagnostic purposes, while surgeons undertook all kinds of treatments on and in the body. Moreover, the *rhetoric* of touch, and the fact that physicians were still defined by 'superior intellectual activity' and surgeons by 'more manual – and thus supposedly more menial – work', certainly remained a potent force in this period.[423]

First surgeons and anatomists, and later emergency midwives, had to deal with the contradiction between a practice based on touch and the desire for recognition as a learned and skilled profession. As Elizabeth Harvey, in discussing Vesalius' practice, explains, '[f]or the anatomist, of course, knowledge necessarily involves touching the corpse, a contact that was essential but one that also dangerously allied the physician – both actually and symbolically – to the death and disease he studied.'[424] Touch was as fundamental to the anatomist's practice as it was to the midwife's, particularly after it became more common for the physician leading the dissection to undertake the physical work of cutting as well as the intellectual work of identification and explanation.[425] While direct observation and empirical study became more valued in the seventeenth and eighteenth centuries, this did not entirely neutralise the problem of touch.

Touch was a particular problem for male practitioners. Constance Classen has argued that:

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[422] Cynthia Klestinec, 'Touch, Trust and Compliance in Early Modern Medical Practice', in *The Edinburgh Companion to the Critical Medical Humanities*, ed. by Anne Whitehead and Angela Woods (Edinburgh: Edinburgh University Press, 2016), pp. 209-24; and Michael Stolberg, 'Examining the Body, c. 1500–1750', in *The Routledge History of Sex and the Body*, ed. by Sarah Toulalan and Kate Fisher (Abingdon: Routledge, 2013), pp. 91-105.
[423] Stolberg, 'Examining the Body', p. 100. See also Roy Porter, 'The Rise of Physical Examination', in *Medicine and the Five Senses,* ed. by W.F. Bynum and Roy Porter (Cambridge: Cambridge University Press, 1993), pp. 179-97.
[424] Harvey, 'Introduction', p. 15.
[425] See Klestinec, 'Practical Experience in Anatomy', pp. 33-58.

> men were generally associated with the mind and soul and women with the body and senses. Even in the curse God laid on Adam and Eve this distinction seemed to be made: men were to suffer through their toil – understood to potentially involve intellectual as well as physical effort – while women were to suffer through childbirth, a purely corporeal form of labour. Men were above all rational beings, while women were, under it all, sensual beings.[426]

The labouring body was female, the midwife was, traditionally, also female, and so, according to Classen, was the sense of touch itself. Therefore, when the male practitioner proposed to assume women's work, using a feminine sense on the female body, he did something deeply suspicious and, arguably, counter not only to the social rules of propriety but to the divine rules that distinguished the sexes. The male practitioner was in danger both of violating the labouring woman's body and degrading his own. Roy Porter has argued that, in this period, all medical professionals were looked on with suspicion because they 'were readily associated in the public mind with carnal knowledge'.[427] While Porter stresses that physicians refrained from touching their patients for learned reasons as well as those of propriety, the limited use of touch in medicine did help to cast the male midwife as 'a sexual infiltrator, a violator of female modesty.'[428]

Such negative associations with touch, and particularly with the touch of the man-midwife, has led to some perplexity among scholars as to why the practice arose at this time in England and France.[429] Adrian Wilson's answer is 'fashion and the forceps': he argues firstly that the use of forceps allowed male practitioners to deliver obstructed fetuses alive and thus broke the 'self-perpetuating cycle of fear, craniotomy and death'; and secondly that once some high-status women employed man-midwives, it became fashionable to do so, not least because it allowed wealthy women to distinguish themselves from lower sorts who continued to use female midwives.[430] Porter, in an article on medical examination, argues that medicine in

[426] Classen, *The Deepest Sense*, p. 73.
[427] Porter, 'A Touch of Danger', p. 208.
[428] Ibid. p. 216.
[429] Donnison, *Midwives and Medical Men,* pp. 29-31; Porter, 'A Touch of Danger', p. 215; and Wilson, *The Making of Man-Midwifery*, p. 2.
[430] Wilson, *The Making of Man-Midwifery*, pp. 3, 97 and 185-86.

general needed to develop 'reassuring ritualized, consensual sanctions' that allowed touch between physician and patient to be socially acceptable.[431] He suggests that the nineteenth century saw both higher levels of anxiety about the body and touch, and stronger codifications for acceptable medical touch, while in the eighteenth century, man-midwifery simultaneously stood as proof of a more relaxed attitude to the body and touch, but also of a medical profession that was 'less certain of its professional right of entry.'[432] This meant that while there was the space for men to practice midwifery in England in the eighteenth century, the fragile codes that allowed them to touch the female body were haunted by 'the threat of surreptitious slippage from one code into another that leaves clinical practice so subject to the anarchy of *double entendre.*'[433] What both scholars agree on is that the position of the male midwife in the eighteenth century was precarious, and was subject to wider social and cultural attitudes on gender roles, propriety and touch. This meant that new emergency and male practitioners had at least as much to do in creating a culture that would allow them to practice, as they did in ensuring that their practice was actually effective. This project, as I will argue, was focussed on the creation of a persona for the midwife that completely recast the cultural associations of touch, and that did so largely through print.

Because they could not eliminate touch from their practice, new midwives went about turning the public perception of touch on its head. They attempted, in the decades either side of 1700, to make touch into a high, intellectual, masculine, non-sexual, valorised sense. By dint of little more than forceful repetition in print and in practice, midwives engineered a cultural shift that Eve Keller has described in the following terms:

> the rhetorical representation of the techniques of touch, through a gradual accretion of associations, produces an unprecedented authority for the medical practitioner of childbirth. As it is rhetorically constructed in these texts, touch, traditionally a mark of mere manual labour, becomes over time a sign of almost magical prowess, so that midwifery, historically among the least prestigious of

[431] Porter, 'The Rise of Physical Examination', p. 180.
[432] Ibid., p. 195.
[433] Ibid., p. 197.

> medical practices, becomes the place where the modern image of the medical miracle-worker is born.[434]

Historians such as Keller, Wilson and Forman Cody, as well as the art historian Lianne McTavish, have examined how this process was enacted both in print, and in practice.[435] Indeed, it is one of the more thoroughly explored aspects of early modern midwifery. Yet no thorough survey of how images contributed to this shift has been conducted. McTavish is the only scholar, that I am aware of, to have worked with midwifery illustrations in this context, but her focus is exclusively on French material. In what follows, I will explore the ways in which midwife-authors employed print images both to valorise and recast touch, and to shape their public personas.

The Seeing Hand

For his second volume on midwifery, *Nader vertoog* (1729), Hendrik van Deventer produced two new images. He had been unhappy with the description of uterine obliquity in his first manual, and so provided two figures intended to give 'at least some sort of an Idea of this matter' (Figure 35).[436] These images show one uterus situated normally in relation to the pelvis, and one that is situated obliquely: the two work to demonstrate both how a practitioner might sense an oblique uterus, and to show how uterine obliquity might complicate birth.[437]

In each image, we see the uterus vacated by the fetus, but newly occupied by the practitioner's hand. The image is intended to give a haptic account of the pregnant body, showing what the hand would feel in both cases, and thus how an invisible, yet crucial problem can be diagnosed and understood. Of the first figure, showing a normal uterus, Deventer writes:

> Every one will easily perceive, that the Hand and Arm, thus thrust up into the Womb, have room enough, that they may turn and roll round every way

[434] Eve Keller, 'The Subject of Touch: Medical Authority in Early Modern Midwifery', in *Sensible Flesh: On Touch in Early Modern Culture,* ed. by Elizabeth D. Harvey (Philadelphia: University of Pennsylvania Press, 2003), pp. 62-80 (pp. 68-69).
[435] See Forman Cody, 'The Politics of Reproduction'; Forman Cody, *Birthing the Nation*; Keller, 'The Subject of Touch'; McTavish, *Childbirth and the Display of Authority*; and Wilson, *The Making of Man-Midwifery.*
[436] Deventer, *New Improvements in the Art of Midwifery,* p. 23.
[437] Deventer's understanding of uterine obliquity is discussed in Chapter 2, pp. 120-22.

> towards any part of the Womb, to invert the Infant, tho' lying resupine on his Back.[438]

Yet the second figure shows a 'propendulous', or forward-leaning uterus, as if seen from the side. Here Deventer argues that, while when the uterus leans to the left or the right there is some leeway for the practitioner's arm in the pelvis, when it leans forwards, 'the Arm cannot follow the Hand when put in; for it cannot bend in that place, nor is there room that it may follow the Hand to assist such an oblique situation.'[439]

These two figures seem to show how the practitioner can identify an oblique or 'propendulous' uterus by inserting their hand into it. Yet such an operation cannot have been widely practiced, not least because it was most crucial to identify obliquity before the fetus was delivered, when there would be no room in the uterus for such a manoeuvre. While inserting the hand into the uterus after delivery was sometimes practiced to 'fetch away' the placenta, by this point identifying uterine obliquity was unnecessary. Rather, then, these two images can be understood as a kind of thought experiment in haptic terms, which is intended to help the viewer to understand how the bodily interior is formed. Deventer asks us to imagine what one *might* feel if one's arm was inserted into a 'propendulous' uterus: because there is no joint in the forearm, the top of the uterus would be out of reach. Thinking about how the viewer's own arm would fit into a normal and 'propendulous' uterus becomes, in this image, a device for helping the viewer to think about how a *fetus* might fit in and move through that space. These images, therefore, exemplify how haptic knowledge and haptic thinking can complement the practitioner's abstract and mechanical understanding of birth.

Unlike other operative hands in birth figures produced in this period, therefore, these hands do not describe manual practice. Rather, they stand symbolically for the importance of the hand to midwifery, describing how the bodily interior can be known and mastered by the dextrous and haptically sensitive practitioner. In these images, only those parts of the body that

[438] Deventer, *New Improvements in the Art of Midwifery,* p. 24.
[439] Ibid., p. 28.

are touched or touching are described: the hand and arm of the practitioner have been carefully modelled, the contours of the arm, the pad of the thumb and each joint of the fingers is carefully delineated. The solid materiality of this hand is crucial to the image. Indeed, Katherine Rowe has discussed how the hand as a symbol was 'defined by its functional properties: its abilities to gesture, touch, grip, and demonstrate.'[440] But it was also a symbol that spoke of the intellectual capacities of the hand's owner, indicating 'an apparently seamless continuity between the instrumental part and the person or power that it acts for.'[441]

The interior of the uterus is hatched with lines that describe its round, hollow shape, and also give it texture. The rest of the body, even the exterior of the uterus, which we would normally expect to see in a birth figure, is here omitted because it is not part of the sphere of haptic experience. Because of these omissions, the image becomes symbolic of the midwife's sphere of authority, founded on the skilled hand. The position of these hands and arms, held straight up with open palms and slightly-curved fingers, speaks of both assurance, and a relaxed open-handedness.[442] There is no tension or violence in these hands and arms, though there doubtless would have been in the actual operation of inserting the hand and arm into the uterus. The hatched lines that describe the uterus, moreover, highlight and frame the heroic hand in a kind of halo.

Unlike Deventer's other birth figures (Figures 30-31), therefore, these images are more about the sphere of direct experience, and less about technical or mechanistic understandings of the body.[443] In these images (Figure 35), a slightly amorphous flap (labelled 'A') covers the space where we would expect to see the pelvis, cervix and vagina. This 'flap' can be read in different ways. From a mechanistic, anatomical perspective, it is an inadequate substitute for the pelvis which would describe better how the uterus is situated, and from what rotation we

[440] Katherine Rowe, '"God's Handy Worke"', in *The Body in Parts: Fantasies of Corporeality in Early Modern Europe,* ed. by David Hillman and Carla Mazzio (New York: Routledge, 1997), pp. 285-309 (p. 285).
[441] Ibid., p. 299.
[442] Rowe associates this gesture, of the hand held open with the fingers slightly curled, with generosity and liberality. See Ibid., p. 301.
[443] See Chapter 2 pp. 115-26.

see it. Perhaps the artist hired by Deventer to produce the image was unable to describe the pelvis, but considering that he would have had Deventer's existing birth figures to work from, this seems unlikely. Indeed, in the French translation of Deventer's work, the artist, who signed some of the plates 'Mathey' and may have been N. F. Mathey, unified the style of these images with the existing birth figures by adding the pelvis, spine and the contour of the belly (Figure 36).[444] Interestingly though, artist and translator did not read the text quite carefully enough, and placed the pelvis as if the uterus were tipped to the side, rather than forward, as Deventer describes. Clearly it was no easy thing to reconcile haptic and mechanistic understandings of the body, in thought or image.

If the French translator (the physician Jacques-Jean Bruhier D'Ablaincourt) and artist (Mathey) attempted to reconcile Deventer's images with his wider mechanistic project, then the English translator (the writer Robert Samber) and artist went another way, emphasising their haptic nature in the copy made for *New Improvements in the Art of Midwifery* (1724, Figure 37). The engraving is a much more faithful copy of the Dutch original (Figure 35), but there is a difference in the lines that describe the uterine wall. Still curved to show its roundedness, the lines are minutely wavy and irregular in the English edition, giving an even greater sense of the texture of the uterine interior than we see in the original. Indeed, from a haptic point of view, even the 'flap' that covers that space where the pelvis, vagina and cervix would be, becomes an integral part of the image's message. It seems that the English artist did not see this flap as a part of the material or felt body – the lines that describe it remain smooth, straight and regular. Rather, this is a flap that symbolises what is *not* seen or known in birth: the hand may enter and feel the uterus, but not the pelvis. Thus, what the flap covers symbolises what is not haptically known. Indeed, this 'flap of not-knowing' gains more significance in the context of the early modern birthing room, where the labouring body was typically clothed and covered in sheets. While an emergency midwife might be permitted to touch and practice upon the labouring

[444] Hendrik van Deventer, *Observations importantes sur le manuel des accouchemens,* trans. by Jacques-Jean Bruhier D'Ablaincourt, 2 vols (Paris: Pierre-François Giffart and Pierre Prault, 1733).

bodily interior, that body was almost invariably blocked from sight by clothes and a sheet laid over the legs.[445]

Images such as these make an interesting argument for what a print can communicate. In a visual medium, they attempt to describe how things feel, or the kinds and qualities of knowledge gained by feeling. In these images, and indeed more widely in the culture of midwifery, this was done by conflating the sense of touch with the sense of sight. In these images (Figures 35-37), the lines that describe the uterus also look like radiant lines, emitted from the hand as if it were a source of light, symbolising the midwife's 'illuminating' touch. In these images, the midwife's hand is the bringer of light, the explorer of the bodily interior as well as its saviour. This conflation of touch and sight in midwifery texts of the period has been remarked upon by Lianne McTavish, who notes that '[t]he dark and mysterious realm of the womb was enlightened by the men's perceptive hands, which 'looked for' the malpresenting child and 'observed' its posture.'[446] Practically speaking, such images could only be informed by what the practitioner felt – the interior of the living uterus could not be seen. But more than that, these images seek to describe the *quality* of tactile, rather than visual, knowledge. The rays that suggest light and illumination also give a fuzziness, darkness and texture to the uterus, describing its tactile qualities.

Indeed, the convention of the seeing touch was regularly used by early Enlightenment midwife-authors. Justine Siegemund, for instance, wrote that:

> touching indicates to a proper midwife all the dangers that can occur in a birth. If she is forbidden to touch the woman, then she works blind, and a woman who forbids it can only blame herself for any misfortune that follows.[447]

By describing the midwife's touch as a kind of sight, authors rejected the sense's typically base qualities, replacing them with ones borrowed from sight: clarity, rationality, intellectualism,

[445] Sheets, veils and sight will also be addressed in Chapter 4.
[446] Lianne McTavish, 'Concealing Spectacles: Childbirth and Visuality in Early Modern France', in *Editing the Image: Strategies in the Production and Reception of the Visual*, ed. by Mark A. Cheetham, Elizabeth Legge and Catherine M. Soussloff (Toronto: University of Toronto Press, 2008), pp. 95-110 (p. 100).
[447] Siegemund, *The Court Midwife*, p. 204.

prestige, masculinity. Siegemund's tone is authoritative and high-handed: the seeing touch is a special and necessary tool of the midwife, helping them to a clear understanding of the body and so to better practice. Thus, those who reject the seeing touch are irrational: to blame for the ignorance they impose on the midwife, and the bodily danger they place themselves in.

Describing the midwife's touch as a kind of sight was part of a drive in which midwives argued both for their touch as essential, but also as special and different. Deventer, for instance, writes:

> I am not ignorant, that what I have said, may seem strange to those that are unexperienced, thinking that nothing is more easie, than to distinguish Things by touching, and that a Hand is easily distinguished from a Foot, if one will only be attentive. But what those sort of People say, is to be received without Offence; according to the Proverb, *in a Calm all are Masters*. If the parts hid within the Womb might be as soon distinguished, as those without, a heavy Countryman, or a Boorish Woman would easily perform that Work; but since the Hand is so closely compressed by the narrowness of the Womb, and especially of the Mouth of it, scarce any Thing is more difficult than to distinguish by the Touch, what you hold in your Hand, especially when the Hand is put further up, when the Waters have flowed out for some time. I allow indeed, that by handling of one Part, one may judge of another[448]

The touch of the midwife, because of where and how it is conducted, required a sensitivity, knowledge and skill not only uncommon, but essentially inconceivable to the layperson. The interior of the womb had always been a mystery, inaccessible to sight. Even though it became available to an expert touch within the framework of interventionist midwifery, this touch was still specialised, difficult to acquire, and tricky even for experienced practitioners. Inherently, it was not like the 'heavy' or 'boorish' touch of the layperson. Indeed, Deventer implies, the non-professional did not even have the skills to judge *why and how* the midwife's touch was special, and so must trust the word of the author on its acceptability and necessity. Deventer's argument runs simply that the midwife must touch in order to practice, and that the layperson, who is not qualified to understand how that touch works, is also not qualified to say whether or not it should be allowed. Indeed, it is around this time that many midwives began to argue that those

[448] Deventer, *The Art of Midwifery Improv'd*, p. 220.

labouring women who refused to be touched bore all the liability for the difficulties and dangers of their labour. I have already quoted Siegemund, who argues that any such woman can only blame herself. The same sentiment is echoed in the writing of William Clark: 'a *Child-bearing* Person would be very much her own Enemy to refuse the only Means of giving a *true* Information of her Case, and the Knowledge how to do her the most effectual Service.'[449] William Smellie, indeed, went so far as to explicitly blame women for the death of their own children, writing of one case that '[a]s for the child, it was probably lost by her timorous disposition, in consequence of which she refused all assistance at the latter end of labour.'[450]

The widespread rhetoric which set up the midwife's touch as special, professional, and skilled at gathering information about a largely inaccessible, stubbornly mysterious interior was, therefore, one that also excluded and removed authority from the uninitiated. It was a rhetoric that became increasingly widespread in midwifery texts, crystallising the midwife's professional status and persona. Images that show the practitioner's hand and the labouring body, therefore, contributed to this argument for the ways in which that skilled, feeling hand could produce knowledge that was previously unknown, unvisualised, and undisseminated.

The Valorised Hand

The hand had always been, to some extent, the symbol *par excellence* of the midwife. From the earliest midwifery manuals, we find descriptions of the ideal midwife's hand – Jacques Guillemeau, for instance, requiring 'little hands & not thicke: cleane, and her nailes pared very neere, and even; neither must shee weare rings uppon her fingers, nor bracelets upon her

[449] William Clark, *The Province of Midwives in the Practice of their Art: Instructing Them in the Timely Knowledge of Such Difficulties as Require the Assistance of Men, for the Preservation of Mother and Child* (Bath: William Frederick, 1751), p. 13.
[450] William Smellie, *A Collection of Cases and Observations in Midwifery. To Illustrate His Former Treatise, or First Volume, on that Subject,* Vol. 2 (London: D. Wilson, 1764 [1754]), p. 182. Smellie reports that he repeatedly physically examined and then sedated this woman over a lingering and painful labour. That she might have had valid reasons for latterly refusing his touch goes unacknowledged by the author.

armes, when shee is about her business.'[451] But as the new emergency midwifery began to emerge, towards the end of the seventeenth century, these physical attributes of the midwife's hand came to have wider significations: of sensitivity; rationality; understanding and capability. As Hendrik van Deventer wrote, '[n]othing ever is more agreeable to the Art of Midwifery, than slender Hands, long Fingers and quick feeling'.[452] The hand was what defined the midwife, and the ideal hand was not only physically, but also sensorially and intellectually suited to the work. Thus, when Mauriceau, Viardel, Siegemund and Deventer introduced the hand into the birth figure (see Figures 27-33 and 40), they created a visual symbol for all these attributes, and a mode for valorising the practitioner.

By conflating sight and touch, midwives valorised their manner of knowing and treating the body. By locating that special skill firmly in the hand, they also drew on another kind of valorisation. As Elizabeth Harvey argues:

> tactility, the fundamental sense, the sense contiguous with and essential to all animal life, which is especially pronounced in the vulnerable skin of human nakedness, is paradoxically differentiated from other animals through the concentration of touch in the apprehending and discerning hand. The hand stands for dominion not only over the other animals, but also over the potential for animality within human beings[453]

The hand was a touching organ, but it was also a symbol of high, intellectualised, specifically human touch, as well as touch turned to work. Thus, a much broader cultural understanding of the hand as a symbol of man's superiority over other animals, his higher capacities as well as his base physicality, should be read in the image of the midwife's hand in the birth figure.[454]

In the early Enlightenment, the rhetoric around the midwife's hand was also made more complex by the fact that both men and women were practising. In fact, in this period, though the rhetoric itself was deeply concerned with gender, it was employed in very similar ways by

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[451] Guillemeau, *Child-Birth,* p. 84.
[452] Deventer, *The Art of Midwifery Improv'd*, p. 326.
[453] Elizabeth D. Harvey, 'The Touching Organ: Allegory, Anatomy, and the Renaissance Skin Envelope', in *Sensible Flesh: On Touch in Early Modern Culture,* ed. by Elizabeth D. Harvey (Philadelphia: University of Pennsylvania Press, 2003), pp. 81-102 (p. 89).
[454] See also Rowe, '"God's Handy Worke"'.

both male and female authors. Male authors tended to assimilate traditionally feminine qualities such as small, delicate digits and soft skin with masculine strength and rationality. Female authors did much the same in reverse, claiming the traditionally masculine attributes of strength and intellectual capability for themselves.

In the images commissioned by Viardel, Siegemund and Deventer, therefore, we find a curiously androgynous representation of the midwife's hands and arms (Figures 27-29, 33, 35, 40 and 50). Midwifery hands were unlike the operative hands represented in other genres:[455] instead of being elegantly sleeved and cuffed in lace, or emerging from angelic clouds, they are bare to the elbow, and are circumscribed by simple, loose white sleeves rolled or kilted high up the arm.[456] This convention presents the midwife's hand as a real, physical, sensate tool of the profession: it is neither the purely intellectual, gentlemanly hand, cuffed in lace, almost incorporeally pointing at or operating various machines or tools, nor is it the equally non-physical angelic hand, descending from the clouds (Figures 38-39). Caught-up sleeves were, obviously, part of the uniform of midwives, who worked not only with their hands but with their whole arms – if the hand was to be inserted into the uterus, then most of the forearm must necessarily be touching the bodily interior. Indeed, it was the slenderness and strength of the arm as well as the hand which was important in a midwife. Moreover, because it was not just strength and manual skill that made a good midwife but also a deep, specialised ability to *sense* using the hand, the expanse of clear, bare skin depicted can be understood as part of the images' valorising iconography.

This was the case whether the practitioner was a man or a woman, as William Smellie indicates in his description of ideal dress for a man-midwife:

> the more genteel and commodious dress is, a loose washing night-gown, which he may always have in readiness to put on when he is going to deliver; his waistcoat ought to be without sleeves, that his arms may have more freedom to slide up and down under cover of the wrapper; and the sleeves of his shirt may be rolled up and pinned to the breasts of his waistcoat.[457]

[455] See Chapter 2, pp. 129-32.
[456] See Heilbron, 'Domesticating Science'; and Rowe, '"God's Handy Worke"', p. 303.
[457] Smellie, *A Treatise,* Vol. 1*,* p. 335.

Thus, man-midwives adopted a casual, domestic dress, which was both practical and non-threatening to the labouring woman, distinguishing the man-midwife in his 'loose washing night-gown' from the surgeon in his coat and apron. As Lisa Forman Cody notes, 'the most successful men-midwives attempted to cross the boundaries between male and female ways of knowing, and in their public self-presentations, they even vacillated between masculine and somewhat feminine mannerisms, habits and dress.'[458] Unsuccessful man-midwives could be identified by their inappropriate or ridiculous dress, as a case recorded by William Smellie indicates. He recounts being called to a labour where a young man-midwife was already present: 'I was struck with his apparatus, which was very extraordinary, for his arms were rolled up with napkins, and a sheet was pinned round his middle as high as his breast.'[459] The young practitioner is incompetent, and it shows in his dress. Not only does he look strange, by wrapping his arms in napkins he has also made touching the labouring woman deeply impractical. He has not understood where sheets are appropriate to protect modesty and hide the body from sight, and where bare skin can be employed as a sign of natural fitness, gentility and good practice.

While the lack of a coat or lace cuff indicated manual labour, the abundant white cloth framing white skin also suggested gentility and a rather idealistic level of cleanliness. Such sleeves were part of both female and male dress: men's shirts and women's smocks or shifts were similarly loose, white, linen garments. Indeed, Susan Vincent has noted that they could even be used interchangeably, in a pinch.[460] Such linen undergarments were fundamental to the health and cleanliness of the body: they protected the body from the outer clothes, and they soaked up the body's secretions, both protecting hard-to-wash outer garments and drawing bad humours out of the body. Changing one's linen in the early modern period, Vincent argues, was equivalent to showering or bathing today. Clean linen, therefore, spoke to health and

[458] Forman Cody, *Birthing the Nation*, p. 152. See Smellie, *A Treatise,* Vol. 1*,* p. 335 for his advice on the appropriate dress for a male practitioner; and Nihell, *A Treatise on the Art of Midwifery*, p.11 for a criticism of Smellie's advice.
[459] Smellie, *A Collection of Cases,* Vol. 2, p. 179.
[460] Susan Vincent, *Dressing the Elite: Clothes in Early Modern England* (Oxford: Berg, 2003), Chapter 2, <http://dx.doi.org/10.2752/9781847889003> [accessed 27 November 2017].

cleanliness, but also to wealth, as it implied the ability to buy multiple linen shirts or smocks and to have them frequently laundered. The clean white sleeves of these images, therefore, make an argument for the social, economic and health status of the practitioner, as well as contributing to the authors' androgenising project.

Much is signified, too, in the physical form of the hands themselves – all are clean and hairless, with long, slender, almost sinuous arms and tapered fingers. Lianne McTavish has suggested that those in Siegemund's images (Figures 27-29 and 40) are 'slender, feminine arms', as opposed to the more masculine arms produced by male authors.[461] While a little more muscle definition is given to the arms in Deventer's images (Figures 35-37), the overall emphasis is, in my view, in all cases on a kind of androgynous slenderness and delicacy. None of the arms have any hair or blemishes, and while some show a smooth definition of muscles, there are also many examples where the arms seem serpentine, preternaturally bendy – all the better to non-traumatically enter the bodily interior.

Moreover, the hands and arms in these birth figures are very small in proportion to the uterus they operate upon. I have discussed in the previous chapters why the uterus was often depicted as unrealistically spacious, but the authors and artists of this period depict not just the fetus but also the operative hand, on a strangely small scale.[462] Of course, this composition works in much the same way as the small fetus: to clearly depict how the hands operate in what is, in reality, a very cramped space. But the representational convention also neutralises an invasive, painful, potentially damaging intervention. This is not to say that authors of the period shied away from the physical difficulties of manual intervention in the uterus. Siegemund acknowledges that setting 'to work in the belly with your entire arm as well as with a rod with a ribbon wedged into it' seems almost impossibly violent to many women, but that nonetheless, as a good midwife: 'I can and must insert my arm up to the elbow to search for the feet if the child is to be turned and the woman rescued'.[463] The English midwife Sarah Stone also notes the

[461] McTavish, *Childbirth and the Display of Authority*, p. 196.
[462] See Chapter 1 pp. 60-61, and Chapter 2 pp. 132-35.
[463] Siegemund, *The Court Midwife*, pp. 135-36 and 110.

toll such interventions take on the practitioner, recounting one difficult labour after which: 'I could not turn in my bed, without help, for two or three days after, nor lift my Arm to my Head for near a week; and forced to bathe my Arm with Spirit of Wine several times a day.'[464]

Yet the images tend to show an idealised, promotional version of internal intervention, showing not the strain, force and pain of operating in a small space, but delicate, slender hands working neatly in a spacious uterus. Taking, for example, Siegemund's Figures 11 and 17-21 (Figure 40 and 29), the hands assume elegant, relaxed positions, and there is no indication of strain or force being employed. Yet this composition was not been intended to deny that such operations *were* painful: not only do the texts of midwifery manuals often frankly acknowledge pain, authors were also expressly anxious that viewers should not misinterpret birth figures as describing manual intervention as easy.[465] Rather, the convention of the slender, relaxed arm in the spacious uterus was partly a diagrammatic convention to depict practice clearly, and partly a visual argument for the *difference* in pain, trouble and danger between the touch of a good midwife, and that of a bad one. Deventer indicates this difference in reporting the words of a woman who suffered a protracted labour and was attended first by a bad midwife, and then by Deventer's wife, a midwife herself:

> *how one Womans Actions differ from anothers! As soon as your Wife handled me, I was presently eased, and having recovered my Spirits was able to bring forth my Child, when before the Midwife had only tormented me, that I could not Labour strongly*[466]

Deventer's wife employed the technique of pushing back the coccyx, allowing more room for the fetus to pass through the pelvis. Such an operation was undoubtedly painful for the woman, yet after a protracted labour exacerbated by the interventions of a bad midwife, the touch of the good midwife becomes a positive relief. The hands and arms in birth figures work, therefore, in a didactic mode that did not shy away from the pain of intervention, but rather couched it within the larger context of childbirth as a painful and dangerous event in which the midwife's

[464] Stone, *A Complete Practice of Midwifery,* p. 80.
[465] See Chapter 2, pp. 110-15.
[466] Deventer, *The Art of Midwifery Improv'd,* p. 132.

intervention could be positive or negative, painful and damaging or relieving and protective. Deventer's, Viardel's and Siegemund's images of operative hands are those of the *ideal* practitioner who does all they can to work fast and smoothly, to ameliorate pain and danger, and to deliver the fetus alive and undamaged.

In short, the operative hand in the birth figure was an innovation that allowed midwife-authors and artists to communicate new kinds of knowledge about practice, but it also acted to build and define the midwife's persona in this period, to establish the quality of their touch as professional, skilled, appropriate and effective.

Problems with the Valorised Hand

In their birth figures, Viardel, Siegemund and Deventer converged on a visual language that spoke of the practitioner's hand as a seeing organ, as elevated above other hands by a special capability, sensitivity and heroism of practice. Through this visual language, the authors made an argument for the appropriateness of touch to midwifery practice. Lianne McTavish has argued that the same use of the symbolic, valorised hand can be found in frontispiece portraits that were commonly commissioned by French midwife-authors of the early Enlightenment. She argues that such images were intended to establish for the male practitioner 'a direct and physical understanding of childbirth – one capable of substituting for women's bodily experience of maternity.'[467] McTavish identifies different ways in which the authors went about this project. She suggests that in their portraits, François Mauriceau and Paul Portal's hands are 'primarily associated with the intellectual activity of writing' while Philippe Peu's is 'related to both loyalty and nobility' (Figures 41-43).[468] Of Viardel's, she writes that the image works to 'suggest an intimate knowledge of childbirth' (Figure 44).[469]

[467] McTavish, *Childbirth and the Display of Authority*, p. 13.
[468] Ibid., p. 137.
[469] Ibid.

Such frontispiece portraits tended not to make it into English translations, probably both for reasons of economy, and because establishing the author's identity was less important for an English audience unlikely to meet or hire them. I will, therefore, largely pass over these portraits, and those produced for Siegemund and Deventer. I will, however, discuss that made for Cosme Viardel (Figure 44), simply because it is so remarkable, and elucidates so much about how midwives of the period used images to shape the public perception of their profession. This portrait, moreover, fits into that category, discussed in the previous chapter, of the interestingly, informatively *unsuccessful* image.[470] While the image is in some ways very specific to Viardel and his Parisian context, I argue that it also engages with many themes more broadly common to emergency midwives all over Western Europe in the early Enlightenment.

As discussed in the previous chapter, Viardel was different from many of his French colleagues in that he was not member of the guild of surgeons.[471] As McTavish has argued, he based his authority not on such learned institutions but rather on his own direct physical experience of the body.[472] McTavish suggests that the same distinction is at work here – while Mauriceau and Portal touch copies of their own books, Viardel touches the head of a fetus (see Figures 41-42 and 44). Viardel's gesture is a clear indication of the way in which he constructs his own authority – not from books but from the object itself. Indeed, Viardel's artist, 'du guernie' (perhaps Pierre du Guernier, a miniaturist and Academician in Paris), and engraver, Jean Frosne, in making this visual argument, were borrowing from an established rhetoric in the visual culture of anatomy. Since Vesalius' woodcut portrait of 1543 (Figure 45), anatomists had been making the radical statement that their knowledge was, essentially, empirical.[473] Of Vesalius' portrait, Elizabeth Harvey writes that it:

> is an ideological intersection significant to the history of tactility, a confrontation between the hand as a touching instrument and the tactile, obscuring flesh. In other words […] early modern anatomy involves not only

[470] See Chapter 2, pp. 132-35.
[471] See Chapter 2, pp. 112-13.
[472] McTavish, *Childbirth and the Display of Authority*, pp. 128-29.
[473] For an exploration of empiricism and knowledge creation in the early modern period, see Chapter 2, pp. 105-15.

> peeling away the body's outward sensory covering in order to discover visually the body's inside but also subduing and harnessing tactility and displacing its distracting sensuality into the mastering agency of the hand.[474]

Since the mid-sixteenth century, then, images of anatomists touching the objects of their study made an argument not only for the nature of their authority, but the nature of touch itself. Harvey establishes two key points about the image: firstly, that the ability to sense, to garner tactile stimulus, is removed from the skinned cadaver at the same time as it is endowed on the anatomist's hand. And secondly, that the manner of this tactility is constructed and curated: that which is worryingly sensuous is reordered within the anatomist's hand into something powerful, intellectual and authoritative. Katherine Rowe makes a similar argument about the importance of touch to investigation and knowledge production, citing Helkiah Crooke in the assertion that '[a]natomy consists of a fruitful correspondence between cutting, "the action which is done with the hande," and the rational "habite of the minde, that is, the most perfect action of the intellect"'.[475] Viardel, too, MacTavish would argue, used his portrait to define and make safe the kind of touch that was essential both to how he gained knowledge of the body, and how he practiced upon it. He touches gently the object of study, both asserting his authority over it, and indicating that his knowledge is well founded in study of the body itself.

But can this image possibly have been read this way, or received in any positive light, by early modern viewers? Certainly, to a viewer today, Viardel's portrait is troubling and macabre: not a great advertisement for the practitioner represented. The portrait (Figure 44), an engraving, was produced as a frontispiece for Viardel's manual and can be found facing the title page in all three editions (1671, 1674, 1748). The print is larger than the page size and is bound in with the lower and outer edges folded in. In the image, Viardel stands three quarters on, turning his head so that he almost completely faces the viewer. He is boxed into a small space, standing behind a table and in front of a curtain. While the use of such background drapery was common in portraits of the period, it leaves Viardel's location ambiguous: is he in a private study,

[474] Harvey, 'The Touching Organ', p. 83.
[475] Rowe, '"God's Handy Worke"', p. 291.

at the home of a labouring woman, or in a room for public teaching or demonstration? He is dressed in a dark, sober coat and cap, with a large white collar and wide ruffled cuffs. On the table, at the bottom of the image and in the foreground, lies a fetal cadaver, his head resting on a pillow, still attached to the placenta which lies at his feet. Viardel's somewhat over-large right hand reaches forward, touching a forefinger to the fetus's forehead. The fetus lies as if sleeping, yet context must tell us that he is dead: all living new-borns would immediately have had the umbilical cord cut, and then been washed and swaddled. Moreover, no healthy living child would remain under the authority of a male practitioner, rather being absorbed into the family unit and cared for by a female midwife, nurse or other attendants. McTavish argues that the image shows Viardel's skill in that he managed 'to remove the infant from its mother's womb and to guarantee its eternal repose.'[476] While indeed this fetus has not been subject to dismemberment or craniotomy in the womb, the image is hardly a positive one: not only is the child dead, but the spectre of anatomical dissection hovers over it.

This ambiguity, in which the subject of a dissection is rendered and posed as if simply sleeping, is common in anatomical imagery. In Jan van Neck's *The Anatomy Lesson of Dr Frederick Ruysch* (1683, Figure 46), as well as in print fetal anatomies from Spiegel's *De Formato Foetu* (1626, Figure 47) and Mauriceau's *Traité* (1668, Figure 48), the fetus is represented in much the same manner as an anatomical Venus – hovering somewhere between sleep and supine ecstasy, the body cavity opened and yet still seemingly alive.[477] While the convention of representing the anatomised fetus as if sleeping was already established in midwifery and anatomical books, it is particularly disconcerting in Viardel's portrait because it places the midwife – whose job is to deliver living children – in direct contact with a dead fetus, and one, presumably, about to be anatomised. Not only does the image seem to exacerbate a deep anxiety about the danger to life posed by a difficult labour,[478] it also brings together the realms

[476] McTavish, *Childbirth and the Display of Authority*, p. 128
[477] For discussions of the 'anatomical Venus' see Blackwell, '"Tristram Shandy"', pp. 88-89; and Jordanova, *Sexual Visions*, p. 44.
[478] See Cressy, *Birth, Marriage and Death,* pp. 28-31.

of midwifery and anatomy that authors were usually at great pains to keep separate.[479] While in portraits of anatomists, such as those of Vesalius and Ruysch, the anatomist derives authority through his touch on the dissected cadaver, Viardel's realm was meant to be the living body, which, at this time, was fundamentally different from the dead, dissected one.[480] Unlike the other examples, Viardel's fetal cadaver is not actually opened, perhaps in an attempt to move the midwife's persona one step away from the visceral, terrible act of dissection.[481] Indeed, Cynthia Klestinec, in a study of touch and complicity in early modern surgical culture, suggests that physicians and surgeons were keen to disassociate their touch, and particularly any cuts they might make, from the touch and the cutting of the anatomist.[482] Midwives, by the same token, wished to disassociate their own touch from both the anatomical and the surgical. Indeed, while the midwife often had some knowledge of anatomy and may also have practiced surgery, the profession of midwifery itself determinedly involved no cutting open. This perhaps explains the ambivalence in the centre of the portrait: Viardel was a surgeon and a midwife, and his image attempts to reconcile these two modes of knowing the body, and two kinds of touch. The fetus lies somewhere between the anatomised fetus of the anatomist's portrait and the living little patient that the midwife dealt with. However, that a newborn child might be both was something that most people of the period were not keen to contemplate.

As McTavish has noted, Viardel's gesture is also employed in van Neck's portrait of Frederick Ruysch (Figure 46), by the far-left figure, who reaches out to gently touch the placenta on the table. The gesture is described in John Bulwer's 1644 treatise on gesture entitled *Chirologia,* as the 'dissidentiam noto' (Figure 49).[483] This gesture indicates, in McTavish's words,

[479] As the midwife Sarah Stone asserted, 'dissecting the Dead, and being just and tender to the Living, are vastly different'. Stone, *A Complete Practice of Midwifery,* p. xiv.
[480] See Introduction, pp. 13-14; and Chapter 1, pp. 48-51.
[481] For the idea of dissection in the early modern period as compelling, but also fearful and violent, see Sawday, *The Body Emblazoned*.
[482] Klestinec, 'Touch, Trust and Compliance'
[483] J.B. [John Bulwer], *Chirologia: Or the Naturall Language of the Hand. Composed of the Speaking Motions, and Discoursing Gestures Thereof. Whereunto is Added Chironomia: Or, the Art of Manual Rhetoricke.* (London: Tho. Harper, 1644), pp. 171-72.

'the satisfaction of intellectual curiosity through the sense of touch.'[484] Thus, while the gesture might seem to a modern eye strange or irreverent, it was more likely to be identified by an early modern viewer as a rhetorical gesture of serious investigation.[485] McTavish argues, further, that Viardel's hand is intended as an embodiment of all the qualities of the good midwife, that his 'manual dexterity [...] is indicated by his gentle caress of its head.'[486] To me, however, this reading seems a bit forced. While his gesture is not rough, it is hardly a caress, and nor does it seem, in its gentleness, to particularly imply dexterity. In my view, Viardel gesture is rather a sanitised enactment of a gesture key to the practice of midwifery: 'touching'.

'Touching', as it was called by midwives of the period, involved inserting one or two fingers into the vagina to check the dilation of the cervix and the presentation of the fetus.[487] It was widely practiced and recommended by midwife-authors of the late seventeenth and eighteenth centuries, and must have been well known to midwives at most levels of training or education. Indeed, 'touching' is illustrated in one of Viardel's birth figures (Figure 50). In this image, the midwife inserts the index finger into the vagina, feeling the fetus's head as it presents at the cervix. Unlike others of Viardel's birth figures, here the cervix is depicted by a line that separates the uterus from the vagina, pushed up by the pressure from the operator's hand. The walls of the vagina are also rendered not as a simple tube, but ridged and textured. Like Deventer's images of uterine obliquity, discussed above, this birth figure works particularly to depict the haptic experience of 'touching'.

Returning to Viardel's frontispiece portrait (Figure 44), we see that the gesture made with the hand is much the same as in the birth figure, in both cases the practitioner gently extends the index finger to touch the top of the fetal head. The hand in the portrait may be understood, therefore, both as the 'dissidentiam noto', but also as the midwife's 'touch', here

[484] McTavish, *Childbirth and the Display of Authority*, p. 129.
[485] For the significance of gesture in the period, see John Walter, 'Gesturing at Authority: Deciphering the Gestural Code of Early Modern England', *Past and Present,* 4 (2009), 96-127.
[486] McTavish, *Childbirth and the Display of Authority*, pp. 128-29.
[487] For Viardel's understanding of how 'touching' should be conducted and what it could tell the practitioner, see Viardel, *Obervations*, pp. 56-63.

removed from the context of the maternal body and recast in the nondescript interior space, and thus both sanitised and made appropriate within the genre of the professional portrait. The inscription, inserted between the fetal body and the line of Viardel's arm reads 'non impar lucina' or 'not less than Lucina' (the Roman goddess of childbirth). Viardel's touch, in this context, becomes a kind of benediction, and a saintly attribute, locating the surgeon-accoucheur as no less powerful and benevolent than the goddess of childbirth herself.

However, this image can be read in multiple ways, depending on the viewer's context, visual training, and stance on male midwifery practice. If, to a sympathetic viewer, Viardel's portrait combines the anatomist's empirical investigation through specialised touch with the midwife's careful examination of and practice on the living fetus, an unsympathetic viewer might instead see a man who overreaches, who inappropriately links the worlds of the lying-in chamber and the anatomy theatre. Indeed, among other midwife-authors, it seems that the form of Viardel's portrait was not popular: perhaps it was seen as a blunder in the delicate process of constructing a socially acceptable persona for the emergency midwife, for no subsequent authors commissioned similar portraits. They stayed on safer ground: posed formally, dressed respectably and holding books or other accoutrements of abstract study (see Figures 41-43). If hands were emphasised, what they would have touched in their actual practice was studiously left out.

Indeed, it is possible that some viewers even intentionally regularised Viardel's portrait by removing the object of his touch. One copy of the portrait held at the Wellcome Library has been trimmed, with the bottom section of the portrait cut away along the fold line (Figure 51). The bottom section may have originally been lost accidentally through wear, but subsequently all the edges were trimmed, and the bottom fragment was not retained. It is possible, therefore, that the removal of the bottom section of the image was an intentionally neutralising act: it removes both fetus and touching hand, leaving a much more conventional portrait of a grave man whose hand reaches down to some unknown object. If this intervention was indeed intentional, it shows that an image that did not align with conventions, or that showed an aspect

of a persona that was troubling, ambivalent or unsettled, could be remarkably powerful. The cut makes the image rhetorically safe by removing from sight the troubling ambivalence of the midwife's touch, making a much simpler argument for respectability. But it also makes the image literally safe for vulnerable viewers such as pregnant women, for whom such a sight may have caused them to do damage to their unborn child, or to develop a fear of male practitioners that might later hinder the progress of their delivery.

Whether or not the portrait was considered a success by its artists and its commissioner, by a professional reading audience, or by a lay one, it was certainly an image that experimented with what a portrait can represent about a professional persona, and how it can be used to address and perhaps reconcile tensions in that persona. I suggest that this image would have been as difficult to interpret for an early modern reader as it is for us today, as it tackled a troubling dissonance inherent in the midwifery of the period. It highlighted the difference between the knowledge of the surgeon-anatomist and that of the midwife, the different meanings and implications of touch, and thus the difficulty the midwife faced in reconciling them. In this, it offers a counterpoint to the idealised operative hands in birth figures. It shows the studied rhetoric that argued that the midwife's touch was safe and acceptable, but it also shows that there existed a widespread conviction that the midwife's touch was neither of these.

The Artificial Hand

Issues of touch and persona-construction were crucial for midwife authors of both genders in the early Enlightenment. The representation of hands and the production of professional frontispiece portraits, as well as the texts and polemical pamphlets of such authors as Siegemund, Viardel and Deventer attest to the general effort to create an acceptable profession by recasting the midwife's touch. England certainly imbibed much of this culture second-hand, through imported and translated books and images, but treatment of touch, the hand and the midwife's public persona developed in a way specific to England in the early decades of the

eighteenth century, as midwives began to publish their own books, pamphlets and images.[488] While English midwife-authors publishing between the 1720s and the 1750s did not tend to produce new birth figures or persona-constructing portraits, they did introduce one new kind of image that shaped the developing understanding of the midwife's touch: the technical image of the forceps. In the final part of this chapter, I will examine how these technical, seemingly rather dry images, contributed to the culture of touch in English midwifery of the period.

By the 1720s, in London and other British urban centres, the culture of touch and practice was changing. The drive to androgenise the midwife's persona and particularly their touch was still ongoing, but it was warring with two other opposing influences. The first was a culture that seemed to grow along with the prominence of man-midwifery, which criticised the practice in highly gendered, extremely vitriolic terms. This culture can be seen in the polemics authored by John Douglas, Frank Nicholls, Elizabeth Nihell, Philip Thicknesse, many others.[489] It also manifested itself in the representation of midwives of both genders as incompetent or sexually suspect in satirical prints.[490] The midwife Elizabeth Nihell, for instance, cast male practitioners as inappropriately feminine ('with those special delicate soft hands of theirs, and their long taper pretty fingers'),[491] as sexual predators, or as rough, violent, boors:

> either the rough manly he-midwife, that in the midst of his boisterous operation, in a mistimed barbarous attempt at waggery or wit, will ask a woman, in a hoarse voice, "if she has a mind to be rid of her burther," or the pretty lady-like gentleman-midwife, that with a quaint formal air, and a gratious smirk, primming up his mouth, in a soft fluted tone, assures her, and lies all the

[488] Adrian Wilson cites the 1720s as a time of change both for how midwifery was understood, and for the extent to which it was written about. See Wilson, *The Making of Man-Midwifery*, p. 3.
[489] See Douglas, *A Short Account of the State of Midwifery*; [Frank Nicholls], *The Petition of the Unborn Babes to the Censors of the Royal College of Physicians of London* (London: M. Cooper, 1751); Nihell, *A Treatise on the Art of Midwifery*; and [Philip Thicknesse], *Man-Midwifery Analysed: And the Tendency of that Practice Detected and Exposed* (London: R. Davis, 1764).
[490] See, for example, Samuel William Fores, *A Man-Mid-Wife*, engraving, in John Blunt [Samuel William Fores], *Man-Midwifery Dissected: Or, the Obstetric Family-Instructor. For the Use of Married Couples, and Single Adults of Both Sexes* (London: S. W. Fores, 1793); Thomas Rowlandson, *A Midwife Going to a Labour*, 1811, etching; Anon., *The Man-Midwife, or Female Delicacy After Marriage*, 1773, engraving; and William Hogarth, *Cunicularii, or The Wise Men of Godliman in Consultation,* 1726, etching.
[491] Nihell, *A Treatise on the Art of Midwifery*, p. 314.

> while like a tooth-drawer, that his instruments will neither hurt nor mark herself nor child but a little, or perhaps not at all.[492]

But the problems with touch were not restricted to male practitioners, and male authors also denigrated female practitioners for being unlearned, intractable, irresponsible or even sexually suspect themselves. Thus, the author and friend of William Smellie, Tobias Smollett, pondered in a pamphlet response to Nihell's treatise, '[h]ow far Mrs. Nihell's shrewd, supple, sensitive fingers, may be qualified for the art of titillation'.[493]

The second factor that opposed the androgenising drive in this period was a kind of hardening of the medical attitude among emergency midwives themselves: that labouring women should be passive patients, that their own authority should be ceded to and their touch accepted as medical and necessary. As Wilson has argued, largely because the forceps allowed some male midwives to deliver live children, the boundary that separated men from midwifery practice was broken and, over time, the male practitioner's 'critical attitude hardened and deepened, and his ambitions were transformed.'[494] Sheena Sommers traces a similar trend, arguing that, increasingly, midwifery was felt to be something that should be founded on 'detailed, objective, and professional learning, rather than through experiential knowledge', and that this gave the male practitioner a chance to 'harness the growing faith in reason and science and to position himself as working in the interests of the emergent public sphere'.[495] Male practice slowly became more accepted and more expected, and thus the drive to apologise for and androgenise male characteristics lessened. Bonnie Blackwell and Pam Lieske have also noted that the increased use of machines and models to train midwives led to an understanding among medicalised practitioners that the labouring woman was a passive presence in childbirth, to be delivered as fast as possible by the medical interventions of a largely male profession.[496]

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[492] Ibid., pp. 462-64.
[493] [Tobias Smollett], 'Art. IV. A Treatise on the Art of Midwifery', *The Critical Review, or, Annals of Literature,* 9 (March 1760), 187-97 (p. 196).
[494] Wilson, *The Making of Man-Midwifery*, p. 99.
[495] Sommers, 'Transcending the Sexed Body', p. 89.
[496] See Blackwell, '"Tristram Shandy"'; and Pam Lieske, '"Made in Imitation of Real Women and Children": Obstetrical Machines in Eighteenth-Century Britain', in *The Female Body in Medicine*

The vitriolic debates over gender, and the hardening of masculine medicalised values in English midwifery culture, have been well examined by scholars such as Bonnie Blackwell, Lisa Forman Cody, Ludmilla Jordanova, Pam Lieske, Sheena Sommers and Adrian Wilson.[497] However, none of these scholars have addressed at length how the images in midwifery manuals contributed to this culture.

In fact, in the context of these debates over the place of the midwife and the midwife's touch, the images of forceps produced in this period become culturally rich and significant. For some male midwives, forceps were a manifestation of their newly rational, medicalised practice, and they allowed the midwife to set the pace of delivery and control labour in a new way.[498] They also allowed these practitioners to distance themselves from the debates over the propriety of touch and of the masculine hand: they were a technical, medicalised tool that worked *better* than any hand at delivering children. The practitioner William Smellie described his forceps, for instance, as 'artificial hands'.[499] Thus, while many female midwives were strenuously arguing that only a woman's body had the necessary sympathy, sensitivity, slenderness and skill to deliver children,[500] some (though not all) male practitioners were arguing that medicalised tools augmented their bodies, making them better suited for practice than any woman's body could be. Indeed, this correlates with Sommers' wider supposition that while female practitioners based their right to practice on a natural sympathy, male practitioners 'claimed a rational compassion that was uniquely removed from any association with a specifically sexed body', and that made them into a 'mind/machine'.[501] Forceps could be understood within this framework as a convenient way both to argue for male practice (only

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and Literature, ed. by Andrew Mangham and Greta Depledge (Liverpool: Liverpool University Press, 2011), pp. 69-88.

[497] See Blackwell, '"Tristram Shandy"'; Forman Cody, *Birthing the Nation*; Jordanova, *Sexual Visions*; Jordanova, *Nature Displayed*; Lieske, '"Made in Imitation of Real Women and Children"'; Sommers, 'Transcending the Sexed Body'; and Wilson, *The Making of Man-Midwifery.*

[498] See Blackwell, '"Tristram Shandy"', p. 82.

[499] Smellie, *A Collection of Cases*, Vol. 2, p. 287.

[500] See Nihell, *A Treatise on the Art of Midwifery,* p. 59; and Stone, *A Complete Practice of Midwifery,* pp. xiv-xv.

[501] Sommers, 'Transcending the Sexed Body', pp. 90 and 100.

men were permitted to use the tool), and to ameliorate the more troubling aspects *of* male practice (mechanising and neutralising the male body).

However, this understanding of forceps was far from universal, and some midwives of both genders saw the tool as actively dangerous and damaging – no replacement for the sensitive, dextrous hand. The practitioner John Maubray, for instance, denigrated 'the Needlessness, and Absurdity of Instrumental Operation; but also […] the manifest Hazard, and imminent Danger, that the Mechanical Operator inevitably exposes both the Woman, and the Infant to, in Labour.'[502] Indeed, the debate as to exactly how effective or damaging forceps were continues today. While early histories of midwifery tended to see the forceps as a positive development,[503] more recently, scholars have challenged this narrative, citing the number of practitioners with very little training who 'applied [forceps] almost randomly and with great force'.[504]

Thus, while forceps practitioners saw the tool as a better, more suited, more technical, less problematic replacement for the hand, forceps-opposers often discussed how *unsuitable* the tool was. William Douglas, for instance, wrote of William Smellie that '[s]uch *monstrous Hands* are, like *Wooden Forceps*, fit only to hold Horses by the Nose, whilst they are shod by the *Farrier*, or stretch Boots in *Cranburne Alley.*'[505] What was a specialist, medicalised tool to Smellie was, for his detractor, crude, low and inappropriately masculine in just the same way that Smellie's hands were. Elizabeth Nihell as vehemently demanded of her readers:

> where is the kingdom, where is the nation, where is the town, where, in short, is the person that would prefer iron and steel to a hand of flesh, tender, soft, duly supple, dextrous, and trusting to its own feelings of what it is about: a hand that has no need of recourse to such an extremity as the use of instruments, always blind, dangerous, and especially for ever useless?[506]

[502] Maubray, *The Female Physician*, pp. 30-31.
[503] See, for example, Murphy, 'Introductory Lecture on the History of Midwifery'.
[504] Woods and Galley, *Mrs Stone & Dr Smellie*, p. 188.
[505] William Douglas, *A Letter to Dr. Smellie: Shewing the Impropriety of His New-Invented Forceps; as Also, the Absurdity of His Method of Teaching and Practising Midwifery* (London: J. Roberts, 1748), p. 18.
[506] Nihell, *A Treatise on the Art of Midwifery*, p. 36.

For Nihell, forceps were inappropriate because they were *not* the hand: they were insensate, rigid and cold.

Indeed, despite the rhetoric of forceps proponents, the tool loomed large and horrible in the public imagination, and especially that of the childbearing women who might find themselves suddenly, and in dire circumstances, in intimate contact with it. Even male midwives sometimes had mixed and complex attitudes to the forceps. Fielding Ould, for instance, engaged in some forceps practice, yet admitted to his reader, when embarking on a section on the use of tools in his midwifery manual, that 'though I have gone through the foregoing Part of this Treatise with great Pleasure, yet what is to come strikes me with Horror'.[507] For many practitioners, even if they sometimes used the forceps, the tool was held in awe and wariness – it could as easily harm a patient and destroy a reputation, as it could save a patient and make one.

Ould's cases give further indications of exactly why the forceps were so feared. In one he describes the actions of another male midwife who attended a labour and first tried to intervene with his hands:

> at length, the miserable Patient, after the Operation of his Hands had ceased, heard the clashing of Irons against each other, which terrified her prodigiously; and asking him what he was then going to do, he told her, that without having Recourse to the Help of Instruments, her Life was inevitably lost; which she absolutely declared she would not submit to, but chose rather to die[508]

Ould's account shows that for many women, the forceps were a particularly terrible prospect because of their materiality – hard, cold and clashing – and because their presence was often hidden. Here, the practitioner intends to employ the forceps without asking, but the 'clashing of Irons' – a phrase that associates the forceps both with weapons and manacles – alerts the woman, who would rather die than have the midwife use them on her.

[507] Fielding Ould, *A Treatise of Midwifery, in Three Parts* (Dublin: Oli. Nelson and Charles Connor, 1742), p. 140.
[508] Ibid., p. 77.

Indeed, as a consequence of the hardening of the medicalised, authoritative attitude of emergency midwives, smuggling forceps and using them secretly became common practice. Smellie, for instance, advised his readers at length on how to conceal the forceps and use them in secret:

> The woman being laid in a right position for the application of the forceps, the blades ought to be privately conveyed between the feather-bed and the cloaths, at a small distance from one another, or on each side of the patient: that this conveyance may be the more easily effected, the legs of the instrument ought to be kept in the operator's side-pockets. Thus provided, when he sits down to deliver, let him spread the sheet that hangs over the bed, upon his lap, and under that cover, take out and dispose the blades on each side of the patient; by which means, he will often be able to deliver with the forceps, without their being perceived by the woman herself, or any other of the assistants. Some people pin a sheet to each shoulder, and throw the other end over the bed, that they may be the more effectually concealed from the view of those who are present: but this method is apt to confine and embarrass the operator. At any rate, as women are commonly frightened at the very name of an instrument, it is adviseable to conceal them as much as possible, until the character of the operator is fully established.[509]

While many women were terrified by the sight of forceps, the fact that they might be hidden and used in secret must have added to that terror. Indeed, because midwives began to hide the tool, its potential presence became a constant spectre in the lying-in chamber, with women likely to discover it only when they heard what Ould called 'the clashing of Irons', or felt what Nihell called 'that metalline chill, which is not well to be cured by any warming at the fire'.[510] Thus, the forceps became a multi-sensory monster, hidden from sight yet always potentially present in a noise or a touch that augured pain and bodily damage.[511] Indeed, Nihell described forceps in exactly these terms, as instruments:

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[509] Smellie, *A Treatise,* Vol. 1*,* pp. 264-65.
[510] Ould, *A Treatise of Midwifery*, p. 77; and Nihell, *A Treatise on the Art of Midwifery*, p. 418.
[511] In a move to ameliorate the coldness and clashing of forceps, Smellie recommended that practitioners cover the blades in leather. While this move adds to the idea of forceps as a kind of artificial hand – metal bone covered in leather skin – the innovation was criticised as impractical by later authors. See Nihell, *A Treatise on the Art of Midwifery*, p. 418; and Smellie, *A Treatise,* Vol. 1, p. 271

> which often cause more apprehension and terror to a woman in labor, though concealed from her sight, but never from her imagination, than the actual presence of all the apparatus of the rack, where that torture is in use.[512]

It is within an awareness of the cultural, social and even political significance of the forceps that images of them, produced in this period, must be understood. Indeed, such images may have been produced by authors at the time as a statement of political allegiance. Adrian Wilson has discussed how, from the 1730s in England, whether or not a practitioner used forceps depended very much upon his politics: while Tory midwives tended to use the tool, Whigs tended not to, rather subscribing to the teachings of Deventer.[513] Wilson also associates the publication of the forceps, in Edmund Chapman's manual of 1733, with the rise of English-authored midwifery manuals. He notes that

> In the next decade (1733-42), seven authors (one a midwife, Sarah Stone, the others men) published original works on midwifery in English. From this point onwards, the original English midwifery treatise was the norm; the new publications attained a high standard of technical knowledge; and a continuous tradition connects the works of Chapman and his successors with the journal-literature in obstetrics of our own day.[514]

Forceps had been known before this time to the Chamberlen family, who kept them a secret. It was only after Hugh Chamberlen II sold the secret to other midwives, that the tool became widely known and used, and was published on. Wilson locates this point of publication in 1733 not only as a trigger for English midwives to begin publishing manuals, but as the very origins of modern obstetrics.

While Wilson has done extensive research on which male practitioners of the period used forceps, and on their political allegiances, he does not investigate what kinds of images were produced in publications around this time. Indeed, many English-authored texts of this period were unillustrated, and no new birth figures were commissioned by English authors until the 1750s.[515] However, this does not mean that midwives of the period were not aware of, and

[512] Nihell, *A Treatise on the Art of Midwifery*, pp. 37-38.
[513] Wilson, *The Making of Man-Midwifery*, pp. 79-80.
[514] Ibid., p. 6.
[515] These birth figures of the 1750s will be discussed in Chapter 5.

using, birth figures and other kinds of midwifery image. The Whig 'Deventerians' would have been familiar with and used Deventer's birth figures. Indeed, the author Dawkes makes clear his preference for these images, declaring Mauriceau's birth figures to be 'very false ones', but Deventer's 'most of them just and true'.[516] Forceps users or, as Nihell describes them, 'Instrumentarians',[517] seem to have more comprehensively rejected the usefulness of birth figures, with Edmund Chapman, for instance, declaring:

> those Cuts which represent the different Situations of Infants in the Womb, in the Books of Guillemau, Mauriceau, and others, are of very little use, especially since 'tis not by the Eye, as he observes, but the Touch only, that an Artists must judge of the Posture[518]

Such 'Instrumentarian' authors tended either to produce unillustrated treatises, or to provide only a new kind of technical image of forceps. Chapman's treatise, which contained the first textual description of forceps, was unillustrated. But two images of the forceps had appeared within a year of Chapman's publication, in an article by Alexander Butter, and in the posthumously published cases of William Giffard (Figures 52-53).[519] Chapman's treatise would be reprinted in 1735, this time with its own image of forceps (Figure 54).[520] Later in the century, more images would be produced for John Leake and William Smellie, among others.[521] While images of tools had conventionally been part of the visual language of midwifery manuals, these

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[516] Dawkes, *The Midwife Rightly Instructed*, p. 10.
[517] See Nihell, *A Treatise on the Art of Midwifery*.
[518] Edmund Chapman, *An Essay on the Improvement of Midwifery: Chiefly with Regard to the Operation. To Which are Added Fifty Cases, Selected from Upwards of Twenty-Five Years Practice* (London: A Bettesworth, C. Hitch, J. Walthor and T. Cowper, 1733), pp. 7-8.
[519] Alexander Butter, 'The Description of a Forceps for Extracting Children by the Head When Lodged Low in the Pelvis of the Mother', in *Medical Essays and Observations*, 3 vols (Edinburgh: William Monro, 1737 [1733]), III, pp. 322-24; and William Giffard, *Cases in Midwifry: Written by the Late Mr. William Giffard, Surgeon and Man-Midwife. Revis'd and Publish'd by Edward Hody, M.D. and Fellow of the Royal Society* (London: B. Motte, T. Wotton, L. Gilliver & J. Nourse, 1734).
[520] Edmund Chapman, *A Treatise on the Improvement of Midwifery, Chiefly with Regard to the Operation. To which are added Fifty-Seven Cases, Selected from Upwards of Twenty-Seven Years Practice. The Second Edition, with Large Additions and Improvements* (London: John Brindley, John Clarke and Charles Borbett, 1735).
[521] John Leake, *The Description and Use of a Pair of New Forceps* (London: [n. pub.], 1771); and William Smellie, *A Sett of Anatomical Tables, with Explanations, and an Abridgment, of the Practice of Midwifery, with a View to Illustrate a Treatise on that Subject, and Collection of Cases* (London: [n. pub.], 1754).

images were newly detailed and technical. Not only did the images describe the shape and function of the tool, using multiple, three-dimensional views and employing explanatory annotations, they could also be used by instrument-makers as plans and instructions.[522]

However, for many viewers, including pregnant women, the images might have been read not as technical plans, but as threatening manifestations of the always-hovering spectre of damaging and painful 'Instrumentarian' practice. While treatises from the beginning of the eighteenth century were increasingly written for a professional audience, and increasingly addressed to male practitioners, it seems likely that they would also have been accessed by lay readers of all kinds, particularly as midwifery became, in this period, a matter for public debate.[523] Certainly, Nihell thought it a possibility that women and lay readers might see these treatises, declaring that:

> It were to be wished, that all the men-midwives, who had rote on this matter, had suppressed the mention of their instruments; for as their books often fall into the hands of women, so deeply interested as the sex is in that subject, it is not to be imagined what bad effects they have.[524]

Thus, while technical images of tools may seem to a modern viewer to be uninteresting, specialist diagrams largely devoid of wider social and emotional significance, for eighteenth-century viewers they would have engaged with crucial debates on gender and professionalism; politics; the place of midwifery and medicine; and the safety of various practices. Thus, they might have raised deep and intense feelings of fear and antipathy. For many viewers, including some midwives, such an image of forceps may have evoked the clashing of metal, and its chilling touch, the sinister uncertainty of concealment, and the loss of control as the tool was employed without permission.

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[522] For the development of specialist instrument-makers in London in the eighteenth century, see G. L'E. Turner, 'Eighteenth-Century Scientific Instruments and Their Makers', in *The Cambridge History of Science: Volume 4, Eighteenth-Century Science*, ed. by Roy Porter (Cambridge: Cambridge University Press, 2003), pp. 509-35. Chapman mentions seeing forceps displayed by an instrument maker in his shop. See Chapman, *An Essay on the Improvement of Midwifery*, Preface.

[523] See Forman Cody, *Birthing the Nation.*

[524] Nihell, *A Treatise on the Art of Midwifery*, p. 38.

Rebecca Zorach has noted that, well before the invention of aquatint and lithograph, 'to seventeenth-century viewers – at least according to their accounts – an exquisite engraving could produce the illusion of color and life.'[525] She describes the potential of prints to evoke a wider sensory experience, as well as an emotional kind of 'ravishment' that is impossible for modern viewers to completely understand.[526] William MacGregor, too, has discussed how important prints were to early modern culture, and how they were understood as things not just looked at, but more fundamentally *internalized*, affecting the understanding and knowledge of the viewer through an almost physical act of impression.[527] With this understanding of the intellectual, sensorial and emotional reception of prints, it is easy to see what kind of power an image of the feared forceps could exert on an eighteenth-century viewer. Indeed, such images might not just frighten and shock: this was a period in which maternal imagination was still widely credited as a real and potent force.[528] A pregnant woman stumbling on such an image might, in her shock and fear, do irrevocable damage to her unborn child.

It seems likely that 'Instrumentarian' authors understood that their images might have been read in such ways. In producing them anyway, they made a statement about who the images and midwifery manuals were for, and how they expected them to be read. The images were certainly practically useful in enabling readers to commission their own tools, and they stood iconographically for the author's practitional/political allegiance, but they may also have been produced as a kind of challenge to the viewer. If one could see them in a passionless, medicalised, technical way, then one was a suitable midwife able, in Sommers' words, 'to show compassion without passion.'[529]

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[525] Rebecca Zorach, '"A Secret Kind of Charm Not to be Expressed or Discerned": On Claude Mellan's Insinuating Lines', *RES: Anthropology and Aesthetics,* 55/56 (2009), 235-51 (p. 235).
[526] Ibid.
[527] MacGregor, 'The Authority of Prints'.
[528] For the continued acceptance of the power of maternal imagination in the early eighteenth century, see Jenifer Buckley, *Gender, Pregnancy and Power in Eighteenth-Century Literature: The Maternal Imagination* (Cham: Springer, 2017), pp. 1-38; Forman Cody, *Birthing the Nation,* pp. 120-51; and Daniel Turner, *De Morbis Cutaneis: A Treatise of Diseases Incident to the Skin* (London: R. Bonwicke, et. al., 1714), pp. 102-28.
[529] Sommers, 'Transcending the Sexed Body', p. 99.

That these images of tools demanded a particular kind of viewing, and a particular kind of viewer, is borne out in the images produced by Jan van Rymsdyk for William Smellie (Figures 55, 74 and 76-77). These will be treated at greater length in Chapter 5, but they are important to note here as the place where images of the forceps were re-combined with birth figures. These images show the fetus in various presentations, and being delivered with the assistance of different manual interventions. But while the early Enlightenment authors depicted the operational hand, Smellie's images are conspicuously devoid of hands, showing instead the author's 'artificial hands' – his forceps (Figure 55). Smellie's images are the first to show the tool actually being used *on* the body, breaking the social and visual taboo which had, until this time, kept the two apart. Smellie makes the ultimate demand of his viewer, that they see the forceps dispassionately, not as a tool with an aura of fear and death, but rather as a saviour of children. In this image (Figure 55), in contrast to the birth figures with operative hands discussed above, there is clearly no room for the practitioner's *hand* to grasp and manipulate the fetus's head. But the slim blades of the forceps slip around the fetal head, causing barely a ripple. And while it is made clear that the pressure exerted by the forceps causes the skull plates to shift and even overlap, the fetus in this image remains alive, wide eyed and even pointing didactically with a finger towards the tool, underscoring the lesson of their necessity. The white skin and blank pupils of the fetus associate it with classical sculpture which, along with the luxurious ribbon tied around the forceps' handles, gives the image an air of elegance that also works to further Smellie's point.[530]

By the time of Smellie's publishing, in 1754, we might be tempted to see his images as reconciling the debates over the suitability of forceps practice, as establishing the tool as necessary for all emergency practitioners and an accepted part of practice. Indeed, this is arguably the rhetorical stance adopted by the images, and reflects Smellie's own understanding of the tool. Yet, as with all the images discussed in this chapter, they can be read in multiple ways. If Smellie, who was a prominent teacher, practitioner and author in London in the 1750s,

[530] Elegance and Smellie's images is further discussed in Chapter 5, pp. 252-59.

made strides in developing the use of forceps and in training many student midwives to use them, he also faced some of the period's most vicious attacks, from anti-forceps writers such as Nihell and William Douglas. These images, as will be further discussed in the following chapters, attempt to show elegant, appropriate, effective use of the forceps, just as Viardel and Siegemund had done a generation before with the midwife's hand. But this message was only there if the viewer decided to read and understand the image in that way. By introducing the forceps into the birth figure, van Rymsdyk and Smellie made a bold assertion about practice, but also about the social and political identity of the midwife's touch, that triggered a vitriolic opposition lasting at least until the end of the century.[531] While these images have been widely seen by historians of midwifery as a great improvement in the visual culture of the discipline, this does not preclude their less talked-about, though as significant, culturally explosive potential.

[531] The reception of Smellie's images, at the time and today, is further investigated in Chapter 5.

Chapter 4

Limits and Liminality: Images of the Uterine Membranes

A small engraving, only 6 cm high, depicts a fetus encircled by a translucent, egg-shaped container (Figure 56). In this image, the fetus floats in the amniotic fluid, hands wrapped around his knees, head lowered, a small knowing smile on his face. His umbilical cord seems to twist and twirl in invisible currents. We peer into his world through the protective, veiling, yet fragile, almost-not-there uterine membranes. He is, to us, both accessible and at an absolute remove, both exposed and veiled, familiar and deeply strange.

This engraving was produced for Mauriceau's midwifery manual,[532] and can be found in many editions and translations of the work, as well as in some other midwifery manuals (Figures 57-58).[533] When I first encountered the image, I considered it to be an innovation in the visual culture of midwifery. I was intrigued, moreover, by the unusual way in which it represented the unborn child, and the way it seemed to evoke themes of mystery and secrecy that are key to how the pregnant body was understood in the early modern period. Further investigation showed that this was not the only 'fetus-in-membranes' image produced in the early modern period, and that these images seem, particularly in anatomical contexts, to have been loci for thinking about modes of knowing the body, and systems for representing it.

This chapter takes the form of a case study on Mauriceau's 'fetus-in-membranes' image, and will investigate the cultures, images, beliefs and modes of knowing that might have informed how it was read by early modern viewers. This chapter will first investigate the pre- and parallel history of the 'fetus-in-membranes' image in anatomy, before exploring how this and other contexts inform Mauriceau's image. I will examine this little engraving in relation to: the iconography of anatomy; the world of fine art prints and ideas of artistic agency; the practice

[532] Mauriceau, *Traité*, p. 209.
[533] See, for example, Mauriceau, *The Diseases of Women with Child*; and I.S. [Samuel Janson], *Kurtze jedoch aussführliche Abhandlung von Erzeugung der Menschen und dem Kinder-Gebähren* (Frankfurt am Main: Georg Heinrich Oehrling, 1700).

of midwifery and the importance of touch; the religious beliefs that surrounded pregnancy; and, finally, folk beliefs about children born with a 'caul'.

'Fetus-in-Membranes' in Anatomy

Among anatomists, the interest in representing the 'fetus-in-membranes' appears to have begun with Hieronymus Fabricius' *De Formato Foetu* (c.1600, Figure 59), which depicts a fetus enclosed in the membranes, with the uterine walls cut and peeled back. While images of the fetus *in utero* were certainly common before this time, this is the first instance I have found of the uterus being cut or removed, but the membranes remaining whole, with the fetus seen through them. The convention of such representations appears to have continued, in various forms and styles, to the present day, although this study, and this thesis, are bounded by those images produced for William Hunter's *The Anatomy of the Human Gravid Uterus* (1774, Figures 65-66 and 71-72).[534]

These anatomical 'fetus-in-membranes' images, I argue, were frequently produced because they were intriguing objects for both anatomists and for the artists they employed. The uterine membranes are liminal, they are both one thing and another, they veil and expose, they protect and lay bare, they give the impression both of knowledge given and knowledge denied. In his book *Pictures of the Body*, James Elkins finds the body's membranes troubling because they 'are skinlike but also wet and private': like the skin they delimit, they define the inside and the outside, yet they are also themselves an inside, a part of the mysterious bodily interior.[535] These contradictory, liminal and mysterious qualities so interested early modern anatomists and artists because they both provided a challenge to their skills, and a space in which to think through their limits and anxieties.

[534] Though just outside of the scope of this study, many of the themes discussed in this chapter are also pertinent to the 'fetus-in-membranes' images in Samuel Thomas Soemmering, *Icones embryonum humanorum* (Frankfurt am Main: Varrentrapp and Wenner, 1799), Figures 8 and 9.

[535] James Elkins, *Pictures of the Body: Pain and Metamorphosis* (Stanford: Stanford University Press, 1999), p. 38.

For anatomists, the uterine membranes had interesting symbolic and material properties. Discussing sixteenth-century anatomy, Katherine Park has argued that 'the female body – and the uterus in particular' was symbolically important as 'the ultimate natural secret'.[536] The uterus was a strange, troublesome, perhaps even autonomous organ that not only defined female physiology and female health, but also concealed the secrets of human generation.[537] And while, by the eighteenth century, the uterus had become a less active and less mystic force, it was still, as Ludmilla Jordanova has demonstrated, a prime object for the anatomist's attention. Early modern and Enlightenment anatomists exposed and depicted the uterus because they saw 'the emblematic core of their [women's] sex in the organs of generation'.[538]

Not only was the uterus symbolically compelling, it was also materially difficult to get hold of. Female, and particularly pregnant, corpses were hard for anatomists to acquire. Susan Staub suggests that only roughly 10% of corpses acquired from the scaffold in England in the seventeenth century were female, though more might have been found through other means.[539] Jonathan Sawday, noting that the proportion of images of female anatomy is much higher than the proportion of dissections, suggests that the subject was particularly intriguing.[540] Images of the uterus and the fetus were prestigious because rare, and within this, images of the membranes were even more special. During pregnancy, women produce two uterine membranes: the amnion and the chorion, which are separate and rather thick in early pregnancy, but which, by late pregnancy, have fused and stretched, becoming translucent and

[536] Park, *Secrets of Women,* p. 169.
[537] For histories of the uterus, the female body and sexuality in the early modern period see also Dixon, *Perilous Chastity*; Duden, *The Woman Beneath the Skin*; Fissell, *Vernacular Bodies*; Gowing, *Common Bodies*; Keller, *Generating Bodies*; Laqueur, *Making Sex*; and McGrath, *Seeing Her Sex.*
[538] Jordanova, *Sexual Visions,* p. 58. See also Andrew Cunningham, *The Anatomist Anatomis'd: An Experimental Discipline in Enlightenment Europe* (Farnham: Ashgate, 2010), p. 100 and 172-73.
[539] Staub, 'Surveilling the Secrets of the Female Body', p. 55. Corpses may also have been stolen or illegally purchased, and sometimes permission to conduct a dissection or autopsy was given by family members.
[540] Sawday, *The Body Emblazoned,* pp. 220-21.

so fragile that they are 'easily ruptured with slight pressure from a plastic hook'.[541] These membranes contain the fetus, amniotic fluid and placenta, and form a lining between these and the wall of the uterus. While it is possible to cut through the uterine wall without cutting the membranes, it requires delicacy and skill. The exposure of the membranes, whole and unbroken, can be understood, therefore, as a mark of skill in the manual acts of dissection that were becoming increasingly valued in this period.[542]

The difficulty of obtaining pregnant subjects, and of exposing the uterine membranes, is perhaps what led Fabricius to have the first 'fetus-in-membranes' image produced (Figure 59). His ability to delicately excise the membranes is emphasised in this image, as they seem to have been completely removed, and then rested upon the dissected uterus. Such an act would have been extremely difficult, and this image should be understood as a rhetorical argument for Fabricius' skills, rather than a record of a particular dissection.[543] Such an image works, moreover, not only to display the anatomist's manual skills, but also his special capacities for sight and understanding. As Sawday has argued:

> The surgeon seems to share the iconic status of the artist (or the visionary) within our culture, since both are held to be in possession of a privileged gaze which is able to pass beyond common experience, through surface structures, to encounter a reserved core of reality.[544]

The anatomist's gaze *sees through* to the core, both literally, in its visual access to the bodily interior, and in its ability to sort, identify, regulate and explain what is seen.

Chiming with Sawday's association of surgeon with artist, Fabricius' image is also one that speaks in valorising tones about the artist's sight, their special ability to see the body clearly, or differently, and to reproduce that special sight in an image. These artists, and many who would follow, seem to have seen 'fetus-in-membranes' images as a unique opportunity to hone

[541] Christina M. Racek, MD., email communication, 25 September 2016.
[542] For discussions of the increased value placed on practical skills in this period, see Klestinec, 'Practical Experience in Anatomy'; and Chapter 2, pp. 126-32.
[543] Indeed, Govert Bidloo's atlas of 1685 is often credited as the *first* to produce anatomical images of single dissected specimens. See Massey, 'Pregnancy and Pathology', p. 80.
[544] Sawday, *The Body Emblazoned*, p. 12.

their skills. The subject required the evocation of translucency, fragility and reflectiveness; it required that the artist describe the fetus's fluid environment; and it required that the artist represent the special three-dimensionality of things seen through other things. Many later artists, as this chapter will explore, used series of waving hatched lines to depict the shape and translucency of the membranes, but Fabricius' artists took a different tack. They opted to use no lines to describe the membranes themselves, but rather *imply* the membranes' presence by showing a glint of light bouncing off them just above where the umbilical cord meets the placenta, and by showing the fluid, which fills the bottom of the membranes, rising against and shaped by the invisible containing walls. These elements work to describe the membranes and fluid in which the fetus lives, but they do so by showing the membranes artificially still globular, whole and taut, while the fluid is mostly drained away. Thus, the image does not show exactly what would be seen in a dissection, but rather works to explore and explain the qualities of these bodily elements.

Indeed, representing the membranes as 'half-filled' not only served to emphasise that they *do* contain fluid, it also engaged with wider textual discussions on the anatomy of the pregnant body. It was common in the seventeenth century to describe the membranes, as the midwifery author James Wolveridge does, 'in which sweat and urine are gathered together, in which the Infant swimmeth, and sits as safe as in a Bath'.[545] Indeed, this fetus does seem to 'bathe', lying on his back in the fluid, his ankles crossed and head pillowed. Such analogies served to make the world of the unborn more familiar: they elucidated the purpose of the fluid – to protect the fetus – and by contextualising the aquatic environment with a domestic analogy, made it seem less strange.[546] This image, therefore, is a construction that describes the body in multiple different modes: combining a style of careful observation and detail, with an imagined composition, and references to common analogies and stories about pregnancy. This moving

[545] [Wolveridge], *The English Midwife Enlarged*, p. 10.
[546] For more on domestic analogy in the seventeenth century, see Chapter 1, pp. 73-76.

between representational modes demonstrates the anatomist's skills in understanding and explaining as well as their skills in dissection and observation.[547]

But, if both anatomists and artists saw the 'fetus-in-membranes' image as a locus for thinking about and displaying professional skills, then it was also understood as a locus for thinking about and articulating professional anxieties, and particularly the anxiety that the body as it was known through anatomy was not exactly like that of the living and whole body.[548] Dániel Margócsy has argued, for instance, that '[a]natomy and first-hand observation do not go well together. The human eye cannot see the internal structures of the living human body, hidden behind the skin'.[549] The dead body no longer moved, it was rapidly decaying and, as it was opened to sight, it was also materially destroyed. Thus, what the anatomist saw, was not what the living body was actually like. Margócsy notes that early modern anatomists were especially troubled by the way that fluids, which give the living body both shape and dynamism, drained away when dissecting the dead.[550] This problem was particularly evident when dissecting the pregnant body because, in opening the membranes and gaining direct visual access to the fetus, one also released the waters, irrevocably changing the fetal environment, its position within the body, and the shape of both membranes and uterus. The 'fetus-in-membranes' image, therefore, represents a liminal moment in the process of dissection, in which the anatomist can simultaneously *see* the fetus, partially, and yet still envision it as it would be when alive and within the mother's body.

The 'fetus-in-membranes' image offers a privileged vision of the body arrested in time, the importance of which is elucidated by examining an image of the *broken* membranes produced for Andreas Vesalius' *De humani corporis fabrica* (1543, Figure 5 iii), and copied for

[547] For further discussion of the different ways in which anatomical images could be 'accurate' or 'truthful', see Chapter 3, pp. 99-101 and Chapter 5, pp. 228-31. The theme is also addressed in Daston, 'Epistemic Images'; Daston and Galison, *Objectivity*; Kusukawa, *Picturing the Book of Nature.*
[548] Cunningham, *The Anatomist Anatomis'd*, p. 56.
[549] Margócsy, *Commercial Visions*, p. 137.
[550] Ibid., p. 138.

Juan Valverde de Amusco's *Historia de la composicion del cuerpo humano* (1556, Figure 60).[551] In the probable draftsman Jan van Calcar's version for Vesalius (Figure 5 iii), we see an imagined bodily interior in an atemporal space: the bodily elements retain shape and apparent life, despite being dissected and floating free of the bodily context. They look like they could be repeatedly separated and put back together again. The probable draftsman Gaspar Becerra's version for Valverde (Figure 60), however, is much more material and temporal. The fetus and membranes remain floating and separated from the rest of the body, but now they hover at the feet of a full anatomical figure and above a grassy landscape. In this version, the fetus, instead of calmly floating with legs and arms crossed, seems to hunch over in discomfort, clutching at the umbilical cord around his neck. Adding to the sense of peril, amniotic fluid pours from the broken membranes onto the earth beneath. These alterations make the image more physical and material: the attitude of the fetus brings the image closer to the contingencies and dangers of childbirth, and the draining fluid to the terrible irrevocability of dissection.[552] As the fluid trickles away onto the ground below, we know that the body cannot be put back together again – already it decays, the body returning to the earth. It is in counterpoint to such an awareness that the 'fetus-in-membranes' image offers its liminal moment of seeing without destroying, of life on the cusp of death.

The liminal moment – between seeing and destroying, between life and death – offered by the 'fetus-in-membranes' image, is particularly important given the wider anatomical metaphor of 'unveiling'. Ludmilla Jordanova has described the early modern 'assumption that anatomical and surgical knowledge unveils the human body'.[553] This metaphor, she notes, is often expressed in frontispieces which feature veils and curtains of cloth elegantly drawn back. Mechthild Fend has further associated the skin itself with a veil: she argues that the physical act of skin-removal in dissection allowed those who conducted or witnessed dissections to develop

[551] This image was widely copied, including in editions of both Rösslin and Rüff, and is also discussed in Chapter 1, pp. 59-60. See Figures 3 and 13.
[552] Margócsy, *Commercial Visions,* p. 138.
[553] Jordanova, *Sexual Visions*, p. 99.

an ability to 'see through' the living opaque body, to understand and picture how the interior worked and moved, to map that knowledge onto the living body.[554] Jordanova, Fend and Claudia Benthien further associate this veiling and unveiling specifically with the female body, which had long been understood as mysterious, troublesome, and less knowable than the male body.[555] Of course, this unveiling of the female bodily interior was part of a wider misogynistic culture of control, which prescribed modesty in the veil, and found sexual titillation in the act of unveiling.[556] As Jordanova argues, 'unveiling men makes no sense, possibly because neither mystery nor modesty are male preserves but are attributes of the other'.[557]

But while the skin is an opaque veil, either covering or drawn back, the membranes are teasingly translucent. Seen through, they offer both the idea of secrecy and covering, while also giving a glimpse of the interior. Benthien has described such a living yet see-through body as the anatomist's ultimate ideal.[558] Many anatomical images showed a privileged view of the temporally arrested, 'unveiled' body, posed as if still alive, even colluding in its own dissection and exposure (see, for example, Figure 61) – yet such images were clearly fantasies. 'Fetus-in-membranes' images offered a different, remarkable way to express this desire – they simultaneously veiled and exposed, they offered sight *without* being cut, and thus they provided the intriguing illusion that the fetus was seen, and yet still alive. The membranes, thus, were a real bodily element that seemed to embody the anatomist's ideal. Indeed, the text of William Hunter's *The Anatomy of the Human Gravid Uterus* (1774) suggests that the translucency of the membrane and its capacity to simultaneously protect and expose were considered its most compelling attributes. Hunter almost never writes the word 'membrane' without the adjective

[554] Mechthild Fend, *Fleshing Out Surfaces: Skin in French Art and Medicine, 1650-1850* (Manchester: Manchester University Press, 2017), pp. 227-28.
[555] Claudia Benthien, *Skin: On the Cultural Border Between Self and the World*, trans. by Thomas Dunlap (New York: Columbia University Press, 2002), p. 64.
[556] Jordanova, *Sexual Visions,* pp. 87-110.
[557] Ibid.*,* p. 110.
[558] Benthien, *Skin*, p. 48.

'transparent', and repeatedly describes how 'distinctly' or 'obscurely' things are seen through them.[559]

Images of the membranes offered a space for thinking through these problems of seeing and knowing, as can be seen in the anatomical images produced by Odoardo Fialetti for Adriaan van den Spiegel's and Giulio Cesare Casseri's *De formato foetu liber singularis* (1626, Figure 61), and in the anatomical fugitive sheet titled 'Autumnus' (Figure 62, see also Figure 12). Fialetti's series of anatomical figures show living women who expose their interiors by peeling back their own skin. The second of four full-length anatomies (Figure 61 ii) shows the membranes, represented by gently swirling hatched lines that simultaneously describe and obscure the fetus beneath. If this image teases the inquisitive sight of the anatomist, however, both unveiling and veiling simultaneously, then curiosity is satisfied by turning the page, and viewing the next image which shows the fetus exposed. As a group, the four images mimic the process of dissection: the turning of the page mirroring the peeling back of skin, muscle and membrane in a kind of anatomical strip tease. Here the viewer's desire to open up and see, without damaging, is catered to with a clean, bloodless dissection: tactile, but abstracted and aestheticised.[560]

The same material play with the paper body is possible with the anatomical sheet 'Autumnus' (Figures 12 and 62).[561] The sheet shows a male and a female figure, each with anatomical interiors comprised of multiple flaps of printed paper, layered over each other.[562] The figures are surrounded by visual information of all kinds, from astrology and botany, to uroscopy and alchemy. Here, anatomy is only one of multiple modes through which the body can be known.[563] Paper technologies, such as flaps and volvelles, are used in these sheets to

[559] Hunter, *The Anatomy of the Human Gravid Uterus*.
[560] See Moore, 'Paper Cuts', p. 57.
[561] For further discussion of this print, see Chapter 1, pp. 88-90.
[562] For discussions of such flap sheets, see Dackermann, ed., *Prints and the Pursuit of Knowledge,* pp. 68-77; and Karr Schmidt, *Altered and Adorned,* pp. 73-91.
[563] For a detailed discussion of the kinds of knowledge and the modes of representation in these four prints, see Horstmanshoff, et. al., *The Four Seasons of Human Life.*

create a rich, materially engaging representation of the body and the world.[564] The membrane flap, as usual, seems to have been a particularly challenging element within the system of representation. This flap shows the outline of the fetus, covered with the same gently waving hatched lines that we see in Spiegel's image (Figure 61 ii). The flap below shows the same fetus, this time in crisper detail. Yet the fact that the fetus had to be drawn on the membranes flap, because paper is not actually see-through, seems to have troubled the artist. He addressed this problem by cutting a little hole in the membranes flap, exposing the crown of the fetal head beneath.[565] There is something quietly humorous about this addition: the artist draws the viewer into a consciousness of the play in which they engage, not just lifting and closing flaps, but playing 'peek-a-boo' with the fetus. Indeed, this flap provides a kind of meta-material commentary on the sheet of which it is part.[566] The hole reminds us of the material dissimilarity between paper and membrane. Paper is opaque, it is hardy, and, as the support on which text and image is printed, it is a public, mobile material, the conveyor of information. Membranes, on the other hand, are translucent and fragile – hidden within the body, they are private, and they do not display and disseminate, but contain and veil. We should, I argue, take the paper flap and the hole all-in-all: together, they represent not only what the membranes look like, but what they are: materially complex, simultaneously there and not there.

As the seventeenth century closed and the eighteenth century began, other anatomists such as Govert Bidloo and Charles Nicholas Jenty turned their attention to images of the membranes, also approaching them as a means to think through the complexities of their professions, and the processes of representation. Bidloo and his artist Gerard de Lairesse's commitment to making images 'ad vivum', in front of the dissected cadaver,[567] lead to an

[564] For theorisation of the term 'paper technologies', see Anke te Heesen, 'The Notebook: A Paper-Technology', in *Making Things Public: Atmospheres of Democracy,* ed. by Bruno Latour and Peter Weibel (Cambridge, MA: The MIT Press, 2005), pp. 582-89.
[565] For more on the problems of spatialisation in anatomical flap sheets, see Moore, 'Paper Cuts', pp. 59-60.
[566] For a discussion of the 'metapictorial' in the seventeenth century, see Victor I. Stoichita, *The Self-Aware Image: An Insight into Early Modern Metapainting* (London: Harvey Miller Publishers, 2015 [1993]).
[567] See Fend, 'Drawing the Cadaver "Ad Vivum"'.

interest in broken membranes and trickling fluids (Figure 63).[568] Membranes – and rumpled membranous cloths – appear at the periphery of his images of fetuses and placentas, broken and discarded as part of his investigative project. The material breakage and visual exposure of anatomy, as with Becerra's image for Valverde de Amusco (Figure 60), leads to dripping fluids, caught in the process of disappearing completely from the image's frame and the anatomist's grasp.

The English anatomist Jenty, along with his artist Jan van Rymsdyk and his engraver Johann Michael Seligmann, experimented with the technique of mezzotint for their images of the pregnant body, and while the softer, more tonal images were denigrated by some of his contemporaries as less technically precise, they were well suited to the diaphanous, blurring, mysterious qualities of the membranes (Figure 64).[569] Bright lines of highlight, fluidly produced by the mezzotint technique of working in light, describe the moistness of the membrane and the way it is stretched tense over the body.[570]

However, it was another project in which van Rymsdyck was involved – Hunter's *The Anatomy of the Human Gravid Uterus* – which really took full advantage of the potential of the uterine membranes as a space for thinking about anatomy and art. Hunter's overarching ideal was of images 'in which the object is represented exactly as it was seen'.[571] As will be discussed in Chapter 5, rhetorically at least, Hunter considered his artists to be simple copiers or, in Lyle Massey's words, 'mere conduit[s] of pure empiricism'.[572] Yet looking at the images themselves

[568] For discussion of Bidloo's anatomical images, see Fend, *Fleshing Out Surfaces,* pp. 47-53; Margócsy, *Commercial Visions*, pp. 136-67; and Lyle Massey, 'Against the "Statue Anatomized": The "Art" of Eighteenth-Century Anatomy on Trial', *Art History*, 40:1 (2017), 68-103.
[569] Carin Berkowitz, 'The Illustrious Anatomist: Authorship, Patronage, and Illustrative Style in Anatomy Folios, 1700-1840', *Bulletin of the History of Medicine,* 89:2 (2015), 171-208 (pp. 186-88). See also Charles Nicholas Jenty, *The Demonstrations of a Pregnant Uterus of a Woman at Her Full Time* (London: The Author, 1758), p. 9; and McGrath, *Seeing Her Sex*, p. 74.
[570] In the mezzotint process, the plate is first roughened so that it prints in a uniform black. The roughness is then strategically smoothed away by the engraver to produce increasingly lighter tones. Completely smooth areas correlate to white spaces on the final print. This working in white is the reverse of engraving and etching processes.
[571] Hunter, *The Anatomy of the Human Gravid Uterus,* Preface.
[572] Massey, 'Pregnancy and Pathology', p. 83.

inevitably tells a more complicated story, and the membranes seem to have been a subject through which the complexities of the artist's role were particularly thoroughly explored. In Table 21 (Figure 65), for instance, we find an image that on first inspection seems to adhere closely to Hunter's ideal of the observed specimen. Rather than fully exposed membranes, this image depicts only a small crucial incision in the uterine wall, out of which a portion of the membranes bulges. This is a stark indication of their fragility, and the difficulty with which they would be completely excised. Much as Fabricius' image (Figure 59) had done, Hunter's makes a claim for his skills in dissection, observation and understanding, but here the claim is shaped by Hunter's own severe Enlightenment commitment to the single observed specimen. However, despite his ideal of the 'infallible' image, the accompanying text to Table 21 (Figure 65) reminds us of the inevitable gap between object and image.[573] Hunter describes how '[i]n this angle between the womb and the secundines, the artist endeavoured to express what was very apparent in the object, viz. the continuity of the substance of the womb and of the secundines'.[574] In his acknowledgement of the artist's hard work, Hunter also acknowledges the creative work of translation and representation that links object to image, as well as the inevitable gap that separates the two.

For Hunter, the membranes were worth dwelling on because they were a fascinating, elusive bodily element – difficult to expose, investigate and represent. But for the draftsman, Alexander Cozens, and the engraver, François-Germain Aliamet, the membranes also provided a way to reflect more widely on the nature and history of their discipline.[575] Hunter's representational ideals are often associated with the atlas's highly detailed, tonal

[573] Hunter, *The Anatomy of the Human Gravid Uterus,* Preface.
[574] Ibid.*,* Table 21.
[575] Jan van Rymsdyck is typically the only artist credited in art historical discussions of Hunter's atlas. But while he did produce most of the drawings and engraved one of the plates, Hunter employed three other draftsmen and 17 other engravers to produce the 34 plates in this book. See Caroline Grigson, '"An Universal Language" William Hunter and the Production of *The Anatomy of the Human Gravid Uterus*' in *William Hunter's World: The Art and Science of Eighteenth-Century Collecting,* ed. by E. Geoffrey Hancock, Nick Pearce and Mungo Campbell (Farnham: Ashgate, 2015), pp. 59-80.

'naturalism'.[576] Yet here, as in others of the plates, outline is also employed, indicating the existence of multiple modes for representing the body. The great white expanses of the background and the corpse's skin encourage our eye toward the centre of the image: the uterine membranes, represented in velvety-rich tone. This technique creates a strange material contradiction, akin to that of the 'Autumnus' membranes flap with its hole (Figure 62): what is intended to be read as solid, unpenetrated flesh, is represented by almost-blank paper, while what is rendered in a thick mesh of inked lines, is meant to be read as see-through. The artists again highlight the difference between paper and membrane, and more widely between image and object. In this engraving, what is most ephemeral, most penetrable by the eye – the membrane – is, in terms of ink and paper, most material, and most present. Again, the materiality of the print makes us aware of the difference between paper and membrane, as well as between the image which exposes, and the membrane which veils. In this engraving, the more the artists focus, the more detail with which they represent, and the closer they try to get to the eventual subject – the fetus – the more obscure things become. As the eye travels from the blank outer to the inked inner, things become smaller, darker and more complex: the membranes work to complicate and baffle the Enlightenment investigative ideal.

Moreover, the body, rendered merely in outline, assumes the creamy white of marble sculpture. The reclined position and the neat and hairless pudenda add to the classicising feel. Against this, the opened interior, bulging darkly from the seemingly stony exterior, is doubly surprising. The solid exterior gives way to a soft and fleshy interior, both much more material and much more alive. Perhaps, in this image, Aliamet and Cozens were looking back to Vesalius and the tradition of representing organs in hollow classical torsos. But while Vesalius used classical sculpture to make an argument for the legitimacy of his images,[577] the artists here seem to see a classicised exterior as dull and superficial compared to what lies beneath. Reproducing, instead, the specific way that the *anatomist* sees the body, they skim over the smooth perfection

[576] For further discussions of the ideals of 'naturalism' and 'realism' in eighteenth century anatomy, see Chapter 5, pp. 226-31.
[577] Kusukawa, *Picturing the Book of Nature*, p. 215.

of the exterior skin, zeroing-in with a deep and intense interest on the workings of the interior. In this valorising of the anatomist's way of seeing and knowing, the artists also highlight what Hunter wished to avoid acknowledging – that there is no such thing as 'the simple portrait, in which the object is represented exactly as it was seen': there are only multiple ways of seeing, and of representing.[578]

Another image from Hunter's atlas, one of several small figures from Table 26, depicts the uterus, excised from the maternal body, and with a small 'window' cut into it, exposing the membranes (Figure 66). Another window, the twelve-paned window in Hunter's dissecting room, can also be seen reflected in the membranes' surface. Massey, following Hunter's rhetoric, describes the window as 'a temporal signifier that testifies to the artist's presence in the dissection theatre and therefore to the reality on which the image is based'.[579] McGrath notes that the window might also act as an 'unintentional reminder of the grid of the image, of the way in which viewers saw through a screen, both literally and metaphorically'.[580] She declares that this reference to the image must be unintentional because, for Hunter, '[a]ll transcription was to serve the end of faithful representation'.[581] McGrath not only underestimates Hunter's awareness of the image-making process by confusing his rhetoric with his understanding, she also denies any agency at all to the artist and the engraver. Indeed, Carin Berkowitz has even argued that such anatomists as Hunter 'used visual style to render artists and engravers invisible', aiming to associate their illustrated books only with themselves, rather than with any named artist.[582] However, such approaches confuse what we now describe as 'naturalistic' style with an ideal of unmediated and allegedly 'artless' imagery. In this case, for the draftsman, van Rymsdyck, and the engraver, Aliamet, the window, as a reminder of the way that viewers 'saw through a screen, both literally and metaphorically', was an entirely intentional and self-referential allusion.

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[578] Hunter, *The Anatomy of the Human Gravid Uterus,* Preface.
[579] Massey, 'Pregnancy and Pathology', p. 81.
[580] McGrath, *Seeing Her Sex,* p. 89.
[581] Ibid.
[582] Berkowitz, 'The Illustrious Anatomist', p. 175.

In this image, the membranes are both mirror and window, reflecting the image *of* a window, as well as functioning *as* a window onto the fetus within. Within classical art theory, art itself was often compared to both a mirror and a window onto the world.[583] Thus, the membranes become a symbol of representation itself, both reflecting the exterior world, and exposing the interior microcosmic world of the body. Indeed, the reflection probably spoke to these artists not just about the window or the mirror of art, but also the drawing grids, frames, and 'veils' or 'velums' used by some artists to draw an object in the correct proportion and perspective.[584] The reflection of the many-paned window turns the membrane itself into such a grid, the association between the two resonating in the way that both membrane and grid were described as 'veil' and 'velum'.[585] Thus, the membrane here is window, mirror and grid, a triumvirate of facilitating frames that help the artist to see and to describe. By introducing these symbols of looking and representing into the image itself, the artists bring these acts to the fore and require the viewer to remember them. In fact, in this period, reflections and windows were widely used symbols of the artist's presence and agency – one can be seen, for instance, in the painting by Schalcken discussed in Chapter 1 (Figure 16). Such symbols contributed to a new self-aware approach to image-making in the early modern period that Victor Stoichita has called 'metapainting'. This period, he argues, saw a shift in thinking about what images were and could

[583] Plato and Aristotle both described art as mimetic, a mirror of nature. See, for a summary, Noël Carroll, *Philosophy of Art: A Contemporary Introduction* (London: Routledge, 2002 [1999]), pp. 19-23. Much later, Leon Battista Alberti urged that the picture plane be treated as a window, through which the subject to be painted is 'seen'. See Leon Battista Alberti, *On Painting,* ed. and trans. by Rocco Sinisgalli (Cambridge: Cambridge University Press, 2011 [1439-41]), p. 39. The use of both metaphors in early modern art is discussed in Stoichita, *The Self-Aware Image.*

[584] Dürer, for example, describes such grids in his work on measurement: Albrecht Dürer, *Underweysung der Messung mit dem Zirckel und Richtscheyt* (Nüremberg: [Hieronymus Andreae], 1525). The complex grid used by Jan Wandelaar for Bernhard Siegfried Albinus, *Tabulae Sceleti et Musculorum Corporis Humani* (Leiden: Joannem and Hermannum Verbeek, 1747), is discussed in Tim Huisman, 'Squares and Diopters: The Drawing System of a Famous Anatomical Atlas', *Tractrix,* 4 (1992), 1-12.

[585] Alberti describes such a grid as a 'veil': Alberti, *On Painting,* pp. 51-53. Clark Hulse discusses the significance of the term 'velum' to describe these grids in Clark Hulse, *The Rule of Art: Literature and Painting in the Renaissance* (Chicago: University of Chicago Press, 1990), pp. 74-75. 'Veil' was also a common word for the uterine membrane, see Thomas Rogers Forbes, *The Midwife and the Witch* (New Haven: Yale University Press, 1966).

do, which involved 'a blazing confrontation between the new image and its own status, its own limits.'[586]

The window/mirror/veil of the membrane in this image, therefore, is both a self-aware statement on the process of representation by the artist, and an exploration of the anatomist's gaze. The early modern period was one in which a microcosmic understanding of the body was widespread. It even endured through the eighteenth century, despite being gradually dropped from learned medical and midwifery texts. It provided systems for understanding – through comparison and analogy – both what went on in the body, and in the world.[587] Within this system, the fetus was both a miniature microcosmic person, and a microcosm in itself. Gazing through the membranes, therefore, the viewer saw both a tiny world, and a reflection of the world at large. Indeed, according to Eve Keller, this looking in at the microcosmic world had a particular significance for Enlightenment anatomists, as they saw in the fetus a symbol of 'the masculine, freeborn individual'.[588] The membranes, therefore, both expose the secret interior to the anatomist's inquiring eye, showing him the seed of his own existence, and they reflect the anatomist's own image back at him. As such, the membranes both facilitate and stymie this project of knowing the body and the self, they expose while also forming a barrier between the outer macrocosm and inner microcosm. Indeed, it seems that in the early modern period, the membranes were understood more broadly as a mystical and spiritual barrier, as well as a bodily one. Helkiah Crooke, for instance, describes how:

> even as God in the great World hath separated the fire from the earth by the interposition of water and air, so in the Microcosm or little World, the Nature of man imitating the grand Architect hath separated the Infant from the Womb by the interposition of these membranes.[589]

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[586] Stoichita, *The Self-Aware Image,* p. 34. Svetlana Alpers has also explored mirrors, camera obscura, and artists engaging with the relation of image to sight in Dutch painting of this period. See Svetlana Alpers, *The Art of Describing: Dutch Art in the Seventeenth Century* (London: Penguin Books, 1989 [1983]), pp. 26-71.
[587] Foucault, *The Order of Things,* pp. 19–50. See also Chapter 1, pp. 63-64.
[588] Keller, *Generating Bodies*, p. 106.
[589] Helkiah Crooke, *Mikrokosmographia: A Description of the Body of Man Together with the Controversies and Figures Thereto Belonging* (London: William Jaggard, 1615), p. 194.

The reflection of the window in Hunter's Table 26 (Figure 66) labels the membranes as a literal and philosophical window: a mystical portal to the invisible interior, and to a deeper understanding of the body and the universe.

Early modern anatomy is most often associated with a fierce and single-minded commitment to visual investigation. Jonathan Sawday, for instance, argues that the '"heroic age" of scientific discovery, initiated in Europe in the sixteenth century, was not a neutral or disinterested arena. It was a voracious consumer of the vestiges of the human frame.'[590] He ascribes to early modern anatomy a violent commitment to acquiring visual knowledge, a predatory disregard to the flesh under investigation and a willingness to induce fear and horror in pursuit of its goals. Of Enlightenment and modern anatomy, Foucault's 'clinical gaze', fiercely disinterested in its illumination of the dark interior, has come to dominate our thinking.[591] Yet, as this thesis has argued, anatomy was neither dominant nor naturalised as a mode of knowing the body in the seventeenth and even the eighteenth century, indeed it was one of multiple modes of knowing.[592] The liminality of the uterine membranes appears to have provided a space, therefore, for anatomists and artists to think through the ideals and limits of their investigative and representational projects. In these images, the membranes stand for the voracious sight of the anatomist, but also for what that sight *cannot* see. As veils, windows, mirrors and frames they remind viewers of the difficulties of knowing the body, and of representing it.

'Fetus-in-Membranes' in Midwifery

When Mauriceau decided to have a 'fetus-in-membranes' image produced for his own midwifery manual (Figure 56), he was borrowing from the visual culture of anatomy. It is likely that he saw the borrowing as a way to legitimise his status as a surgeon and midwife through

[590] Sawday, *The Body Emblazoned*, p. 4.
[591] Foucault, *The Birth of the Clinic*. Though the notion, when employed by historians, is often abstracted and simplified. See Ann La Berge and Caroline Hannaway, 'Paris Medicine: Perspectives Past and Present', in *Constructing Paris Medicine*, ed. by Caroline Hannaway and Ann La Berge (Editions Rodopi B. V.: Amsterdam, 1998), pp. 1-69 (p. 44).
[592] Chapter 1, pp. 48-52.

association with prestigious anatomy. He may also have seen such a borrowing as a way to nuance and problematise his professional position, as well as a way to express the complexity and multifariousness of the pregnant body with which he worked.

As already discussed in this thesis, midwifery and anatomy had an uneasy relationship, with midwives often both borrowing knowledge and professional legitimacy from anatomy, while also maintaining a barrier between the professions, and an assertion that midwifery was not *the same as* anatomy in how it knew or treated the body.[593] Mauriceau's manual consciously adopted some anatomical and surgical knowledge, combining it with the author's experience in midwifery. He certainly frames his 'fetus-in-membranes' image in anatomical terms, describing how:

> Cette figure represente les membranes de l'enfant tout-à-fait separées de la Matrice, dans lesquelles il est contenu avec ses eaux. Ces membranes ressemblent en quelque façon à une grose vessie, au travers dequoy on entre-voit un peu la figure de l'enfant:[594]
>
> [This figure represents the membranes of the infant all separated from the womb, in which it is contained with its waters. These membranes resemble in some way a large bladder, through this we see a little the figure of the infant.]

Mauriceau describes the function of the membranes: to contain the fetus and waters. In mentioning that they are entirely separated from the uterus he both explains to a potentially unfamiliar audience what they are seeing, and also locates the image within the world of anatomical dissection – the body opened and seen. This particular emphasis on how the fetus is *seen* through the membranes is significant: on the one hand, it associated the image with the prestigious culture of anatomy and establishes a truth value for it, but on the other hand, it seemingly ignores the midwife's reliance on and valorisation of touch as the primary sense for knowing and practicing upon the body.[595]

[593] See Chapter 1, pp. 48-52; and Chapter 3, pp. 165-72.
[594] Mauriceau, *Traité,* p. 209.
[595] For more on the tension between sight and touch in midwifery, see Chapter 3.

In fact, we can understand the membranes in Mauriceau's image, once again, as a liminal and problematising element. They were represented precisely because they could speak, simultaneously, about the prestigious visual knowledge of anatomy and the specialist haptic knowledge of midwifery. This dual knowing is expressed through the application of an unusual engraving technique, sometimes known as 'à une taille', in which a single spiralling line, which varies in thickness, produces the image. In this case, the outline of the fetus has been lightly sketched, but over this a single spiralling line both describes the membranes, and the contours of the fetus within.

The technique was known, but not particularly common in this period. It was most famously associated with an engraver working in Paris at the same time as Mauriceau: Claude Mellan. One of Mellan's most widely distributed engravings employed the same technique that we see in Mauriceau's membranes image. *The Veil of Veronica* (1649, Figure 67) depicts the cloth that Saint Veronica offered to Christ on his march to Calgary. When Christ wiped his face, an image of it was miraculously imprinted upon the cloth. Mellan's representation of this cloth purposefully courts a kind of tactile confusion. Rebecca Zorach has noted that the spiral line becomes slightly irregular as it moves outwards from the tip of the nose, as if describing the wrinkling of the cloth as well as the shape of the face. 'These slight ripples' she argues 'seem to suggest a physical imprint: a dip into rippling water, the soft pressure of the body against sheer woven fabric stretched thin.'[596] Looking at Mellan's *Veronica*, therefore, we ask ourselves whether we are looking at the way Christ's face distorted the cloth as it pressed on it, or at the miraculous image that that press produced? The image, in Zorach's words, 'shimmer[s] between ink and embodiment.'[597]

Zorach argues that Mellan's image was part of a wider movement in engraving of the period *away* from the representation, through outline, of objects seen, and towards the representation of how objects exist in space. Mellan's lines move with the shape of objects,

[596] Zorach, '"A Secret Kind of Charm"', p. 249.
[597] Ibid., p. 243.

thickening and thinning to describe ridges and hollows, rather than outlining objects and describing areas of light and dark.[598] The *Veronica* is an example of this process in which haptic input – Christ's face pressed to the cloth – is turned into visual image that itself mingles the visual and the tactile. Indeed, we might also say that this is reflected in the careful attention and the minute regulation of pressure required to engrave such a plate (it would have been done by maintaining the angle of the burin and slowly rotating the plate).[599] We find Mellan emulating with his cut the tactile knowledge that the image communicates: his burin, moving slowly around, pushing harder and then lighter, traces the shape of the object represented.

In Mauriceau's 'fetus-in-membranes' (Figure 56), too, the single spiralling line describes not the outline of the fetus, but its shape, and it is, I argue, an attempt to describe not only what the fetus *looks like* through the membranes, but how it is felt through them, as the bent head and drawn-up knees press against the maternal body. This image 'embodies' the fetus *in utero*, communicating the way in which the midwife knows the living and closed body. Indeed, it is hard not to recognise in the spiralling line the whorl of finger ridges, as if an enormous thumb had been carefully placed over the fetus, pressing and receiving impression. The membranes symbolise, for Mauriceau, the anatomical skills of opening, seeing and knowing, but also the midwife's commitment to bodily integrity and mystery, to knowing subtly, hazily and through touch.

In this way, membranes represented the veil of the body, and as such they reflect the vague, partial quality of the midwife's knowledge – the drive to investigate tempered by the respect for bodily integrity and secrecy. As discussed in Chapter 3, midwives, and particularly male midwives, had very limited access to the labouring body. Depending on the case and the inclination of the labouring woman, a midwife might be denied visual or tactile access to the body, a male midwife might be forced to work through a female midwife, and might even be banished from the room altogether. Even where practice was allowed, it was typically conducted

[598] Ibid., p. 240.
[599] Bamber Gascoigne, *How to Identify Prints: A Complete Guide to Manual and Mechanical Processes from Woodcut to Inkjet* (London: Thames & Hudson, 2004 [1986]), 9a.

beneath clothes and sheets, without visual access, as is emphasised in the few representations of the lying-in chamber that we have from this period. An image in Janson's manual (Figure 68) shows a male practitioner with a sheet tied around his neck and thrown over the woman's legs, separating his ability to touch from his ability to see.[600] In Hogarth's engraving of the Toft affair (Figure 69) – in which Mary Toft fooled many physicians and man-midwives into believing that she was giving birth to rabbits – clothes, cloth, bed hangings and even walls and doors separate the space into spheres of access. While one male midwife is allowed to actually touch her body, all are denied sight of it, and various other figures are arrayed at different levels of access and proximity. Finally, in an anonymous etching, reputedly of William Hunter (Figure 70), the male practitioner is excluded from the room entirely, forced to peep through a pair of floor-length curtains. The viewer, too, is excluded – left only the sight of the famous midwife's back. This image pokes fun at Hunter's restricted position, but also maintains that restriction, protecting the private, female world of birth from the public, medicalised world both of Hunter, and the print's viewers.

The membranes, which were often described at the time as a cloth or veil, seem to speak to this visual tradition, reflecting within the body, the constructs that limit sight and touch in the wider world. Just as anatomists became fascinated with the liminality of the membranes, the way they allowed some sight but retained bodily integrity and mystery, so they also echo the choices made by midwives in balancing the need to know, with the desire to protect the modesty and bodily integrity of the labouring woman. Indeed, while some midwives complained of being denied tactile or visual access, of being relegated to adjoining rooms or refused permission to conduct particular interventions, they were also at great pains to emphasise that they were *not* asking for complete sensory access to the labouring body. They were careful to establish that a good midwife touched as little as possible, gained a lot of information from scant tactile access, and intervened only when absolutely necessary. As Hendrik van Deventer wrote:

[600] This image was produced in Germany, but the same arrangement of sheets is described by the English midwife William Smellie. See Smellie, *A Treatise,* Vol. 1*,* pp. 264-65.

> The Woman in Labour will be ashamed, if she is laid more naked than Honesty and Necessity requires; besides if he [the man-midwife] handles the Patient cruelly and roughly; if he cuts the Infant to pieces; if he wounds the Mother; lastly, if for the sake of Wicked Delight he should dare to ask the miserable Woman Questions whilst the Body or Head of the Infant is in the Neck of the Womb, the greatest of Wickedness![601]

Inquiry – by sight, by touch, and even by the asking of questions – was to be absolutely limited in the name of calming and making comfortable the labouring woman. The body in midwifery was meant to be unseen, whole, and essentially mysterious – known only minimally by midwives who maintained a professional respect for bodily secrecy. The lying-in chamber, these new medicalised practitioners were eager to establish, was *not* the anatomy theatre, and the man-midwife was neither a surgeon nor an anatomist. So, while the irascible, unlimited investigation of the anatomist *informed* the midwife's practice, it did not *constitute* their practice.

The hazy, tactile representation of the fetus in Mauriceau's image, therefore, speaks simultaneously about the body known haptically, and the body known as little as possible, as still essentially secret and mysterious. Indeed, we might understand this image as expressive not only of the hazy tactile knowledge of the midwife, but of the limited, haptic sensorium of the *fetus*. In this period, touch was not only understood as the base, primary sense, but as the first one to develop. Helkiah Crooke, for example, wrote that:

> When the Infant in the wombe yet liveth onely a vegetative life, hee is first of all endued with the sense of Touching; whereby hee is cherished, nourished, and encreased, and is at length perfected; for so long as he is in the prison of the wombe, he neither seeth, nor heareth, nor smelleth, nor tasteth any thing, but yet hath absolute necessity of the sense of Touching, that he may be able to avoyde imminent dangers.[602]

The fetus could kick or press against the uterine wall, it moved, swam and somersaulted within its environment. While its life was in some ways sensorily limited, it was not inanimate or unfeeling. If it was secret from the world, the world was also secret from it. The veil of the membrane in Mauriceau's image (Figure 56) expresses the darkness and vagueness of touch,

[601] Deventer, *The Art of Midwifery Improv'd*, p. 14.
[602] Crooke, *Mikrokosmographia*, p. 648.

both for the viewer in the world, reaching for the fetus, and for the fetus, reaching for the world. The bowed head and lidded eyes of the fetus in this image suggest a kind of waiting or stasis, a body that senses only through its skin, quietly and secretly anticipating its birth into the full sensorium of the world. Touch and shape is how the midwife experiences the fetus, and how the fetus experiences itself and its own world. We might see the 'à une taille' technique and Mauriceau's image, then, as a getting down to fundamentals – an expression of the touch that informed both midwife and fetus, which circumscribed how both experienced the uterus. The simple, totemic image becomes a symbol of the elemental knowledge with which the midwife dealt and was concerned.

Mauriceau's membrane, then, is a symbol of the way midwives balanced knowing and not knowing, sight and touch. While for the anatomist, the membrane offered a last fragile barrier before complete bodily evisceration and the destruction of the fetal environment, it represented the same kind of precipice for the midwife. A whole membrane stood for non-intervention – it indicated that the fetus had only been felt indirectly, if at all. A broken membrane meant either that the labour was advancing, or that the midwife had taken the decision to manually intervene in the bodily interior. The membrane, therefore, is the threshold between the interior bodily microcosm and the exterior macrocosm, its fragility reflects the closeness and the difference of these two worlds, and both the inevitability and the danger of passing from one to the other. And among emergency midwives, these membranes also had significance as a symbol of 'natural' labour when whole, and of 'unnatural' or managed labour when broken.[603] The contrast between the still, secretive, totemic fetus in the 'membranes' image and the active, performative fetus of the birth figure points to this difference. With birth, the fetus became a known person, it became an individual, with a name, soon to be part of the Christian community. The traditional point of movement from the secret interior world to the outer one was birth, but when the midwife broke the membranes, felt for, turned and delivered the fetus, the outer world intruded on the mysterious interior, and the fetus became known

[603] For a discussion of 'natural' and 'unnatural' labour, see Chapter 1, pp. 54-56.

before it was born.[604] The liminality of the membrane, as the last barrier before birth, or between the inner and outer worlds, made it a compelling object for people of all kinds, from anatomists and midwives to artists and engravers – it was full of symbolic contradictions, it was physically present and yet diaphanous and, in its full and complete state, it represented a hovering moment in time, between the fully closed, unknown body, and the body opened, be it in dissection or in labour.

'Fetus-in-Membranes' and Religion

The membranes spoke of limits and liminalities not only within the context of professional practice upon the body, be it midwifery or anatomy, but also within other modes of knowing. As Laura Gowing has argued, in 'pregnancy, perhaps more than anywhere else, the body's mysterious workings could only be understood through a mix of anatomical observation, philosophy and legend.'[605] This holds true for early modern images of pregnancy, in which multiple representational modes were always at play, only some of which were sanctioned by accompanying texts. When addressing Mauriceau's 'fetus-in-membranes' image, the most richly resonant modes are religion and folklore.

While heroic and technical histories of medicine have often neglected religion and folklore, Cressy has rightly argued that the 'Christian culture of early modern England provided the master narrative for understanding the mystery of childbirth.'[606] This 'master narrative' reminds us of its overarching presence in early modern Europe as a mode for rationalising and treating bodily sickness.[607] Ernelle Fife has argued that male midwifery authors tended to downplay divine agency in favour of their own.[608] This does not mean, however, that they, or

[604] For a discussion of the midwife's realm of experience *inside* the body, see Chapter 3, pp. 155-57.
[605] Gowing, *Common Bodies*, p. 112.
[606] Cressy, *Birth, Marriage and Death,* p. 16.
[607] See also Ole Peter Grell and Andrew Cunningham*,* eds., *Medicine and Religion in Enlightenment Europe* (Aldershot: Ashgate, 2007); and Stolberg, *Experiencing Illness*, pp. 33-40.
[608] Ernelle Fife, 'Gender and Professionalism in Eighteenth-Century Midwifery', *Women's Writing*, 11:2 (2004), 185-200.

anyone else, considered religion irrelevant to childbirth. Rather, it indicates the complex, ambivalent relationship that the Enlightenment medical community had with the still extremely widespread acceptance that, as Louis Schwartz puts it, '[w]omen died in childbirth all the time, and there was very little that medical ingenuity could do about that sad fact.'[609] Indeed, though on some levels, midwife-authors wished to prove that they *could* do something about it, they were far from denying or even excluding from their writings the practical power of the divine in childbirth.[610]

While midwives, surgeons and physicians endeavoured to ease childbirth and rectify its problems, religion remained of central importance in 'comforting women in the face of their physical plight, while imbuing it with a dramatic, spiritual significance.'[611] This division of labour is made plain by the seventeenth-century diarist, farmer and clergyman Ralph Josselin who, in recounting one of his wife's labours, stated that

> shee judged her midwife did not doe her part, but god did all, and hath given us new experience of his goodnes, the child was dead when borne, I blesse god who recovered it to life, wee baptized it this day by the name of Mary, young Mrs Harlakenden holding it in my wives place god hath evened my number and made up the three which he tooke from mee my heart was very lightsom and joyful in the god of my mercies[612]

Josselin's text tacitly acknowledges that midwives can help in difficult births, that they have duties which can materially affect the labour's outcome. However, for this diarist at least, these medical workings are of no importance when compared to divine influence on childbirth. God delivered his wife, despite, or rather, immaterial to, the midwife's failings. It was God who revived the infant, exhausted by the difficult labour, long enough to be baptised. Moreover, it was God that made the event of the birth part of the wider fabric of Josselin's life – the story in

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[609] Louis Schwartz, *Milton and Maternal Mortality* (Cambridge: Cambridge University Press, 2009), p. 17.

[610] Kathleen Crowther-Heyck makes a similar argument about the place of religion in early modern German natural history texts. See Kathleen Crowther-Heyck, 'Wonderful Secrets of Nature: Natural Knowledge and Religious Piety in Reformation Germany', *Isis*, 94:2 (2003), 253-73.

[611] Schwartz, *Milton and Maternal Mortality*, p. 17.

[612] Ralph Josselin, *The Diary of Ralph Josselin, 1616-1683,* ed. by Alan Macfarlane (Oxford: Oxford University Press, 1991), p. 415.

which the birth and death of his children weave in and out of each other, growing and decreasing like the farmer's crops and livestock.[613] Such evidence as Josselin's should remind us that almost every early modern viewer of Mauriceau's 'fetus-in-membranes' would have brought a rich and complex religious understanding of childbirth to their interpretation. With this awareness of the religious mind-set, I propose that Mauriceau's 'fetus-in-membranes' had much to say about divine power, holy mystery, and the body in generation and childbirth.

Joseph Koerner, in *The Moment of Self-Portraiture in German Renaissance Art,* has described an interest, among printmakers in this time and place, in producing Veronica images. Because the holy face was a 'contact relic', produced by direct touch with Christ, it was especially holy, and this specialness is reflected in how it was represented in print. Like Zorach, Koerner identifies a theme of materiality in these images: they are particularly material in associating the cloth with the paper support, or particularly immaterial where the holy image seems to hover over, rather than rest upon, the cloth.[614] That this particular subject encouraged printmakers to think about the nature and materiality of their medium, and processes of representation, is another way in which we may link Mauriceau's 'fetus-in-membranes' (Figure 56) with Mellan's *Veronica* (Figure 67). Both images evoke veils which are intriguing because they seem to be both material and divine. I have described already how the uterine membranes were both a material and a mystical barrier between worlds, the Veronica too, as a miraculous object, 'refuses to be materialized within the representation of earthly space.'[615]

Indeed, both the membrane and the Veronica fall into a wider understanding of the veil or 'velum', based in medieval thought and described by Clark Hulse as a sign that can 'mediate between material and divine levels or natures.'[616] For the early modern viewer, the presence of the fetus was itself a holy miracle, and its condition, alive, ensouled, but not yet in the world,

[613] See Ibid., pp. 325 and 416, for the diarist's accounts of his prophetic dreams in which his family is embodied as a plant.
[614] Joseph Leo Koerner, *The Moment of Self-Portraiture in German Renaissance Art* (Chicago: University of Chicago Press, 1993), pp. 80-127.
[615] Ibid., p. 99.
[616] Hulse, *The Rule of Art,* p. 75.

was intimately tied up with the sacrifice made by Christ to absolve the sins of humankind. Both Mellan's *Veronica* and Mauriceau's 'fetus-in-membranes' were, essentially, contact relics – manifestations of touch, and of the miraculous, redemptive power of Christ. Read in response to wider religious understandings of the veil, therefore, Mauriceau's image is no longer an anomalous, marginal image of an ephemeral part of human anatomy, nor is it simply a shrewd borrowing from the more respected and elevated discipline of anatomy. The image is, as Koerner has written of the holy face, 'the dream of an autonomous, self-created image, a picture produced instantly in its perfect totality, outside the bodily conditions of human making that are embedded in the fallen dimension of time.'[617] Pressing against the membranes, revealing itself for the first time from within the mysterious depths of the uterus, this image is an emblem and an icon of the miraculousness of new life created not by humans, but by the grace of God.

This reading is borne out, too, in the material production of these two images. As discussed already in this chapter, Mellan's *Veronica* is produced using a single spiralling line that makes manifest the image (Figure 67). Undoubtedly, there is a technical brilliance to this technique, and it is one that is showy – the viewer is *meant* not only to appreciate the image, but to appreciate *how* the image was made. Martin Kemp, for instance, uses this print as an example for his argument that, in the seventeenth century, a new flowering of technical skills elevated the print medium to an art form in its own right, and one that had an increasingly wide appreciative audience.[618] Indeed, this interpretation is made explicit by the caption on Mellan's print, which reads 'unicus formatur una', and which Zorach has translated as 'a unique one [masculine] is formed by one [feminine].'[619] Zorach suggests that the unique one refers both to the line, and to Christ himself. She also suggests that the unbrokenness of the line might be a reflection of Mary's immaculate conception, which would link this spiral of Mary's bodily

[617] Koerner, *The Moment of Self-Portraiture,* p. 84.
[618] Martin Kemp, 'Coming into Line: Graphic Demonstrations of Skill in Renaissance and Baroque Engravings', in *Sight & Insight: Essays on Art and Culture in Honour of E.H. Gombrich at 85,* ed. by John Onians (London: Phaidon, 1994, pp. 221-44 (pp. 241-42).
[619] Zorach, '"A Secret Kind of Charm"', p. 246.

integrity to the spiral of the unbroken membranes in Mauriceau's image.[620] In the continuity of the line, we might see the ideal unbroken line of generation and familial inheritance. Yet there is also another unique one that we cannot ignore here: Mellan himself. While ostensibly expressing the miraculous uniqueness of Christ, he also advertises his own skills in *manifesting* that singularity. By adopting the 'à une taille' technique, Mauriceau's artist also makes claims for technical skill and uniqueness. In both cases, the wondrousness, skill and uniqueness of the image's creation speaks to the same qualities in the generation of man.[621]

Indeed, this comparison must have played in to wider analogies between the workshop and the uterus, and even particularly between the human 'matrix', or uterus; the matrix more broadly as the place in which something is generated; [622] and the matrix as the plate or block from which a print is pulled. Thomas Bentley makes this link explicit in one of his prayers for pregnant women:

> And as good Lord thou dooest me make
> thy shop, to shape thy worke therein,
> Thy hand-worke so doo not forsake,
> but end the thing thou dooest begin.[623]

Both Mauriceau's and Mellan's images, therefore, link the plate with the uterus, the printmaker with the great Creator, and the human body with the workshop. Kathleen Crowther-Heyck has identified this analogy as widespread in Reformation Germany, where it served to link God's creative power to that of the artisan's, and Karin Leonhard has identified an understanding of image and body as similarly receptive and creative in Vermeer's paintings of pregnant women.[624]

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[620] Ibid.
[621] Artistic creativity and fecundity were often closely associated in the early modern period. See, for example, Rebecca Zorach, *Blood, Milk, Ink, Gold: Abundance and Excess in the French Renaissance* (Chicago: University of Chicago Press, 2005), p. 140.
[622] '*matrix*, n. I.1.; I.2.a.' in Oxford English Dictionary <http://www.oed.com/> [accessed 7 December 2017].
[623] T. B. [Thomas Bentley], *The Fift Lampe of Virginitie: Conteining Sundrie Forms of Christian Praiers and Meditations, to Bee Used Onlie of and for All Sorts and Degrees of Women, in Their Severall Ages and Callings; as Namely, of Virgins, Wives, Women with Child, Midwives, Mothers, Daughts, Widowes, and Old Women* (London: H. Denham, 1582), p. 105.
[624] Crowther-Heyck, '"Be Fruitful and Multiply"', p. 915; and Karin Leonhard, 'Vermeer's Pregnant Women: On Human Generation and Pictorial Representation', *Art History*, 25:3 (2002), 293-318.

In images such as Mauriceau's, then, the matrix analogy serves as a way of talking about the wondrousness of God's creation, as well as elevating the work done by the human printmaker.

Religion, and thus the way such images as Mauriceau's and Mellan's might be understood, were, of course, volatile in the early modern period. The greatest change in England occurred with the Reformation in the sixteenth century, though interpretations of Anglicanism, and indeed tolerance of other faiths and practices, varied greatly in the seventeenth and eighteenth centuries.[625] As concerns pregnancy and childbirth, the Reformation saw Anglican Protestant women reformulate what had been a close relationship with and reliance on the Virgin Mary and Saint Margaret, into a focus on the sins of Eve, and the redeeming power of Christ.[626] The Reformation also saw the suppression of various relics and holy artefacts such as girdles that had traditionally been used by women in childbirth.[627]

Another change instituted by the Reformation is described by Christine Peters as 'the protestant separation of virginity and sanctity.'[628] Instead of the medieval emphasis on virginity as the holiest state, 'the new religion honoured married life and promoted the idea of the godly woman.'[629] Peters remains dubious about whether this made women's situations better or worse; on the one hand it legitimised their marriages as pious, but on the other, it 'heralded the enforcement of patriarchy and the subjection of wives to their husbands.'[630] Moreover, as both Ulinka Rublack and Reynolds have noted, it meant that there was essentially no respectable

[625] For histories of religion, women and pregnancy in this period, see Colin B. Atkinson and William P. Stoneman, '"These Griping Greefes and Pinching Pangs": Attitudes to Childbirth in Thomas Bentley's *The Monument of Matrones* (1582)', *Sixteenth Century Journal*, 21:2 (1990), 193-203; Fissell, *Vernacular Bodies*; Hellwarth, *The Reproductive Unconscious*; Peters, *Patterns of Piety*; Judith Popovich Aikin, 'Gendered Theologies of Childbirth in Early Modern Germany and the Devotional Handbook for Pregnant Women by Aemilie Juliane, Countess of Schwarzburg-Rudolstadt (1683)', *Journal of Women's History,* 15:2 (2003), 40-67; Paige Martin Reynolds, 'Sin, Sacredness, and Childbirth in Early Modern Drama', *Medieval and Renaissance Drama in England,* 28 (2015), 30-48; and Schwartz, *Milton and Maternal Mortality*.

[626] See Adair Alberts, 'Spiritual Suffering'; Cressy, *Birth, Marriage and Death*, p. 16; and Peters, *Patterns of Piety*.

[627] Cressy, *Birth, Marriage and Death,* p.22; Fissell, *Vernacular Bodies,* p. 52; and Reinke-Williams, *Women, Work and Sociability,* p. 19.

[628] Peters, *Patterns of Piety,* p. 1.

[629] Ibid. See also Crowther-Heyck, '"Be Fruitful and Multiply"', p. 907.

[630] Peters, *Patterns of Piety,* p. 1.

alternative option to marriage for women: 'female domesticity and female spirituality became virtually synonymous.'[631] Pregnancy and childbirth became pious acts, the fulfilment of a woman's social and religious duties. And while this gave legitimacy and power to women committed to a domestic life centred on motherhood, it cast all those who sought any other kind of life as deeply 'disturbing'.[632]

For many post-Reformation English women, childbirth became a holy act aligned less with Mary's bearing of Christ than with Christ's suffering sacrifice on the cross. As Louis Schwartz explains, in relation to Protestant interpretations of John 16. 21-22:[633] '[b]ecause Christ thought of himself in terms of her experiences, a woman could think of herself as suffering as he did. She could think of herself as undergoing an ordeal caused not (or not only) by her own sins, but by those of mankind as a whole.'[634] Prayer books and sermons explained childbirth both in terms of a punishment for the sins of grandmother Eve, and as a spiritual suffering or sacrifice through which the mother was absolved and the creative benevolence of God was exercised in the gifting of a child to parents, and a new life to the world. As some scholars have noted, male authors tended to emphasise the Eve connection, attempting to subdue and control labouring women, to relegate them to a state of punishment and subjection.[635] Where we find a female voice, on the other hand, in such texts as Aemilie Juliane von Schwarzburg-Rudolstadtor's *Geistliche Weiber-Aqua-Vit* (1683) and the female-authored prayers in Thomas Bentley's *The Monument of Matrones* (1582), the interpretations are often much more directed towards Christ. The all-female community of the lying-in chamber allowed women the space to practice their own religious interpretation, and to craft and employ prayer to encourage and comfort labouring

[631] Reynolds, 'Sin, Sacredness, and Childbirth', p. 31.
[632] Ulinka Rublack, 'Pregnancy, Childbirth and the Female Body', p. 92.
[633] King James Version:
A woman when she is in travail hath sorrow, because her hour is come: but as soon as she is delivered of the child, she remembereth no more the anguish, for joy that a man is born into the world.
And ye now therefore have sorrow: but I will see you again, and your heart shall rejoice, and your joy no man taketh from you.
[634] Schwartz, *Milton and Maternal Mortality*, p. 58.
[635] Aikin, 'Gendered Theologies of Childbirth', p. 49.

women, rather, or as well as, to admonish and humble them.[636] Able to create their own narratives and interpretations, women associated their labours with those of Christ. In so doing, Jennifer Wynne Hellwarth argues, they elevated 'the mortal and sinful bodily experience to a sacred, transcendent experience'.[637] This transcendence of the physicality of birth, and the association of Christ's sacrifice with the woman's own, provide us with another tie between Mellan's *Veronica* and Mauriceau's image. The membrane, like the veil of Veronica, is symbolic of the mystical barrier between the physical and the spiritual realms. Manifest in these veils, 'shimmering', to use Zorach's word,[638] between body and soul, arise both the face of Christ the saviour; and the ur-human, the infant not yet born into the world, yet already created by God and his mother, and 'delivered' by Christ and his mother.[639]

Thus, the shimmering veil of the membrane, the way it manifested both the physical and the spiritual, expressed the way that the post-Reformation pregnant body was both a physical vessel – sinful flesh labouring in pain for Eve's Fall – and a spiritual vessel – the cradle of a sacred new life. In Mellan's *Veronica* (Figure 67)*,* the holy visage of Christ is made through physical impression, yet stands for spiritual salvation. In Mauriceau's 'fetus-in-membranes' (Figure 56), the fetus makes itself manifest by pressing against the veil of the membranes, yet stands for the holy generative power of God. Both draw the strings of spirit and body together, locating pregnancy and birth as a point at which the two were particularly strongly and significantly intermingled. Thus, while many English viewers would not have been familiar with both the engravings discussed here, the wider thematic links: between Christ, the labouring woman, and the unborn child; between veils and membranes, material and symbolic; and between physical and spiritual bodies and realms, would have been widely evident. While it is likely, given that both artists were working in Paris at the same time, that Mauriceau's artist was making an explicit reference to Mellan's *Veronica*, the two were also working within wider

[636] Ibid.
[637] Hellwarth, *The Reproductive Unconscious,* p. 77.
[638] Zorach, '"A Secret Kind of Charm"', p. 243.
[639] Crowther-Heyck, '"Be Fruitful and Multiply"', p. 928.

cultural understandings of veils, of pregnancy as a holy mystery, of the strange material contradiction of the body and soul in the contact relic and the unborn child.

As already discussed in this chapter, there was a general acknowledgement among male and female, emergency and regular midwives of this period, that the body in labour should be touched as little as possible and seen, preferably, not at all. In part, this was simply good practice – it kept women more relaxed and calm, it limited the potential for tearing or injuring the mother's or fetus's body, it discouraged premature intervention and, though unknown at the time, reduced the risk of sepsis.[640] However, part of the *reason* that this practice kept women calm, and practitioners in control, was because of the religious 'master narrative' which taught that generation and childbirth were holy mysteries, and processes presided over and controlled by God. The midwife's distance from these mysterious workings was professional good practice both for medical and spiritual reasons. Indeed, in one of John Oliver's meditations he explicitly asserts that there were some mysteries of the body not meant for human understanding, even that of medical practitioners, by giving voice to 'Philosophers, Physicians, Anatomists, &c.': '[b]ut the further I dive and search into this matter, the more I am at a loss; still new questions do arise, which I cannot resolve. Even *this knowledge is too wonderfull for me.*'[641] As Kathleen Crowther-Heyck has described, 'the hand of God shapes each and every child like it shaped the first human being at the beginning of time.'[642] Thus, each conception was as miraculous as that first conception. Within this context, the image of the membranes takes on a simple and enduring symbolic meaning: it is the veil of holy mystery, the limit of human understanding, behind which the fetus rests, secure, when all is said and done, against all the investigations of the doctor, the philosopher, and the anatomist. Hence the presence of the membranes image in Mauriceau's manual: a quiet nod to unknowability in the midst of a book that describes and depicts the pregnant interior.

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[640] See Edward Shorter, 'The Management of Normal Deliveries and the Generation of William Hunter', in *William Hunter and the Eighteenth-Century Medical World*, ed. by W.F. Bynum and Roy Porter (Cambridge: Cambridge University Press, 1985), pp. 371-83.
[641] Oliver, *A Present for Teeming Women*, p. 47.
[642] Crowther-Heyck, '"Be Fruitful and Multiply"', p. 914.

Indeed, the acknowledgement of holy mystery was made frankly and openly by some midwife-authors. Often, this was done by quoting from Psalm 139:

> 12 Yea, the darkness hideth not from thee; but the night shineth as the day: the darkness and the light are both alike to thee.
> 13 For thou hast possessed my reins: thou hast covered me in my mother's womb.
> 14 I will praise thee; for I am fearfully and wonderfully made: marvellous are thy works; and that my soul knoweth right well.
> 15 My substance was not hid from thee, when I was made in secret, and curiously wrought in the lowest parts of the earth.
> 16 Thine eyes did see my substance, yet being unperfect; and in thy book all my members were written, which in continuance were fashioned, when as yet there was none of them.[643]

Many texts of the time which dealt with pregnancy and childbirth quoted, or paraphrased, these lines.[644] The verses draw together an earthy, visceral understanding of the body, rooted in the kind of analogical thinking described in Chapter 1, with a fierce conviction in the mystery and unknowability of God's creative power. While Mauriceau himself does not quote the psalm, it is probable that he would have been familiar with the verses, both generally, and specifically through their frequent employment in midwifery texts. The 'fetus-in-membranes' images seem so neatly to illustrate these verses. Veils and shadows, fetuses curled up and turned away, or seen only in part, indeed suggest a body 'fearfully and wonderfully made'. For centuries, it had only been God's book that contained the secrets of nature, yet with the Scientific Revolution, the Enlightenment, and the spread of print, many of man's books began to display these secrets. For most of these authors, such a display was not a denial of God's creative power, but a celebration of it. Yet, such an exposure of what, before, had been a holy secret, must also surely

[643] King James Version, Psalms 139. 12-16.

[644] See, for example, Anon. *Aristotle's Works Compleated* (London: the Booksellers, [1741]), To The Reader; T. B. [Thomas Bentley], *The Fift Lampe of Virginitie*, p. 131; Brudenell Exton, *A New and General System of Midwifery in Four Parts* (London: W. Owen, 1751), p. 125; Deventer, *The Art of Midwifery Improv'd,* Some Account of the Work; Oliver, *A Present for Teeming Women,* p. 48; Sharp, *The Midwives Book,* pp. 153-54; Wolveridge, *Speculum Matricis*, Preface.

have felt, to many, awful in the old sense of the word. 'Fetus-in-membranes' images, in which the veil exposes and hides, seem to acknowledge these feelings.[645]

'Fetus-in-Membranes' and Folklore

The membranes' qualities of liminality and veiling, which fascinated anatomists, artists and religious thinkers, also produced, among lay people all over Europe and throughout the early modern period, a complex and pervasive folklore associated with children born 'with a caul'. In almost every case, the uterine membranes break during labour, releasing the amniotic fluid. They are then delivered with the placenta, forming part of the 'afterbirth'. Occasionally, however, the membranes will break in such a way that the fetus is born with part draped over their head and shoulders. This was, in the early modern period, called being 'born with the caul', and it had deep significance. 'Caul' is an old word with many meanings – in the early modern period, it could refer to a woman's cap or hair net, the supporting mesh for a wig, or a spider's web. It was also used to describe membranes within the body, including those of the uterus. Its cognate 'kell', also used in England, could also mean a cloak or shroud.[646] The caul that might be born with an infant was called, variously, a helmet, cap, veil, cloth, cover, bag, cloak, mask, shirt and second skin.[647] These words and associations work to knit the newly born child into the wider world and its culture, as did the amniotic fluid as 'bath', discussed earlier in this chapter.

The most widespread and common belief associated with a caul birth was that it brought luck or good fortune.[648] In some places and times, this luck was specific to the child born with

[645] How birth figures might have been understood in religious terms is also discussed in Chapter 1, pp. 84-85.
[646] '*caul*, n.1' and '*kell*, n.' in Oxford English Dictionary <http://www.oed.com/> [accessed 7 December 2017].
[647] Forbes, *The Midwife and the Witch*, p. 97.
[648] See Forbes, *The Midwife and the Witch*; Jacques Gélis, *History of Childbirth: Fertility, Pregnancy and Birth in Early Modern Europe*, trans. by Rosemary Morris (Boston: Northeastern University Press, 1991 [1984]), pp. 200-2; Carlo Ginzburg, *The Night Battles: Witchcraft and Agrarian Cults in the Sixteenth and Seventeenth Centuries,* trans. by John and Anne Tedeschi (London: Routledge and Kegan Paul, 1983 [1966]), pp. 1-15 and 56-61; and Edward Muir, *Ritual in Early Modern Europe* (Cambridge: Cambridge University Press, 1997), pp. 25-26.

the caul, and depended on that child retaining it, or even wearing it against their skin. In other cases, the luck could be transferred to a new owner if the caul was sold or passed on. Jacques Gélis, for instance, has recorded that a 'baby's body emerging thus "clad" from the maternal womb was considered to have some special protection, the expression 'born with a caul' became a proverbial description for someone who always enjoyed good luck'.[649] Gélis suggests that the good fortune was evidenced in the fact that the child was born already 'clothed'.[650] That these beliefs were very widespread and deeply ingrained is evidenced by the frequent efforts made by midwifery authors to dispel them. James McMath describes the lore surrounding the caul as 'only Old Wifes Frivolous Clatters, or Crafty Fictions some Midwifes uses to amuse silly Credulous People: for some Hooded have been seen as Unlucky as the Bare, and whiles the latter more Lucky than they.'[651] Mauriceau, calling the belief that children born with the caul would be fortunate 'meerly superstitious', does dryly comment that such children *were* lucky in 'having been born so easily; for in difficult Labours, Children are never born with such caps, because being tormented and pressed in the passage, these Membranes are broken and remain still there.'[652] These efforts to recast the caul as a piece of anatomy, stripped of folkloric meaning, were not very successful, and women in many parts of Europe continued to save and treasure the caul for its lucky properties into the twentieth century.[653]

The caul as hood or cap indicated unusual fortune or prosperity for the infant, but the caul as the container and limit of the fetus's watery environment provided a different lore. As Helen King notes, 'it was widely believed that being born with the caul meant you could not be drowned, nor your house set on fire, while it would be possible to tell if a child was ill by the moistness or dryness of their caul.'[654] Safety from drowning and from fire indicated a kind of familiarity with and in water that was out of the ordinary, a link to the time before birth, when

[649] Gélis, *History of Childbirth*, p. 200.
[650] Ibid.
[651] McMath, *The Expert Mid-Wife*, p. 124.
[652] Mauriceau, *The Diseases of Women with Child*, pp. 154-55.
[653] Forbes, *The Midwife and the Witch*, p. 107.
[654] King, *Midwifery, Obstetrics and the Rise of Gynaecology*, p. 85.

the fetus lived in water.[655] This goes too for the practice that Forbes calls 'amniomancy', for fortune telling by inspection of the caul. He notes that 'dried cauls apparently did change in appearance, possibly owing to the weather'.[656] Even after birth, therefore, the caul and child were linked by a watery connection.

Most remarkable, perhaps, was the belief that children born with the caul 'have visionary powers, to be able to "see" into the world of spirits.'[657] The idea that the child born with the caul would have some kind of clairvoyance or magical ability was very widespread – Forbes and Muir both cite examples of this belief from cultures all over the world.[658] Carlo Ginzburg's *The Night Battles* explores the beliefs in the northern Italian region of Friuli about the 'benandati', a band of 'good witches' who travel in spirit on certain nights to do battle with bad witches over the fate of the community's crops. These figures, Ginzburg notes, were all born with the caul, and needed to retain it in order to join in the spiritual battles.[659]

Ginzburg suggests that this set of beliefs 'provided an outlet for collective aspirations and fears – the terror of famine, hopes for a good harvest, thoughts about the afterlife, forlorn longing for the dead, anxiety over their otherworldly fate.'[660] The folkloric tradition incorporated religious and magical elements, and provided a master narrative which incorporated many of the most important elements of rural life. Within this framework, the little bodily object was one of great significance and power. Muir suggests that the caul was, for its owner, a kind of 'external soul', and Forbes that 'in the caul resided the child's guardian spirit or "life token"'.[661] None of these authors theorise why such a belief might exist, and indeed it would be hard to say with any certainty, considering the diffuse, and largely undocumented nature of such beliefs.

[655] Forbes, *The Midwife and the Witch*, p. 105.
[656] Ibid., p. 97.
[657] Muir, *Ritual in Early Modern Europe,* p. 26.
[658] Forbes, *The Midwife and the Witch*, p. 100; and Muir, *Ritual in Early Modern Europe*, pp. 25-26.
[659] Ginzburg, *The Night Battles,* p. 12.
[660] Ibid., p. 61.
[661] Muir, *Ritual in Early Modern Europe,* p. 26; and Forbes, *The Midwife and the Witch*, p. 100.

Yet the material qualities of veiling and liminality do seem to provide a fertile ground for the development of such lore.

Laura Gowing has suggested that childbirth more widely was a time of deep spiritual significance:

> The proximity of death and the extremes of pain made labour an important time for words and oaths. For married women as well as single, what was said in labour was powerful, and childbirth was a time for speaking secrets, expressing fears, making promises or swearing oaths.[662]

Infant clairvoyance, the endowing of supernatural skills and, indeed, the caul's ability to protect from, or to attract, witches and demons who might try to steal or swap a child, all feed into this idea of childbirth as a time of vulnerability, where normal barriers are broken, where truths are spoken and veils are parted or transgressed.[663] Such understandings of childbirth as a breaking of physical and spiritual boundaries were not only geographically, but temporally widespread, found even in Old English childbirth charms.[664] The idea of the skin and membranes as protective, yet particularly vulnerable to magic and witchcraft during birth, is also noted by Gowing: '[w]itchcraft beliefs attributed to women an intimate magical power over the body that enabled them to get under their neighbours' skins and into their blood.'[665] It was the material qualities of the caul, its status as a limit, a veil, a container, a barrier, but one that, in the process of birth, was breached, transgressed and surpassed, that made it so powerful. The retained caul, carefully kept by mothers or midwives, blessed and looked to and worn close to the skin, was a symbol of the fragile veils between the earthly and the spiritual, and a key to parting them.

These complex beliefs were clearly an enduring and widely present part of early modern culture – something that made up a part of everyone's understanding of the body and birth, regardless of scepticism. While some medical practitioners tried to neutralise the power of the

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[662] Gowing, *Common Bodies*, p. 166.
[663] Forbes, *The Midwife and the Witch*, p. 100.
[664] See L. M. C. Weston, 'Women's Medicine, Women's Magic: The Old English Metrical Childbirth Charms', *Modern Philology*, 92:3 (1995), 279-93 (p. 289).
[665] Gowing, *Common Bodies*, pp. 73-74.

caul by identifying it, as Culpeper does, as 'only a piece of the *Amnios*',[666] the testimony of Jane Sharp suggests that folkloric knowledge was not so easily shaken off:

> Some think it ridiculous and fabulous, but as all extraordinary things signifie something more than is usual, so I am subject to believe that this Caule doth foreshew something notable which is like to befall them in the course of their lives.[667]

Sharp's discussion of the caul is largely copied from Culpeper, but while Culpeper disavows any link between the caul and good luck, Sharp cannot bring herself to do so. For her, an anatomical knowledge of the membrane does not negate a folkloric one. Thus, when looking at an image of the fetus in the membranes, we must recognise that we are seeing an object that was richer, more remarkable and more culturally expressive, than our own body culture might lead us to expect.

For an early modern woman looking at an image like Mauriceau's (Figure 56), she might see a membrane that expresses the liminal position of her unborn child – its wavering on the edge of two worlds, and its vulnerability, before baptism, to magic and devilish forces. This image of the infant behind the veil looks mysterious and esoteric in a vague way to a modern viewer, and I argue it would have looked so, with much more specificity and intensity, to an early modern viewer. On the other hand, and likely simultaneously, the image's linking of fetus and membrane might have been seen as an expression of the luck or good fortune of the unborn child. It was an image that expressed the cosmic significance of birth, the potential for crossover between the microcosmic bodily world and the outside world, but also between human world and the spiritual worlds. At the time of birth, this image suggests, there was both danger and fortune, as well as a rare chance to glimpse behind the veil.

The liminality of uterine membranes allowed early modern people to engage in wide, various, creative and transgressive thinking: about the body; about the nature of life and religion; and about acts of creation and representation. 'Fetus-in-membranes' images provided

[666] Culpeper, *A Directory for Midwives*, p. 173.
[667] Sharp, *The Midwives Book*, p. 138.

a space for telling stories and moulding knowledge about the body, and thus they are excellent resources for understanding the period's rich and pluralistic body culture. They engaged with the ideals and anxieties of anatomical investigation; with the practices and modes of knowing specific to midwifery; and with the culture of veils, barriers and transgressions that infused thinking about childbirth for people of all kinds.

Moreover, such images are important not just as historical resources, but as artworks in their own right. Mauriceau's 'fetus-in-membranes' image, for example, was a novel, sophisticated and technically accomplished addition to the iconography of midwifery. It engaged with cultures of printmaking and representation both within and beyond the traditions of midwifery and anatomical illustration. Images like Mauriceau's show that the visual culture of midwifery could be ambitious, complex and subtle, and that authors might commission prestigious and accomplished engravers to indicate the importance and novelty of their own work. Midwifery illustrations could demand a broad visual literacy from their viewers as they drew on and contributed to contemporary culture from anatomy to folklore, religion to printmaking. What a study of the uterine membranes – how they were depicted and understood – shows, is not only how rich cultures and understandings of the body were, but how complex and expressive were print cultures.

Chapter 5

Challenging the Hunterian Hegemony: The Longevity of an Iconographic Convention

One figure looms large over histories of midwifery and anatomy from the mid-eighteenth century: William Hunter. Particularly, the large, obsessively detailed, severely observational engravings produced for his anatomical atlas *The Anatomy of the Human Gravid Uterus* (1774, Figures 65-66 and 71-72), have had an enormous influence over how the visual culture of the pregnant body in the eighteenth century has been understood. Most of the images examined in this thesis have received almost no serious attention from scholars of art or visual culture, yet Hunter's images – mostly drafted by Jan van Rymsdyk and engraved by a host of different engravers – have, in comparison, been much studied.[668] Scholars such as Ludmilla Jordanova, Roberta McGrath, Carin Berkowitz, Lyle Massey, Martin Kemp, Lorraine Daston and Peter Galison have all addressed these images.[669] They have investigated the atlas's production history, the ideals of anatomical investigation and representation framing Hunter's project, and the way the images informed and shaped the body culture of eighteenth-century England.

Many of these studies, in their methodology and the conclusions they draw, have inspired and informed my own work in this thesis. However, in this final chapter, I aim to show how the disproportionate attention given to Hunter's *Anatomy* has left us with a skewed understanding of how the pregnant body was envisioned and understood in the mid- and late eighteenth century. Particularly, I argue that it has left us without an awareness of the visual culture of midwifery as something different from the visual culture of anatomy. In this chapter,

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[668] For a comprehensive study of the artists employed in this project over its long history, see Anne Dulau Beveridge, 'The Anatomist and the Artists: Hunter's Involvement', in *William Hunter's World: The Art and Science of Eighteenth-Century Collecting,* ed. by E. Geoffrey Hancock, Nick Pearce and Mungo Campbell (Farnham: Ashgate, 2015), pp. 81-95; and Grigson, '"An Universal Language"', pp. 59-80.

[669] See Berkowitz, 'The Illustrious Anatomist'; Daston and Galison, *Objectivity*; Jordanova, *Sexual Visions*; Jordanova, *Nature Displayed*; Kemp, 'True to Their Natures'; Massey, 'Pregnancy and Pathology'; Massey, 'Against the "Statue Anatomized"'; and McGrath, *Seeing Her Sex*.

I will discuss Hunter's *Anatomy* in the context of other images of the pregnant body made for the midwife-authors William Smellie (Figures 55, 74, and 76-77) and John Burton (Figures 79, 82-83 and 85-86), in order to gain a better understanding of the *variety* of ways in which the pregnant body was approached and represented in this period. I aim to demonstrate that the 'practitional' image remained central to the visual culture of midwifery throughout the eighteenth century.

William Hunter

William Hunter is a remarkable figure in the history of midwifery, less because of his practice (although he did have a thriving practice), than because of his success at turning midwifery into an elite, medicalised, learned practice, and one that allowed him access to the drawing rooms, as well as the lying-in rooms, of London's elite.[670] Hunter was well known in the late eighteenth century for his attendance on the wealthy and the aristocracy – he even attended the labours of Queen Charlotte, Consort of George III.[671] He was also well known as an anatomist, teaching at his private school in Great Windmill Street and, from 1786, at the Royal Academy of Arts.[672] He also worked to build up an extensive collection of anatomical drawings and prints, as well as wet and dry specimens.[673] In 1774, he published his enormous *Anatomy*, the plates for which had been in production since the early 1750s.

Roy Porter has argued that the teaching, collecting, and publishing of the *Anatomy* was part of Hunter's mission to forge a unique career as anatomist, prestigious man-midwife, and

[670] See Porter, 'William Hunter'.
[671] Woods and Galley, *Mrs Stone & Dr Smellie,* p. 270.
[672] See Kemp, 'True to Their Natures'; and Helen McCormack, 'The Great Windmill Street Anatomy School and Museum' in *William Hunter's World: The Art and Science of Eighteenth-Century Collecting,* ed. by E. Geoffrey Hancock, Nick Pearce and Mungo Campbell (Farnham: Ashgate, 2015), pp. 13-28.
[673] See Carin Berkowitz, 'Systems of Display: The Making of Anatomical Knowledge in Enlightenment Britain', *The British Journal for the History of Science*, 46:3 (2013), 359-87; and Stewart W. McDonald and John W. Faithfull, 'William Hunter's Sources of Pathological and Anatomical Specimens, with Particular Reference to Obstetric Subjects', in *William Hunter's World: The Art and Science of Eighteenth-Century Collecting,* ed. by E. Geoffrey Hancock, Nick Pearce and Mungo Campbell (Farnham: Ashgate, 2015), pp. 45-58.

gentleman. These, along with a cultivated social manner, gave him an entrance into a world of scholarly and social elites that had not previously been open to midwives. The *Anatomy* especially, according to Porter, was 'a work of medical illustration in the Vesalian tradition' which was intended 'to deploy art to immortalise his rank as a gentleman.'[674] Crucially, the *Anatomy* was a work of learned anatomy, not midwifery, and indeed Hunter purposefully did not publish a midwifery manual in order, Porter argues, to keep the value of his midwifery lectures high.[675] This means that Hunter's legacy: his book, his collections, his influence over artists at the Royal Academy, are all scholarly and anatomical.

It is probably because the work was so firmly intended to enter the corpus of remarkable, innovative, important works in anatomy, that it has also attracted such attention from scholars. Everything about it, from its size (the book measures 67 x 49 cm) and expense, to its intensity of detail, demands attention in a way that smaller, cheaper works do not. The problem addressed in this chapter, is that the disproportionate attention granted to this work has led to an understanding of it as representative of thinking about the pregnant body in the period more widely.

Hunter's images[676] are remarkably large and highly detailed, they purport to depict specific anatomised specimens dissected and prepared by Hunter and his assistants (see Figures 65-66 and 71-72). The prints were drafted with a careful eye for the tiniest of details, in a 'naturalistic' style that urges belief in their observational faithfulness. They also display a remarkable virtuosity in engraving, employing a diverse range of techniques to achieve the high level of detail, and particularly to communicate all kinds of material and textural qualities. These

[674] Porter, 'William Hunter', p. 31.
[675] Ibid., p. 25.
[676] In the first chapter of this thesis I explained my reasons for often referring to images by the name of the original commissioning author. For the period treated in this chapter, it is more common to know the names of the artists and engravers who produced midwifery illustrations, and they are mentioned where known. However, I continue also to refer to images by the name of the commissioning author, partly because it is the easiest way to refer to all the images from a book on which multiple artists worked. The convention is also used in this chapter to acknowledge, as Berkowitz has argued, that groups of artists developed particular styles to be associated with specific commissioning authors. See Berkowitz, 'The Illustrious Anatomist'.

images break with older traditions in anatomical imagery in that there is no suggestion that the subjects are alive: they do not self-display or self-dissect.[677] They are not posed in imagined pastoral or architectural settings. They have a new austerity of style, a new fanatical adherence to the actualities of the dissection room, and at the same time, a new and fantastical abundance of anatomical detail.

Taking, for example, the much-discussed Table 6 (Figure 72), which shows the dissected body of a woman who died when nine months pregnant, it has often been remarked that Hunter and his artists seem to flaunt their dispassionate stance, describing the raw flesh and sawn bone where the corpse's legs have been cut off at mid-thigh.[678] There is no concession to modesty and no move to protect the body's integrity or its mysteries in these images. They propose an anatomical interest simply in the material complexities of the body, and not in wider social, cultural or emotional contexts. Contrasting this fetus with others examined in this thesis, the special commitment to drawing the subject 'just as it was found; [with] not so much as one joint of a finger having been moved to shew any part more distinctly, or to give a more picturesque effect', is evident.[679] This fetus is not alive, nor does it seem to have personality: its skin is livid, its limbs contorted awkwardly, it is covered in a fluid that is drying and cracking through exposure to air, its face is not visible.

Hunter's images are most often characterised as part of a new, austere Enlightenment project for observing and knowing the body. Lyle Massey has described the images, for example, as '[s]tark, brutal, and fetishistically naturalistic'.[680] They have been associated with Foucault's clinical gaze and with various movements towards the medicalisation of childbirth; the excision of imagination and artistic influence from anatomical imagery; and a new kind of direct, observational truth value for the anatomical image – what Roberta McGrath calls 'an

[677] For a discussion of these conventions see Chapter 4, pp. 192-93.
[678] Grigson, '"An Universal Language"', p. 61; Jordanova, *Nature Displayed,* p. 184; and McGrath, *Seeing Her Sex,* p. 80.
[679] Hunter, *The Anatomy of the Human Gravid Uterus*, Table 6.
[680] Massey, 'Pregnancy and Pathology', p. 73.

authenticating visual language'.[681] As Ludmilla Jordanova describes, 'Hunter held up the immediate perception of supposedly unacted-upon nature as an epistemological ideal.'[682]

Of course, most scholars acknowledge that this is an unachievable ideal, that there must always be a gap of interpretation between object and image.[683] Indeed, both Hunter and his artists also understood that image-making was much more complex than their own rhetoric implied.[684] However, it is still important for a cultural understanding of the period that such a rhetoric existed and that Hunter, if he did not practice it perfectly, did expound on it in the Preface to the *Anatomy*. His ideal was of an image that was a 'simple portrait, in which the object is represented exactly as it was seen'.[685] This ideal he contrasted against anatomical images produced 'under such circumstances as were not actually seen, but conceived in the imagination'.[686] Indeed, Hunter's understanding of his images was part of a wider eighteenth-century debate on anatomical illustration, which is explored by Daston and Galison. They define observational records of single specimens, such as those images commissioned by Hunter or Govert Bidloo (see Figures 20 and 63), as 'characteristic' images; and imagined, idealised, composite images, such as those produced for Bartolomeo Eustachi's *Tabulae anatomicae* (1714) or Bernhard Siegfried Albinus' *Tabulae sceleti* (1747, Figure 73), as 'ideal' images.[687] 'Ideal' images could avoid the individual aberrations or anomalies of the single specimen, they could be more useful for teaching anatomy, and they aided anatomists and surgeons by recording the ideal or normal state of bones, muscles and organs.[688] They lacked, however, the kind of fundamental claim to truth that 'characteristic' images had. In Hunter's words, while the

[681] McGrath, *Seeing Her Sex*, p. 80. See also Daston and Galison, *Objectivity*, pp. 75-77; and Massey, 'Pregnancy and Pathology'.
[682] Jordanova, *Nature Displayed,* p. 186.
[683] See, for example, Daston and Galison, *Objectivity,* pp. 55-114.
[684] For further discussion of this, see Chapter 4, pp. 195-201.
[685] Hunter, *The Anatomy of the Human Gravid Uterus*, Preface.
[686] Ibid.
[687] See Daston and Galison, *Objectivity,* pp. 69-84.
[688] For a discussion of how Albinus understood his 'ideal' images, see Huisman, 'Squares and Diopters'; and Hendrik Punt, *Bernard Siegfried Albinus (1687-1770): On 'Human Nature', Anatomical and Physiological Ideas in Eighteenth Century Leiden* (Amsterdam: Israël, 1983).

'characteristic' image 'shews the object, or gives perception; the other only describes, or gives an idea of it'.[689]

The interesting thing about Hunter's 'characteristic' images is that they seem to have been remarkably *convincing.* Viewers of all kinds, including today's scholars, seem to have been drawn in by the highly detailed, 'naturalistic' style. The style persuaded, and still persuades, viewers to interpret the images as accurate, truthful, and bearing a clear and uncomplicated relation to the object represented. Because this kind of detailed 'naturalism' or 'realism' is so convincing, scholars such as Jordanova are driven to remind us that '[r]ealism is, in fact, itself a historical construct, not an unproblematic and self-evidently valuable analytical term.'[690] Martin Kemp also notes the mesmeric quality of this representational style, calling it a 'distinctly double-edged sword': because it is so good at convincing the viewer of its truth, its actual relationship to the object represented often goes unexamined.[691]

This desire to simply believe the 'truthfulness' of the observed, detailed, naturalistic image has certainly haunted histories of eighteenth-century anatomy, medicine and midwifery. Ludwig Choulant, whose influential book on anatomical illustration was originally published in German in 1852, but saw its last English edition as recently as 1993, claimed that '[n]ot until Smellie (1754) and William Hunter (1774) published their monumental volumes do we actually find illustrations of the *foetus in utero* which were really observed and faultlessly reproduced from an anatomic point of view.'[692] These kinds of histories Steven Shapin has described as 'distributing medals (or punishments) for modernity': celebrating those developments and discoveries that seem to lead towards a modern, and 'best', practice.[693] In such heroic histories, Hunter's images are seen as a milestone, and a positive development towards the discovery and dissemination of biological 'truth'. Indeed, because Hunter's rhetoric and his images are so

[689] Hunter, *The Anatomy of the Human Gravid Uterus*, Preface.
[690] Jordanova, *Nature Displayed,* pp. 193-94.
[691] Martin Kemp, '"The Mark of Truth": Looking and Learning in Some Anatomical Illustrations from the Renaissance and Eighteenth Century', in *Medicine and the Five Senses,* ed. by W.F. Bynum and Roy Porter (Cambridge: Cambridge University Press, 1993), pp. 85-121 (p. 85).
[692] Choulant, *History and Bibliography of Anatomic Illustration,* p. 75.
[693] Shapin, *Never Pure*, p. 13.

compelling, even scholars who maintain a sceptical stance are still tempted to overstate their importance or pervasiveness in the eighteenth century. For instance, McGrath, who is hardly an admirer of Hunter, argues that from 'the eighteenth century onwards, there was no question of distinguishing between bodies and their representation; bodies were seen in the terms set out by the atlases.'[694]

Certainly, the observational, naturalistic style of Hunter's *Anatomy* was influential in the latter half of the eighteenth century. However, I argue that his influence has been over stated: there were other ways of understanding and representing the body that were of equal importance and wide dissemination in the eighteenth century, and the body was not indistinguishable from its representation in a few rarefied anatomical atlases. Jordanova, McTavish and Massey have suggested that the rise of the detailed, naturalistic style in Hunter's and Smellie's books signalled the demise of older modes for representing the pregnant body: that new 'Hunterian' images essentially replaced older birth figures in the visual culture of midwifery.[695] McTavish articulates this general sense of rupture: 'unlike seventeenth-century images of the unborn, which were offered as diagrams for conceptualizing what could be found in the womb, eighteenth-century engravings were thought to show what actually was inside the womb.'[696] This chapter aims to show that such ruptures and distinctions are not as simple as they seem. Birth figures were not replaced with anatomical images, nor were diagrammatic modes pushed out by observational ones. In fact, the visual culture of midwifery remained, throughout the eighteenth century, a place of rich and multiple modes, in which the 'practitional' continued to coexist with the anatomical.

[694] McGrath, *Seeing Her Sex,* p. 64.
[695] See Jordanova, *Nature Displayed*, p. 198; and Massey, 'Pregnancy and Pathology', p. 76.
[696] Lianne McTavish, 'Practices of Looking and the Medical Humanities: Imagining the Unborn in France, 1550-1800', *Journal of Medical Humanities*, 31 (2010), 11-26 (p. 22).

Material Culture and Midwifery Education

Histories of English midwifery and its visual culture have tended to associate serious cultural ruptures with the rise of the 'man-midwife' in the eighteenth century. As this thesis has demonstrated, however, the rise of male midwives, and the changes in the kinds of texts authored and the kinds of images produced were gradual and continuous.[697] Though the images produced for Hunter and Smellie may seem to be radically new and different, this chapter will show how they also fitted into wider visual cultures of midwifery, both in and before the eighteenth century.

Previous chapters of this thesis have discussed the rise of the 'man-midwife', and particularly how a masculine, medicalised approach to labour and the pregnant body was instituted first through texts and images. By the mid-eighteenth century in England's urban centres, however, men had come to dominate the most lucrative parts of midwifery practice for themselves. This meant monopolising wealthy and high status clients, but it also involved the development of teaching and management positions, either by offering private lectures, or by gaining official positions at one of the lying-in hospitals that grew up in the period.[698] I have argued that changes to midwifery practice and knowledge were not drawn entirely along gender lines: some women became medicalised practitioners, trained in institutions or at lecture courses, while the levels of training and experience among male practitioners also varied enormously. It is also important to keep in mind that female practitioners continued to deliver the vast majority of women, especially among rural and poor populations.

However, one change that affected most midwives of both genders was the growth and specialisation of the material culture of midwifery education. As lecture courses and lying-in hospitals became more common in England's major cities, and as the arguments of some male practitioners spread the belief that all midwives required some medicalised training in order to

[697] For a discussion of histories of man-midwifery, and my own approach to the issue, see Chapter 2, pp. 93-98.
[698] See Evenden, *The Midwives of Seventeenth-Century London*, pp. 186-203.

practice properly, midwifery books became more complex, specialised and technical.[699] Many authors of the period saw the books they published as a complement to their lecture courses, and part of a wider material culture of midwifery training that included the dissected body, drawings, books, prints, wet and dry specimens and working models of the labouring body.[700] This meant that images could become less universally readable, because the author's intended viewer was increasingly expected to have specific training in understanding the body, and representations of it, in anatomical, medical and mechanical terms. Moreover, such prospective viewers were understood to be part of an educative network in which experienced teachers and practitioners could offer assistance in the interpretation of images.

Of course, this ideal audience did not exactly match the actual demographic distribution of midwives: many continued to practice without formal training, and new technical midwifery books were inaccessible to them both in price, and in visual language. This dissonance, between the ideal midwife reader and most actual midwife readers, is reflected in the fact that many older, more generally accessible midwifery texts continued in print throughout the eighteenth century. Moreover, not only were old birth figures repeatedly reprinted in this period, new birth figures were produced in traditional modes. Simply, the visual culture of midwifery did not develop linearly in the eighteenth century, it diversified and expanded, accommodating a culture of practice that was becoming less homogenous as the divides between rich and poor, urban and rural, men and women, learned and non-learned widened.

[699] For the development of such a training culture in medicine more widely, see Susan C. Lawrence, 'Educating the Senses: Students, Teachers and Medical Rhetoric in Eighteenth-Century London', in *Medicine and the Five Senses,* ed. by W.F. Bynum and Roy Porter (Cambridge: Cambridge University Press, 1993), pp. 154-78.

[700] For histories of these London teaching collections, see Berkowitz, 'Systems of Display'; Blackwell, '"Tristram Shandy"'; Lieske, '"Made in Imitation of Real Women and Children"'; and McDonald and Faithfull, 'William Hunter's Sources'.

William Smellie and William Hunter

Historians have tended to group the images produced for Hunter's *Anatomy* (Figures 65-66 and 71-72), William Smellie's *A Sett of Anatomical Tables* (1754, Figures 55, 74 and 76-77) and Charles Jenty's *The Demonstrations of a Pregnant Uterus* (1758, Figures 64 and 75), as indicative of the new, learned, rarefied, urban culture of midwifery. In most cases, Smellie and Jenty are cast as followers of Hunter. Pam Lieske, for instance, asserts that '[w]ithout question' Smellie's images '*rival* the celebrated anatomical plates later produced under William Hunter' [my italics].[701] Roberta McGrath, in the same vein, notes that Hunter's *Anatomy* can be distinguished from the works of Smellie and Jenty by the 'consistency and the scale of its visual and linguistic rhetoric.'[702] Both see Hunter as the most committed member of a cohesive group, the pinnacle of a particular ideal of bodily representation. Lyle Massey also groups the works together, describing all three as 'obstetric atlases'[703] and arguing that, together, they 'contributed substantially to the epistemological reformulation of childbirth as a medical rather than domestic concern in the eighteenth century.'[704] It is true that these authors *did* to some extent engage with similar ideals and techniques for representing the body. But the narratives mentioned above tend to make too much of their similarities, and to downplay the vast differences in how these authors and their artists understood and represented the pregnant body.

Particularly in the case of William Smellie, the biographical links between him and Hunter – the fact that they were both famous man-midwives practicing in London, that they knew each other and occasionally worked together,[705] and that they both employed van

[701] Lieske, ed., *Eighteenth-Century British Midwifery*, V, p. 125.
[702] McGrath, *Seeing Her Sex*, p. 77.
[703] Massey, 'Pregnancy and Pathology'. This term is problematic, firstly because it is anachronistic: 'obstetrics' was not a widely used term until the nineteenth century, and Smellie certainly did not use it. Moreover, it creates a false sense of cohesion: while Hunter's *Anatomy* is an anatomical not an obstetrical work, Smellie's *Tables* is arguably not at atlas.
[704] Massey, 'Pregnancy and Pathology', p. 73.
[705] See, for example, William Smellie, *A Collection of Cases and Observations in Midwifery*. *Compleating the Design of Illustrating His First Volume, on that Subject,* Vol. 3 (London: D. Wilson, 1764), pp. 378-79.

Rymsdyk to produce images for their books – has led historians to see their aims in publishing as aligned.[706] Though Smellie's *Tables* was published in 1754, well before Hunter's *Anatomy* of 1774, Smellie was familiar with van Rymsdyk's drawings for the plates of Hunter's atlas from the early 1750s, and mentioned them with admiration in his own works, calling them 'very accurate, useful, and curious plates'.[707] McGrath has argued, moreover, that Hunter's images were 'conceived in the mid-eighteenth century and belong conceptually to the 1750s, lying somewhere between the older works on midwifery and the emergence of the new discipline of obstetrics.'[708]

However, at a time in which there was unprecedented competition for work among a burgeoning number of medical practitioners,[709] Smellie's acceptance of Hunter's images comes down to the simple fact that they actually practised and published in very different realms. Hunter's images, as I have already discussed, are anatomical, while Smellie's are in fact 'practitional' images in the tradition and manner of birth figures. The *Tables* were published to accompany Smellie's midwifery manual and two books of cases, published in 1752, 1754, and 1764 respectively. The images describe the living body in labour, various interventions, fetal presentations, the tools of the midwife's trade, as well as pregnant anatomy (Figure 74). Moreover, while Hunter mainly attended London's elite, and taught exclusive anatomy and midwifery courses, Smellie plied his trade among London's poor, delivering vast numbers of women and teaching hundreds of students at cheaper rates. He had neither the manners nor the address to practice in high society, but nonetheless made a name for himself as a skilled

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[706] For biographies of Hunter and Smellie, see W.F. Bynum and Roy Porter, eds., *William Hunter and the Eighteenth-Century Medical World* (Cambridge: Cambridge University Press, 1985); E. Geoffrey Hancock, Nick Pearce and Mungo Campbell, eds., *William Hunter's World: The Art and Science of Eighteenth-Century Collecting* (Farnham: Ashgate, 2015); Pam Lieske, 'William Smellie's Use of Obstetrical Machines and the Poor', *Studies in Eighteenth-Century Culture*, 29 (2000), 65-86; Porter, 'William Hunter'; Wilson, *The Making of Man-Midwifery*; and Woods and Galley, *Mrs Stone & Dr Smellie.*

[707] See Smellie, *A Collection of Cases,* Vol. 2, p. 150; and Smellie, *A Sett of Anatomical Tables,* Table 9.

[708] McGrath, *Seeing Her Sex*, p. 64.

[709] Evenden, *The Midwives of Seventeenth-Century London,* p. 186.

practitioner and teacher.[710] With their publications, too, the two midwives were aiming at very different audiences: Smellie's book was intended for students, while Hunter's wildly expensive volume was only really within the reach of successful medical practitioners, anatomists, and wealthy amateurs. Thus, to say, as Massey does, that the two pursued the same 'pathologising' project and employed that same style and mode of representation, is to ignore the great differences between the way the two works represent the body. Indeed, while Massey *does* note the main difference between the two – that Smellie's images 'repeatedly call up his practice as a man-midwife' in a way that Hunter's do not – she suggests that this 'practitional' aspect is incidental to the main pathologising project.[711] I argue, in contrast, that the 'practitional' is fundamental to Smellie's images, and makes them markedly distinct from Hunter's.

The images in Smellie's *Tables* were largely drafted by Jan van Rymsdyk, though Tables 37 and 39 were done by a different, unnamed draftsman, and Smellie notes that the Dutch anatomist Petrus Camper 'greatly assisted' in the production of 10 of the plates, though it is unclear in what capacity.[712] They were all engraved by Charles Grignion, who was an Academician and well-known engraver, producing book illustrations for anatomical and other books, as well as landscapes and reproductions of paintings.[713] The images are undoubtedly highly detailed, anatomically informed, and starkly naturalistic in a way that was new to the visual culture of midwifery. Indeed, the understanding of Smellie's *Tables* as a new Enlightenment work of anatomy is seemingly further supported by the use of the word 'anatomical' in the title, and by Smellie's claim in the preface that 'the greatest part of the figures were taken from Subjects prepared on purpose, to shew every thing that might conduce to the improvement of the young Practitioner'.[714] However, as I have already demonstrated, adopting the rhetoric of anatomical observation was a common technique among midwife-authors for

[710] Wilson, *The Making of Man-Midwifery*, p. 124.
[711] Massey, 'Pregnancy and Pathology', p. 88.
[712] Smellie, *A Sett of Anatomical Tables*, Preface.
[713] 'Grignion, Charles I.' in *Benezit Dictionary of Artists*, <http://www.oxfordartonline.com.libproxy.ucl.ac.uk/subscriber/book/oao_benz> [accessed 22 November 2017].
[714] Smellie, *A Sett of Anatomical Tables*, Preface.

establishing a work's truth value, regardless of whether such observation could actually be practiced.[715] Indeed, a cursory look at Smellie's *Tables* will show that these images were largely *not* drawn from dissection. The images of pelvises (Figure 74 i-iii), and some anatomical figures (Figure 74 vii), may well have been drawn from direct observation. But most of the images are 'practitional': imagined images of the bodily interior that describe not how the anatomist saw the body, but how the midwife should envision it. Smellie's images are arranged, moreover, in a system highly conventional to midwifery manuals: beginning with anatomy, then moving through birth figures depicting increasingly difficult presentations, and finishing with images of tools. Indeed, Smellie was clearly so conscious of the 'correct' way to order his images that he apologises that Table 10 (Figure 74 x), showing twins, 'ought to have been placed among the last Tables' as, following the conventional structure, cases of twins counted as a complicated labour and were treated after the various presentations of single fetuses.[716]

The majority of Smellie's images show the body in labour, describing various presentations and techniques for assisting delivery. Massey has claimed that these images were revolutionary in that they link 'the practical knowledge of midwifery to a deeper understanding of the female body than can be achieved only by the anatomist.'[717] This thesis has shown, however, that the adoption and adaption of anatomical modes of knowing had always been a part of birth figures, and though Smellie's are newly detailed, they are by no means revolutionary in this combination of the practical knowledge of the midwife with the learned knowledge of the anatomist.

In fact, as important as his anatomical borrowings from Hunter, are Smellie's 'practitional' borrowings from the birth figures produced for Hendrik van Deventer (Figures 30-31). Smellie knew Deventer's book – mentioning it in his own writing – and his images indicate

[715] See Chapter 2, pp. 107-10.
[716] Smellie, *A Sett of Anatomical Tables*, Table 10. Smellie explains that he placed the image where it was because it also serves to describe how the cervix stretches and becomes thinner as pregnancy develops.
[717] Massey, 'Pregnancy and Pathology', p. 77.

a familiarity with the older work.[718] As discussed in my second chapter, Deventer introduced the pelvis, and a newly mechanical understanding of childbirth, to the birth figure.[719] Smellie's declaration that he 'endeavoured to reduce the art of midwifery to the principles of mechanism', bears a strong resemblance to Deventer's attempts to explain the shape of the pelvis and the process of birth in mechanistic terms.[720] Indeed, Deventer's novel interest in how the fetus passed through the pelvis must have provided the groundwork for Smellie's later discovery, along with Fielding Ould, of how the fetal head rotates as it passes through the pelvis.[721] Smellie, van Rymsdyk and Grignion developed a visual language that was fitted to describe this complex mechanical movement. Some of the plates work in series to describe movement over time, as Siegemund's and Viardel's did. Tables 16-19 (Figure 76), for example, are grouped together by Smellie as intended to 'shew in what manner the Head of the *Foetus* is helped along with the Forceps as artificial Hands'.[722] Smellie and his artists also developed a side-view of the labouring body which owes much to Deventer's experiments in describing the pelvis using cut-throughs and rotated views. Tables 16-19 (Figure 76) show an imagined anatomical cut-through along the spine of the maternal body, but also show the body living, and in the process of labour, the fetus whole and nestled within the half-uterus. Certainly, these images are informed by detailed anatomical knowledge, but they do not show how the body was actually uncovered in dissection, through the peeling back of successive layers.[723] The vertical cut along the line of the spine was rarely practiced by anatomists, not only because it is difficult to achieve, but because it would destroy or section organs that an anatomist would want to expose whole. Rather, this side view is one that is specifically tailored to the knowledge of the midwife: it shows the pubis and the sacrum, the bones at the front and back of the pelvis, which define the space through

[718] See Smellie, *A Treatise,* Vol. 1*,* p. lxii.
[719] See Chapter 2, pp. 119-22.
[720] Smellie, *A Collection of Cases,* Vol. 2, p. 247.
[721] See Forman Cody, *Birthing the Nation*, p. 165; also Lieske, 'William Smellie's Use of Obstetrical Machines', p. 81.
[722] Smellie, *A Sett of Anatomical Tables*, Table 16.
[723] Sawday, *The Body Emblazoned,* p. 132. See also Cunningham, *The Anatomist Anatomis'd,* pp. 55-63.

which the fetus passes. The fetus is firmly established as alive and moving through its mother's body, and particular attention is paid to physiological elements important to the midwife, such as the unsutured plates of the skull.

Certainly, there are shared aspects of representational style between an image like Smellie's Table 12 (Figure 77) and Hunter's Table 6 (Figure 72): both employ a kind of severe, dispassionate detail. Still, the aims behind these images are fundamentally different, and this can be clearly seen in the ways in which they each represent the fetus. Hunter's fetus is clearly dead, its body is livid and the cracking mucus that covers it establishes it both as an exposed anatomical subject, and as something on the verge of decay. Smellie's fetus is clean and whole, its complexion is a smooth white, its eyes are closed, but its face wears a serene, animate expression. Both images clearly take note of the proportionally large head, and scrawny limbs of the neonate, but Smellie's image is subtly idealised: the limbs are chubby, rather than scrawny, and they are curled up comfortably around the body, rather than twisted at odd angles. Smellie's fetus also shows no sign of being covered in fluid – it looks dry, warm, and cuddle-able in a way that Hunter's absolutely does not. While Hunter took pride in the fact that, 'not so much as one joint of a finger' was 'moved to shew any part more distinctly, or to give a more picturesque effect', Smellie's fetus is *intentionally* picturesque.[724] He engages with the tradition in birth figures of describing healthy, appealing children, though here adapted to the style of depicting children more accurately proportioned, less like miniature adults, expressing the fleeting emotions and playful affection that characterised the developing genre of child portraiture in this period.[725]

Indeed, this idealising of the fetus is borne out in the engraving technique employed by Grignion. In his chapter 'Coming into Line', Martin Kemp traces the way in which early modern

[724] Hunter, *The Anatomy of the Human Gravid Uterus*, Table 6.
[725] See Kate Retford, *The Art of Domestic Life: Family Portraiture in Eighteenth-Century England* (New Haven: Yale University Press, 2006), particularly pp. 4-10; and James Christen Steward, *The New Child: British Art and the Origins of Modern Childhood, 1730-1830* (Berkeley: University Art Museum and Pacific Film Archive, University of California, 1995), particularly pp. 15-27.

engravers developed systems of hatched and cross-hatched lines, sometimes interspersed with dots, to describe contoured objects, and particularly smooth skin: the lines work as a kind of fine mesh, seemingly stretched over and moulded by the shape of the body. Kemp argues that such techniques were intended to create in the viewer 'a delight in the improbability that such overt artifice could function to imitate nature'.[726] In the case of the mesh, he notes 'how the lines and dots appear to possess their own autonomous logic and yet at the same time control the density of tone with such unerring precision.'[727] The viewer was meant to admire the artifice of the system, *and* how well it described the object represented. The technique was intended to elevate engraving, and to establish the medium as capable of producing high, elegant art in its own right.

Its use by Grignion, therefore, elevates Smellie's images, associating them with the higher art of portraiture. In Table 12 (Figure 77), the mesh technique is employed on both the skin of the mother's buttock and thigh, and on that of the fetus. The labouring woman's skin is depicted as pristine, smooth, pale and almost hairless. The mesh describing the fetus's skin is highly sensitive, describing pudgy baby hands, the shape of kneecap and ankle bone, even the as-yet unsutured plates of the fetal skull, visible beneath a smattering of hair. This fetus is not just livelier and more idealised that Hunter's fetus, it is an elevated image of a person, a soon-to-be child, in the style of portrait engraving. In a new eighteenth-century manner, Smellie makes an old visual argument – the healthy, happy fetus as proof of good practice.[728]

Smellie's images, as all birth figures, use multiple modes of representation to give a pluralistic account of the pregnant and labouring body. While, in Table 12 (Figure 77), the skin of the mother and fetus is rendered using a sophisticated, prestigious technique of meshed lines, parts of the spine and bodily interior employ sketchier, etched lines that do not describe minute anatomical detail, but rather give a sense of the variety and complexity of the bodily interior. Moreover, if at the bottom of the image we find the visceral, dispassionate, anatomical cut leg

[726] Kemp, 'Coming into Line', p. 235.
[727] Ibid., p. 234.
[728] See Chapter 1, pp. 80-84.

of the mother, in the style of Hunter's images, then at the top, the body seems to fade away into immateriality, the space above the uterus left blank, bounded by a dotted line that indicates not any bodily component, but an abstract measurement. The image, moreover, uses a diagrammatic technique of describing the contour of the belly in various situations: at term (C); after the waters have broken (D); in the case of a pendulous uterus (E) and in the case of an unusually high uterus (F). These four lines of possibility weave in and out of each other like ribbons, making the image one of multiple potentialities existing together in an atemporal space.

Thus, we find in this one image: observational 'naturalistic' anatomical modes; prestigious modes of portrait engraving; the evocative sketchiness of etched lines; and various diagrammatic modes that describe measurement, movement and possibility. Smellie and his artists engaged in the activity, already familiar to midwifery images, of combining modes of representation and modes of knowing. It is undeniable that Smellie's images do this with greater detail and more visual complexity than those of previous generations, that they demand of their readers a more rarefied visual literacy. However, it is also clear that they are *not* mere copies of the representational style employed in Hunter's atlas, and that they *are* fully engaged with the visual culture of midwifery from which they spring.

William Smellie and John Burton

Just as Hunter's *Anatomy* is not characteristic of all anatomical imagery produced in the mid- and late eighteenth century, Smellie's *Tables* is not characteristic of midwifery's visual culture in the period. Both Hunter and Smellie produced newly technical images intended to assist educated, largely male audiences who had undergone specialist training at a lecture course or lying-in hospital, who were trained in anatomy, and had access to various books, specimens and models. To examine only these authors and their images is to give a picture only of the kind of pregnant body known by the educated urban elite of the mid-eighteenth century. For most

midwives in most places, the pregnant body was still thought about and pictured in a very different way.

Many midwifery manuals authored in the seventeenth century continued to be reprinted in the eighteenth. Such texts were not only cheaper to produce than new works, they also provided a view of midwifery and the body that was more familiar and more legible to many readers. Produced in a period before the widespread professionalisation and medicalisation of childbirth, these books approached midwifery and the labouring body in ways that were more broadly familiar to readers. Their images, too, required fewer specialist or elite skills in interpretation. Mauriceau's manual, which was enormously influential from its publication in English in 1672, went through at least seven editions in the eighteenth century.[729] The English translation of Hendrik van Deventer's manual, *The Art of Midwifery Improv'd,* was published five times between 1716 and 1746.[730] Some new books, too, followed the form of the old. Margaret Stephen's book, published in 1795, was small, cheap and addressed to a female audience. It was expressly *not* written for an urban, medicalised, institutionalised audience. Indeed, Stephen noted that she was 'well aware, that this little work is not likely to escape a good dissection by the *literary* anatomists; but this will not deter me from publishing useful truths, which I am confident no man can confute.'[731]

A new sheet of seventeenth-century style birth figures seems also to have been produced in the eighteenth century, and can be found illustrating various manuals and encyclopaedias, including Lorenz Heister's *A General System of Surgery* (1743, Figure 78), Robert James' *A Medicinal Dictionary* (1743-45) and Stephen Freeman's *The New Good Samaritan* ([1780?]) and *The Ladies Friend* ([1780?]). The plate also made its way into French works, such as a translation of James' dictionary by Diderot, *Dictionnaire universel de medicine* (1746-48). But the example I will examine in detail here is the birth figures produced by the artist George

[729] Mauriceau's *The Diseases of Women with Child* was reprinted in 1673, 1683, 1697, 1710, 1716, 1718, 1727, 1736, 1752 and 1755.
[730] Deventer's *The Art of Midwifery Improv'd* was reprinted in 1721, 1723, 1728 and 1746.
[731] Stephen, *Domestic Midwife,* p. 5.

Stubbs for the York physician and midwife John Burton (Figures 79, 82-83 and 85-86). By examining these figures alongside those made for Smellie, I aim to show how diverse the visual culture of pregnancy was in the mid- and late eighteenth century, and how the hyper-detailed, 'naturalistic' observational style was not dominant, even among works authored by learned, ambitious midwife-authors.

John Burton was classically educated, taking a degree at Cambridge, his MD at Rheims, and studying under Hermann Boerhaave at Leiden. On the completion of his studies, he set up practice as a physician and man-midwife in York, helping to found and run the York County Hospital. He was a committed Tory, actively supported the Jacobite rising of 1745 and was briefly imprisoned for it.[732] He also engaged in acerbic attacks in print on William Smellie. Forman Cody has noted that this combination of his provincial location, his politics and his antagonism to Smellie made him 'the perfect whipping boy for Scottish Whig men-midwives eager to display themselves as loyal Britons.'[733] Indeed, bad press in his own lifetime has continued to the present day, and Burton is often ignored or under-acknowledged in histories of midwifery and its visual culture. He is most often dismissed on the grounds of being a detractor of the great Smellie, and being the man-midwife caricatured as Dr Slop in Laurence Sterne's *Tristram Shandy* (1759-67). In his chapter on the management of normal delivery, for example, Edward Shorter acknowledges that the 'York MD John Burton is technically entitled to priority' in the practice of non-intervention in the first stage of labour, before quickly negating this achievement: '[b]ut Burton was soon forgotten, and would live on only in Laurence Sterne's caricature of him in *Tristram Shandy* as 'Dr Slop'.'[734] Woods and Galley further note that '[h]istory has tended to be kinder to Smellie than to his critics, with Douglas, Burton and Nihell being remembered more for their attacks on Smellie than their contributions to improvements in eighteenth-century

[732] For histories of John Burton, see Lieske, ed., *Eighteenth-Century British Midwifery*, V, pp. 369-70; and Judy Egerton, *George Stubbs, Painter. Catalogue Raisonné* (New Haven: Yale University Press, 2007), pp. 16-17.
[733] Forman Cody, *Birthing the Nation*, p. 161. Forman Cody, among others, has noted the high number of Scottish man-midwives who made their careers in London in the eighteenth century, including both Smellie and Hunter.
[734] Shorter, 'The Management of Normal Deliveries', p. 373.

midwifery practice.'[735] Yet, as Helen King has argued, while Burton's attacks were vitriolic, they were also largely accurate.[736] He had, in fact, a much more thorough education that Smellie, and was extremely well-read.[737] His own midwifery manual, while less revolutionary than Smellie's, was no hack work, and went through three English editions (1751, 1758, 1769) and a French translation (1771-3). Moreover, as some scholars have noted, there is little evidence linking Burton to Sterne's Dr Slop. Traditionally, the reason for the caricature has been ascribed to Burton's ongoing enmity with Laurence Sterne's uncle Jacques Sterne. Yet uncle and nephew and broken with each other years before *Tristram Shandy* was written, leaving the nephew with little reason to pander to his uncle by caricaturing his rival.[738] There is also, the *Oxford Dictionary of National Biography* notes, no physical resemblance between the 'little, squat, uncourtly figure' of Dr Slop and Burton, who was said to be tall and well formed.[739] In light of this, I think that Bonnie Blackwell's interpretation of Dr Slop as a caricature of man-midwives in general is much more persuasive.[740]

It seems likely that Burton's birth figures also contributed to his subsequent neglect in histories of midwifery. They are, seen next to Smellie's, rather old-fashioned: small etchings describing chubby healthy little fetuses in various presentations, in balloon-like uteri excised from the context of the maternal body (Figure 79). Perhaps because they look so much like 'the little people of early images', which Jordanova, as well as Massey, consign to the past of the seventeenth century, Burton's birth figures are left out of these scholars' pathologising narratives.[741] Pam Lieske even denies their existence, stating in her multi-volume collection of

[735] Woods and Galley, *Mrs Stone & Dr Smellie,* p. 190.
[736] King, *Midwifery, Obstetrics and the Rise of Gynaecology,* p. 108.
[737] Ibid.
[738] See, for example, R. B. Fountain, 'George Stubbs (1724-1806) as an Anatomist', *Proceedings of the Royal Society of Medicine Journal*, 61 (1968), 639-46 (p. 641).
[739] 'John Burton (1710-1771)' in *Oxford Dictionary of National Biography,* <http://www.oxforddnb.com/> [accessed 22 November 2017].
[740] Blackwell, '"Tristram Shandy"', p. 115.
[741] Jordanova, *Nature Displayed*, p. 198; see also Massey, 'Pregnancy and Pathology', p. 76.

sources on eighteenth-century British midwifery that Burton's manual only contained 'eighteen illustrations of obstetrical instruments'.[742]

However, I argue that the images produced by Stubbs for Burton were not outdated throwbacks to the culture of the seventeenth century, they were carefully thought through, and informed by contemporary knowledge and representational practices in both midwifery and anatomy. Compared to Smellie's images, they are not crude, old-fashioned or under-informed, but simply provide a different understanding of the body, for a different kind of audience. Burton worked in a provincial town – an emergency midwife practicing among and assisting many regular midwives. His experience of midwifery was, thus, much less changed from that of the seventeenth century than Smellie's was. Burton's midwifery manual and his birth figures reflect this: the book is smaller and cheaper than Smellie's, it is only one volume, and while his language is learned and technical, as we might expect from the educated Burton, he addresses a mixed audience not only of medical men, but also of 'all Women and young Practitioners'.[743] His book is much like midwifery manuals had always been: a mixture of new knowledge and old. His birth figures indicate that the traditional form was still perceived as useful – that, in Burton's words, 'in describing objects not to be seen, the reader will have a better idea of them from a true representation upon a plate, than only from a bare description, as is evident in all branches of philosophy.'[744]

Another quirk of history that has consigned Burton's book to historical obscurity is the fact that the young anatomist and artist he hired to illustrate it later became famous as a painter of horses.[745] Hunter and Smellie's artist Jan van Rymsdyk is mainly known for his anatomical

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[742] Lieske, ed., *Eighteenth-Century British Midwifery*, V, p. 370. In fact, only the last three of the eighteen plates include illustrations of tools. Apart from these, there are nine plates that include anatomical images, and eight plates that include birth figures.

[743] John Burton, *An Essay Towards a Complete New System of Midwifry, Theoretical and Practical* (London: James Hodges, 1751), p. 170. Smellie also addressed and taught both men and women, but his books were aimed at readers who were also his pupils, and were therefore relatively wealthy and educated.

[744] Burton, *An Essay*, p. xviii.

[745] Burton was Stubbs' superior at the York County Hospital when he hired him to illustrate the manual. Egerton, *George Stubbs*, p. 17.

works, but George Stubbs is celebrated largely as a painter. His birth figures for Burton were an early work, and one for which he had specifically, and rather rapidly, to teach himself to etch.[746] As such, they tend to be dismissed by scholars of the artist as rather embarrassing juvenilia.[747] Indeed, it seems likely that Stubbs himself was not entirely satisfied with his efforts – at least such is the account given by Ozias Humphry, the only contemporary biographical source we have for Stubbs. Humphry recorded that '[t]he prints were certainly very imperfect and therefore our artist wish'd not to set his name to them, but with all their Imperfections doctor Burton was satisfied as they were exact & illustrative'.[748] Historians have taken Humphry's summation both literally and partially: agreeing that Stubbs *should* have been embarrassed of the birth figures, while ignoring the significance of Humphry's qualification that Burton was happy with them.

Some of these historians have tried to establish a truth-value for the images by describing how they were drawn from dissection, recording how Stubbs, who was then teaching anatomy, had his students acquire for him the body of a woman who had died in labour. Stubbs then 'working in a garret, dissected and drew it.'[749] Such a story may have appealed to historians because it allowed them to associate the birth figures with Stubbs' later, much lauded and closely observed anatomical atlas *The Anatomy of the Horse* (1766). As has been noted already in this thesis, scholars have frequently tried to legitimise midwifery images by redefining them as anatomical ones. Yet even a cursory look will show that Burton's images were not drawn from dissection, but in fact modelled on the traditional style and iconography of birth figures. Stubbs worked not from a corpse, but from one, or probably several, existing midwifery manuals.

Yet midwifery manuals were not the only influence on these images. Just as Smellie's birth figures borrow partly from Hunter's 'characteristic' anatomical style, Burton's birth figures

[746] Christopher Lennox-Boyd, Rob Dixon and Tim Clayton, *George Stubbs: The Complete Engraved Works* (Culham: Stipple Publishing, 1989), p. 291; and Basil Taylor, *The Prints of George Stubbs* (London: The Paul Mellon Foundation for British Art, 1969), p. 7.
[747] Fountain, 'George Stubbs', pp. 640-41; Lennox-Boyd, Dixon and Clayton, *George Stubbs*, p. 291; and Taylor, *The Prints of George Stubbs*, p. 7.
[748] Quoted in Lennox-Boyd, Dixon and Clayton, *George Stubbs*, p. 291.
[749] Fountain, 'George Stubbs', p. 640. See also Lennox-Boyd, Dixon and Clayton, *George Stubbs*, p. 2.

borrow from the 'ideal' style of Jan Wandelaar's images for Bernard Siegfried Albinus. It is well known that both Burton and Stubbs admired Albinus. Burton repeatedly cites Albinus' atlas *Tabulae sceleti et musculorum corporis humani* (1749, Figure 73) as a model to emulate. He references Albinus' anatomical discoveries in his manual,[750] and he praises Jan Wandelaar's images in a published attack on Smellie from 1753.[751] Both R.B. Fountain and Oliver Kase note that Stubbs' *The Anatomy of the Horse* borrows heavily from Albinus' atlas in form, style and approach.[752] Both atlases present the skeleton, Kase argues, as the 'architectonic basis' from which knowledge of the muscles and organs can be built up.[753] Both produced 'ideal' rather than 'characteristic' images: ones that present either a 'perfect' or 'average' example, informed by multiple dissections. And both show their subjects as if still alive and moving.[754] Indeed, in his own time Stubbs was seen as a kind of successor to Albinus' style of anatomical illustration, with Petrus Camper commenting to Stubbs in a letter that '[y]ou have certainly had before you the scheme of the great Albinus but even his plates have not that delicacy and fullness, nor the expression of yours.'[755]

What is much less well known is that Stubbs' birth figures for Burton were also directly informed by one of Albinus' works, not his famous *Tabulae sceleti* (Figure 73) but a shorter work concerned with the anatomy of pregnancy entitled *Tabulae VII uteri mulieris gravidae um iam parturiret mortuae* (1748-51, Figures 80-81 and 84). In 1968, R. B. Fountain asserted that Stubbs

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[750] See Burton, *An Essay*, pp. 4, 22, 31 and 371.
[751] See John Burton, *A Letter to William Smellie, M.D. Containing Critical and Practical Remarks Upon His Treatise on the Theory and Practice of Midwifery* (London: W. Owen, 1753), pp. 75 and 231.
[752] Fountain, 'George Stubbs', pp. 640-41; and Oliver Kase, '"Make the Knife Go with the Pencil": Science and Art in George Stubbs's "Anatomy of the Horse"', in *George Stubbs 1724-1806: Science into Art*, ed. by Herbert W. Rott (Munich: Prestel, 2012), pp. 43-59 (pp. 52-56). Although Aris Sarafianos has convincingly pointed out the flaws in seeing Stubbs' *Anatomy of the Horse* simply as an imitator of Albinus' atlas, he does acknowledge the debt of influence. See Aris Sarafianos, 'George Stubbs's Dissection of the Horse and the Expressiveness of "Facsimiles"', in *Liberating Medicine, 1720-1835,* ed. by Tristanne Connolly and Steve Clark (London: Pickering & Chatto, 2009), pp. 165-80 (p. 169).
[753] Kase, '"Make the Knife Go with the Pencil"', p. 53.
[754] Ibid.
[755] Quoted in Ibid., p. 52.

had copied some of his birth figures from this work.[756] But after this article, I have found only three other references to this copying, and in each case the link is treated as only a theory or a possibility.[757] Indeed, it seems likely that none of these scholars after Fountain actually compared Albinus' images to Burton's, for the presence of copying is quite undeniable when they are. Table 3 (Figure 80) and Table 7 (Figure 81) from Albinus' *Tabulae VII* were closely copied by Stubbs for Table 9, Figure 2 (Figure 82), and Table 4 (Figure 83). The fetus depicted in Table 5 of Albinus (Figure 84) is also exactly copied, though transplanted into a uterus, in Table 10, Figure 1 of Burton's images (Figure 85). Moreover, the general style and form developed by Wandelaar for Albinus' atlas is closely copied and adapted to the production of birth figures by Stubbs.

Smellie and Burton, therefore, while commissioning 'practitional' images, also took sides on the 'ideal' vs. 'characteristic' debate within anatomy. While Hunter's hyper-detailed naturalistic style allowed Smellie to claim a kind of prestige and observational truthfulness, Albinus' 'ideal' style allowed Burton to produce totemic, idealised, evocative birth figures. The 'characteristic' style of Hunter is often understood as a radical development of the eighteenth century, while the 'ideal' style of Albinus is attached more firmly to the representative conventions of the past, showing the anatomical body idealised and as if still alive. Yet both modes of representation were valued in the eighteenth century, and both kept up with new developments and new knowledge within the discipline. The same can be said for Smellie and Burton: they produced very different images, but both were equally engaged in the contemporary developments, and the history, of both anatomy and midwifery illustration.

There is a totemic simplicity to Wandelaar's images for Albinus: they show not *a* particular fetus, as Hunter's do, but a general, an ideal, an originary fetus. This approach clearly appealed to Stubbs, providing him with a simple, striking model with which to describe the

[756] Fountain, 'George Stubbs', p. 641.
[757] See Cunningham, *The Anatomist Anatomis'd*, p. 173; Terence Doherty, *The Anatomical Works of George Stubbs* (London: Secker & Warburg, 1974), p. 3; and Kase, '"Make the Knife Go with the Pencil"', p. 59.

various fetal presentations. Both Wandelaar's and Stubbs' fetuses are somewhere between *putto* and neonate, they are curled and fill their uterine environments, but they smile serenely, possessing full heads of hair and well-fleshed bodies. As with many older birth figures, Stubbs' fetuses seem to be conscious actors in the image, performing their presentations. While those in more normal presentations seem serene, those that enact more dangerous presentations reflect the gravity of their situation with suffering expressions (Figure 86).

These fetuses are evocative and mysterious, they engage in the simultaneous veiling and exposing, in the intersections between knowing and unknowing, discussed in the previous chapter. Stubbs' sketchy, inky etching technique, and the high contrast and use of raking light borrowed from Wandelaar, emphasise the mysteriousness of the unborn, exposing it to sight and yet acknowledging the things that are *not* known about its life in the bodily interior. In Table 9, Figure 1 (Figure 82), a strong beam of light is cast on the fetus's left shoulder, throwing its face into sharp relief. The placenta forms a kind of dark halo around the fetal head, and the beam of light, reflecting off the curved walls of the uterus, produces encircling rays of (divine?) light. We see both the projection of the chubby, healthy, hearty child, and also an echo of the holy child, tempered with both holy light and the shadow of death. The religious iconography is continued in Table 16 (Figure 86), which depicts twins, an arm presentation, and various tools. The difficult and dangerous presentations are associated with the host of tools to which midwives resorted only in dire circumstances. Surrounded by the instruments of their torture, these unfortunate infants bear their pain with the tensed bodies and suffering yet resigned expressions of martyrs. Thus, just as Grignion adopted different kinds of intaglio line to work in different representative modes for Smellie's birth figures, Stubbs developed a style of etching that allowed him to produce images that are descriptive of fetal presentation, but also mysterious, and expressive of emotional and religious understandings of pregnancy and birth.[758]

[758] For more on religious significance, holy mystery, and images of the unborn, see Chapter 4, pp. 208-18.

Smellie and Burton were antagonists, they aligned themselves with different representational modes within anatomy, and they commissioned images that look very different to each other. However, in terms of the midwifery knowledge these sets of birth figures communicate, there are some surprising similarities. Both authors, for instance, were keen to describe the way that the space and shape of the uterus changes once labour has begun. Burton's images, published three years before Smellie's, were the first to show the change that occurs after the waters break. Of the second figure of Table 10 (Figure 85), Burton writes that it 'shews how the *Uterus* contracts, and closely envelopes the Child when the Waters are run out', declaring it 'a necessary Observation, which I have never seen in any Copper-Plate before.'[759] The same interest is shown in Smellie's Table 12 (Figure 77), discussed above. The lines of possibility show the profile of the uterus before and after the waters have drained away. In both cases, the artists use dotted lines to indicate different possibilities of shape and contour, and both display a preoccupation with space and pressure in the uterus, which had been growing in the early Enlightenment, and which is more fully visually expressed in these mid-century images.[760]

Both midwives also show a particular interest in manual interventions in the uterus – another element that first arose in birth figures of the early Enlightenment.[761] Smellie, as discussed in Chapter 3, was the first to depict the forceps not in isolation, but in use on the body, making an argument for the tool's necessity.[762] Burton, unsurprisingly, took an opposing stance, claiming that 'Smellie uses the Forceps in Cases that don't require it, and thereby increases the Dangers to both Mother and Child.'[763] Thus, while Smellie's birth figures depict the forceps in action, Burton follows the lead of Siegemund and Viardel in showing the midwife's *hand* practicing upon the body. But while these earlier authors employed hands to describe how

[759] Burton, *An Essay*, p. 188.
[760] See Chapter 2, pp. 132-35.
[761] See Chapter 2 pp. 129-32.
[762] See Chapter 3, pp. 183-84.
[763] Burton, *A Letter*, p. vi.

manual interventions should be enacted, Burton and Stubbs seem to use the hand more as a meditation on what manual intervention means in midwifery.

Only one hand is extant in Burton's images, in Table 10 (Figure 85), and it is associated with the author's interest in breaking membranes and draining fluids. The midwife's hand enters the uterus as the fluids drain away and as labour advances. There is a serenity to this depiction of podalic version, as well as an acknowledgement of the violence of the manoeuvre.[764] As discussed in the last chapter, early modern childbirth involved the breaking of barriers, the parting of veils, and the movement of the fetus from one realm to another.[765] It was a moment of bodily, social and spiritual significance. In this image, the hand of the practitioner breaks both the barrier of the image's border, and the barrier of the body itself, to grasp the fetus's legs. The world is brought, prematurely and through violence, to the fetus not yet born. The mixture of violence and calmness in this image is expressive of Burton's anti-interventionist stance: that while it was sometimes necessary to 'touch' or manually deliver the labouring woman, 'the less the Parts are handled, the better it is for both Mother and Child'.[766] The image reflects this ambivalence, balancing the necessities of knowing and assisting, with those of leaving the labouring body to work alone. If, on the one hand, the breaking through of the hand indicates violence, danger, and the breaking of the taboos of mystery by the midwife, then, on the other, this image also expresses a kind of communing between the fetus, who looks earnestly down at his own feet, and the midwife, whose hand grasps the two ankles firmly but not tightly. Represented in the same textural and tonal range, the two bodies seem to merge. Stubbs employs his sketchy, dark, etched style to give a sense of the fuzzy, hazy tactile knowledge of the midwife. Yet there is also a remarkable close attention paid to the hand in this image: in the way each finger is carefully depicted curling around the fetus's legs, and in the way the uterine wall ripples over the knuckles and wrist. These hands, as had often been the case with birth

[764] For a description of podalic version and its dissemination, see Chapter 1, pp. 55-61.
[765] See Chapter 4, pp. 221-23.
[766] Burton, *An Essay*, p. 103. For a discussion of non-interventionist sentiments in this period, see Shorter, 'The Management of Normal Deliveries'.

figures, were as much about the midwife's powers of sense, as about their powers of operation. Stubbs' image acknowledges the violence and breakage of manual intervention, but casts the hand as heroic and sensitive. Where Smellie describes the forceps as smooth, slim and able to grasp where a hand would be too large, Burton claims ascendancy for the sensitive skin of the hand over cold, insensate metal. Thus, the two midwives continue and develop the debate that had been enacted in text and image in midwifery since the early Enlightenment.

Elegance

The distinction between anatomical and 'practitional' images, proposed in this thesis, is still pertinent to the visual culture of the mid- and late eighteenth century. The highly detailed, observational, 'naturalistic' style often associated with Hunter's atlas, while an important development of the period, was not a dominant or uncomplicated way of representing the body for anatomists, or for midwives. By addressing images produced for various midwifery books of the period, I have demonstrated that the multiplicity of modes that had always been employed in birth figures still remained. Certainly, new kinds of anatomical knowledge and new modes of representation were introduced, but they were not restricted to Hunter's 'characteristic' naturalism. Albinus' more totemic, grandiose 'ideal' style was equally important to both anatomy and midwifery visual culture. Moreover, while images produced from the 1750s tend to represent fetuses as more accurately proportioned within the uterus, looking less like *putti* or miniature men, and more like actual infants, these changes are best understood as developments in the ongoing birth figure tradition, rather than as ruptures that rejected wholesale the 'free-floating uterus', and the 'little people of early images'.[767]

The changes that birth figures underwent in the mid-eighteenth century provide another example of the form's flexibility: the new modes of representation in anatomy; the new mechanically detailed knowledge of birth and of forceps use; and the new style for representing

[767] Massey, 'Pregnancy and Pathology', p. 76; and Jordanova, *Nature Displayed*, p. 198.

children were all developments in the kinds of information that had always been included in birth figures. Idealised children; symbolic and narrative content; mystery; the cutting-edge in anatomy; diagram; experiments in medium and representational technique – these things define the birth figure from the sixteenth to the eighteenth century and beyond.

This pluralism and complexity, which I argue was a constant and fundamental part of the birth figure, was also something that often troubled artists and authors. While it allowed them to express various modes of knowing within one image, it also caused difficulties, as modes of knowing clashed, or as new modes had to be worked through and experimented with. Burton and Smellie express this simultaneous engagement with and anxiety about the birth figure's pluralism in uniquely eighteenth-century terms, through the discussion of 'elegance'. The term 'elegance' is an amorphous one, meaning different things at different times and in different places. Its OED definition: '[c]haracterized by grace or simple beauty, combined with good taste; tastefully ornamental. Also: characterized by refined luxury' associates it with other difficult-to-define terms such as 'taste'.[768] Marieke Hendriksen has noted the particular difficulty for historians in using such terms without falling into anachronism.[769] In an eighteenth-century context, therefore, it is necessary to explore what the term meant within the interrelated realms of art and medicine.

In painting, architecture and the decorative arts, 'elegance' came to be widely associated with the growing preference for a grand and austere style of Neo-Classicism which was sanctioned by the Royal Academy.[770] This was a period in which the increased availability of printed images and printed art criticism, as well as the development of public exhibitions such as those held at the Royal Academy, provided more public forums for the discussion of art – places where styles and techniques could be compared and good taste established or proved.[771]

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[768] '*elegant, adj. (and adv.),* 1.' in Oxford English Dictionary <http://www.oed.com/> [accessed 23 November 2017].
[769] Marieke M. A. Hendriksen, *Elegant Anatomy: The Eighteenth-Century Leiden Anatomical Collections* (Leiden: Brill, 2014), pp. 10-12.
[770] See David Irwin, *Neoclassicism* (London: Phaidon, 1997).
[771] See Charles Saumarez Smith, *The Company of Artists: The Origins of the Royal Academy of Arts in London* (London: Modern Art Press, 2012).

While 'elegance' has always been a term employed to mean different things, it was undeniably a positive quality in the eighteenth-century – one that suggested educated and refined taste. William Hogarth, for instance, frequently employs the term in his *The Analysis of Beauty,* unsurprisingly applying it to his ideal serpentine lines and variable forms.[772]

Within the world of anatomical illustration, too, elegance became a crucial concept. According to Hendriksen, elegance could be found in the body, and in the methods employed for representing and preserving it: it was a fundamental part of eighteenth-century anatomy.[773] In anatomical images, elegance could be achieved and, if it was, that elegance would help to make the image both truer, and more instructive. Massey, for instance, argues that, in this period, 'the epistemological claims of clinical medicine became based on the practitioner's ability to describe the body persuasively and elegantly, in infinitesimal detail from the inside out.'[774] These ideals in anatomy were tied to, but not the same as, those in the fine arts. For instance, Joshua Reynolds and William Hunter, colleagues as the President and Anatomy Professor at the Royal Academy, differed over whether elegance was to be found in imagined and idealised forms, or in the close replication of nature.[775] As Martin Postle puts it, '[t]aste and beauty were for Reynolds chimerical concepts. For Hunter they evolved directly from an experience of life at its most elemental level.'[776] Hunter, predictably, saw his own severely observational 'characteristic' images as having the 'elegance and harmony of the natural object', where 'ideal' images had only 'the hardness of a geometrical diagram'.[777] For Albinus, who commissioned such 'ideal' anatomical images, elegance was created in that very process of idealising and generalising that Hunter rejected. Hendrik Punt has argued that for Albinus, there

[772] William Hogarth, *The Analysis of Beauty: Written with a View of Fixing the Fluctuating Ideas of Taste* (London: The Author, 1753).
[773] Hendriksen, *Elegant Anatomy*, p. 12.
[774] Massey, 'Pregnancy and Pathology', p. 73.
[775] See Kemp, 'True to Their Natures'; Harry Mount, 'Van Rymsdyk and the Nature-Menders: An Early Victim of the Two Cultures Divide', in *British Journal for Eighteenth-Century Studies,* 29 (2006), 79-96; and Martin Postle, 'Flayed for Art: The Écorché Figure in the English Art Academy', *The British Art Journal*, 5:1 (2004), 55-63.
[776] Postle, 'Flayed for Art', p. 59.
[777] Hunter, *The Anatomy of the Human Gravid Uterus*, Preface.

was a 'symbiosis' between 'objectivity, symmetry and vitality'. He saw anatomical investigation as a seeking out of ideal and elegant forms in the body – forms that spoke both of beauty, and perfect health.[778] Burton seems to have subscribed to the idea, praising Albinus' images as ones where 'Art and Nature conspire' to create 'something like Perfection'.[779] For anatomists, therefore, elegance was a didactic tool, a proof of the truth of the image, something to be striven for, though achieved in different ways depending on personal taste and opinion. For them, as Daston and Galison argue, 'the beauty of the depiction [was] part and parcel of achieving that accuracy, not a seduction to betray it.'[780]

However, the different approach to elegance shown by midwifery authors highlights some of the enduring differences between the birth figure and the anatomical image, and between the cultures of midwifery, and medicine and anatomy more broadly. For Burton and Smellie, elegance, like anatomical knowledge itself, was a desirable component of their birth figures, but one that there *could* be too much of. While eighteenth-century anatomical images *required* elegance to be good, truthful works, in which, as Kemp puts it, 'stylishness and accuracy were not seen as conflicting aspirations', midwifery images had to balance a desire for some elegance with the danger that too much might *reduce* the instructional or truth value of their images.[781]

This difference is partly due to the strong ties between anatomy and fine art in the eighteenth century, that did not exist between fine art and midwifery illustration. Anatomical knowledge of the bones and muscles was, for instance, widely understood to be necessary for artists, particularly in the production of figures for history paintings. Images and sculptures of skeletons and écorché figures were used by artists as well as anatomists and physicians: they informed both disciplines and indeed were often understood as artworks in their own right. However, not all kinds of medical and anatomical image were considered relevant for artists.

[778] Punt, *Bernard Siegfried Albinus,* p. 18.
[779] Burton, *A Letter*, p. 75.
[780] Daston and Galison, *Objectivity*, pp. 75-77.
[781] Kemp, 'Style and Non-Style in Anatomical Illustration', p. 198.

Hogarth, for instance, proposed that bones and muscles, because they influenced the form and movement of the human figure, were relevant to artists and had an inherent elegance. He also argued that the parts that are 'conceal'd, and not immediately concern'd in movement', were neither relevant nor elegant.[782] Midwifery images, because they dealt with interior bodily elements, with the female body and with the private, taboo sex organs, were at a remove from the realm of artistic anatomy. The idealised human form and attendant ideas of elegance, be they anatomical or artistic, had less to do with such 'practitional' images. Elegance might be partly achieved, perhaps in the style of the engraving, or in some of the forms represented. However, not only was the subject matter less inherently elegant, but the birth figure's pluralistic use of representational forms also seems to have prevented it from achieving a complete elegance.

Words such as 'elegance', 'beauty' and 'delicacy' were contentious, therefore, and their place in the midwifery image was constantly being debated by midwife-authors. Burton criticises Smellie's images firstly by quoting from a reviewer who praised them as '*superior to any Figures of the Kind hitherto made public*'.[783] Burton then acerbically notes that 'I fear he [the reviewer] judges only from a general Knowledge of Things, and from the Beauty of the Drawing; which, indeed may, perhaps, be possibly *superior to any Thing of the Kind hitherto made public*; but that alone will not be sufficient.'[784] Unlike anatomical drawings, therefore, where the beauty of the drawing and the pedagogical usefulness of the image pull together, Burton considers that the beauty or elegance of Smellie's images is immaterial to their instructional usefulness, and even that such qualities might disguise pedagogical faults.

Indeed, it is not surprising that Burton was tetchy about the subject of elegance: while Smellie's images were praised in the press for this quality, his own were condemned for a lack of it. In the same long essay in which he attacks Smellie, Burton defends his own images against the accusation, made in the *Monthly Review,* that they were 'wretchedly coarse, and a discredit

[782] Hogarth, *The Analysis of Beauty*, p. 74.
[783] Burton, *A Letter*, p. 231.
[784] Ibid., p. 232.

to the very term of sculpture.'[785] This reviewer also addresses the images in the terms of fine art, categorising the etchings as a form of sculpture, rather than as medical or technical images. But Burton refutes these criticisms by changing the framework against which his images are judged. He argues that '[c]ould he [the reviewer] indeed have proved the different Situations of the Child in the Womb, &c. attempted to be shewn, were not thence to be learnt, he might then have had some Reason to inform the Public thereof.'[786] Just as with Smellie's images, the usefulness of Burton's images is understood by the author as completely separate from their elegance.

Smellie's own writings betray much of the same preoccupation and anxiety over elegance and usefulness. He explains that his figures avoid 'the extreme Minutiae, and what else seemed foreign to the present design; the situation of parts, and their respective dimensions being more particularly attended to, than a minute anatomical investigation of their structure.'[787] As with Burton, he distinguishes the 'extreme Minutiae', which must certainly be a reference to Hunter's style of detailed 'characteristic' anatomy, from a kind of mechanical, practical knowledge that was more essential to midwives. Smellie declared that:

> delicacy and elegance [...] has not been so much consulted as to have them done in a strong and distinct manner, with this view chiefly that from the cheapness of the work it may be rendered of more general use.[788]

Delicacy and elegance, while valuable attributes with rhetorical usefulness, were, for midwife-authors of the eighteenth century, less important, and indeed in some ways even opposed to, accessibility and readability.

Anatomists such as Hunter and Albinus could, it would seem, pursue an ideal of anatomical representation that accorded with an ideal of artistic elegance – be it elegance located in close observation of nature, or in the careful creation of 'ideal' figures. They worked

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[785] [Kirkpatric], 'Review of Burton's "An Essay Towards a Complete New System of Midwifry"', *Monthly Review,* (September 1751), 286-92 (p. 290).
[786] Burton, *A Letter*, p. 244.
[787] Smellie, *A Sett of Anatomical Tables*, Preface.
[788] Ibid.

in a profession that was increasingly well respected, that produced increasingly prestigious, expensive images that were read not just by physicians and surgeons, but by artists and interested amateurs of all kinds. While the social and professional star of midwifery was also on the rise, it by no means contended with that of the anatomist. The midwife was still a suspect figure, working with their hands, touching the female body, and still unable to shake the frisson of sexual danger.[789] Their images continued, therefore, to mediate all kinds of knowledges and expectations, both about the labouring body and about the midwife that attended, touched and represented it. 'Practitional' images in midwifery neither could, nor should, be elegant – and in this we see the continued fundamental difference between the 'practitional' and the anatomical image. The midwifery image aimed not only for elegance, but for a balancing of an anatomical style of elegance with other practical, mechanical and instructional modes of representation. For Burton and Smellie, despite the differences in their images, shared difficulties in managing elegance sprang from a shared concern to define their discipline and the body they worked with.

I hope to have shown with this last chapter that the birth figure did not meet its demise in the mid-eighteenth century at the hands of a new observational, 'naturalistic' movement in anatomical investigation. The visual culture of midwifery was not pathologised or anatomised out of all recognition by Hunter and Smellie. Rather, developments arose in both practice and image-making that were assimilated within the existing visual language, as had been the case since the rise of the print birth figure in the 1540s. The birth figure continued to have presence and relevance in an era that is generally considered to have founded modern obstetrics, and to have broken with the medical cultures that went before. By looking for and at birth figures in the visual culture of the mid- and late eighteenth century, we can gain a richer and more developed understanding of how this culture envisioned and understood the pregnant and labouring body. Such scrutiny also provides a way to challenge the 'heroic' linear histories of medical discovery and improvement, by exposing how modes of knowing and visualising the

[789] For further discussion, see Chapter 3, pp. 149-52 and 173-74.

body, old and new, have always coexisted, overlapped, informed or clashed with each other in making images and practices of the body.

Conclusion

I started out on the research for this thesis with a group of images that I knew were visually interesting and unique; were an important resource for histories and art histories of the early modern body; and yet were under-valued and under-examined by historians of art, medicine and culture. I knew that there was scope to write a history that would treat birth figures as a valid historical resource; that would properly contextualise them; and would elucidate their many and various significances, uses and interpretations in early modern culture. Of course, as I undertook the research, the project developed and diversified in ways that I had not predicted. It has become a study about birth figures and their place in early modern culture, but also one that makes an argument, more broadly, for the ways in which art historians can work with print, book illustrations, and medical and technical images.

This study has made a case for the scope of birth figures' cultural importance: their multiplicity of meaning and their representational creativity. A birth figure can be seen as a nexus at which strands of culture and knowledge meet and entangle. They are images that speak within contexts as diverse as anatomy and alchemy, printing techniques and politics. Indeed, what became apparent during my research was that birth figures are *remarkably* pluralistic, deeply intertwined with wider cultures of knowledge and visual representation. Complex, creative and adaptive, these images have recorded, engaged with, and also driven changes in body culture over the early modern period. While avoiding narratives of linear progress, medical achievement or increasing 'accuracy', this study has shown how birth figures contributed to the changing cultures of midwifery and bodily representation. Their very proliferation in print, I have argued, was one spur in the making public and professional of midwifery in the seventeenth and eighteenth centuries.

This thesis has demonstrated how birth figures can be understood as legitimate resources in the writing of social and medical histories. Communicating in a visual language, they

can express things about the body and practice upon it that cannot be found in textual sources. They employ different manners of vision, experience and knowledge, and thus remind us of the various ways in which the early modern body was seen, experienced and understood. But they cannot simply be seen as historical records of midwifery practice or bodily perception: they are creative works in their own right, with their own histories of making and use. I purport that historical study and the study of historic images are disciplines that can mutually inform and enrich each other. Indeed, in writing this thesis, I have come to see my research as not only contributing to histories of midwifery and histories of print, but as an interdisciplinary endeavour, crossing the boundaries of knowledge, time and place, and speaking to an understanding of early modern culture as pluralistic and playful. Contributing to existing, and growing, trends in interdisciplinary studies, I propose a way in which interdisciplinary histories of print, and particularly of marginalised print, can be written.

Small, cheap, anonymously produced prints, book illustrations and technical images of all kinds often remain under-investigated; are seen to have limited significance; or are understood to be only relevant to one discipline or body of knowledge. Yet because they were cheap, flexible and mobile, they were most often present in multiple contexts, and engaged with multiple cultures – arguably much more so than unique and prestigious works of art. It is important, as this thesis has demonstrated, to examine such images in wider contexts of visual culture: comparing styles, techniques and iconographies with images in other media and disciplines – be they alchemical manuscripts, birth trays or religious prints. Only by elucidating the way such images fit into the wider webs of culture, and by keeping an open mind as to the strands of that web, can full histories of such print images be conceived.

I have thus approached birth figures from a variety of disciplinary standpoints. In the first and third chapters, I have largely engaged with social and midwifery histories, aiming to contribute to our knowledge of how the body was understood, imagined, visualised and practiced upon, as well as how images *of* the body were used and apprehended. In the second chapter, I was concerned with histories of medicine and science, proposing that midwifery

images have a technical or diagrammatic character. Such images can be a rich resource for teasing out modes of thought and methods for communicating professional knowledge. In the final two chapters, I have taken a more art-historical approach, privileging the agency of draftsmen and print makers as well as commissioning authors, and considering how birth figures interacted with cultures of fine art.

Throughout the thesis, I have aimed to keep in mind the material histories of these images. With a significant material history of production and use, such an approach has been crucial to establishing how birth figures worked in early modern culture. I have demonstrated that treating birth figures as art works and material objects, as well as historical records, can produce rich interdisciplinary histories, and can elucidate aspects of early modern experience that otherwise go unrecorded. I have shown, moreover, that some images were highly sophisticated, employing the cutting edge in engraving techniques. Thus, only by considering multiple cultural spheres, rich iconographies and forms of artistic expression, can we establish the full complexity of these prints.

This thesis has made arguments for approaches that can be taken in writing histories of printed images. I have demonstrated, for example, the importance of looking frankly at ideas of 'success' and 'failure'. I argue that examining how authors and artists viewed the effectiveness of the images they produced; discussing the 'success' of images and representational modes that were widely copied and adapted; and exploring which images were ignored or even censored, can tell us much about the fundamental drives behind their creation. It is also important, when approaching printed images with such a wide viewership, to acknowledge the possibilities for unsanctioned interpretations and uses. While artists and commissioning authors have left traces of how they expected or hoped their images would be viewed and understood, it is crucial to remember that all images allow multiple readings. In thinking, for instance, about magical and religious readings of birth figures, as well as anatomical and 'practitional' ones, we enrich our histories and do justice to the pluralism and creativity of the image.

Such attention to the lives of print images – their successes and failures, and the multiple, often contradictory ways in which they were viewed and used – also allows us to write histories of the marginalised: images, ideas and people. Interdisciplinary approaches help us to properly place marginalised images – such as popular prints or medical illustrations – in their wider cultural contexts and thus to see their wider historical significances. At the same time, this process affords us an awareness of modes of knowledge which are largely unrecorded in other kinds of historical resource. Birth figures, for instance, show how 'old' modes of representing, understanding and treating the body continued to be widespread, long after having been excised from learned texts. And finally, such studies help us to understand the visual and cultural world of all kinds of people who viewed and used images. Particularly, in approaching images like birth figures, we can gain insights into the visual literacies and practices of female practitioners and pregnant women – those whose experiences are now largely lost. I argue, moreover, that thinking about the multiple possibilities of print allows us to write histories of female experience that are not generalised, but that acknowledge the difference between the country and the city dweller, the educated and the illiterate, the lay woman and the midwife. A study such as this indicates that even in less prestigious genres – in medical images and book illustrations – there is an abundance of important material for the art historian.

My most important claim however, is for the *centrality* of the birth figure: I wish to situate it not as 'interesting but marginal', but rather as a remarkable kind of image that was expressive of some of the most deeply held preoccupations and anxieties of early modern life. Generation – the production of new human life – was and is a subject of fundamental importance, and of deep and tricky complexity to all spheres of early modern society. Recent scholarship has shown that the pregnant and birthing body was simultaneously a secret, mysterious object, and one that was extremely public, subject to social scrutiny and control on all levels: from family and local community, to court and church. It is within this context, in which the pregnant body was both very visible and visually impenetrable, in which what could be known about the body by touching and looking at it was constantly under fractious debate, that

birth figures are particularly important. They can give us access to this world of the body seen and unseen in a way that no other resource can, because they are themselves visual representations, both of things seen and things touched, and things not sensed but imagined. Indeed, they elucidate the precarious, complex attitudes to the senses and representation that midwifery dealt with in the early modern period. In a society that used and valued print increasingly as a way to disseminate knowledge, these resources are crucial to writing body histories and histories of art.

These little images of encircled human figures are representative of the generative power of the female body, the potential to create new life which was reflected, for early moderns, everywhere they looked from fruit trees and baking bread to social hierarchies and constellations. The early modern pregnant body was as difficult as it was important. It was fundamental, crucial to life, yet also troublingly visceral and dangerous. Pregnancy was a state that endowed power, or at least the potential for power, on women. Neither then, nor now, do we live in a society which is entirely comfortable with this. We look for ways to control, to make safe, to make known the mysterious and miraculous process by which women grow new human beings.

To place pregnancy, and images of pregnancy that were seen and used by women and men of many ages, stations, professions and places, at the centre of a historical narrative is, therefore, an important thing to do. In doing so this thesis contributes to the growing body of scholarship that acknowledges (previously) marginalised people, lives, objects and subjects. Particularly for women who experienced pregnancy and birth, and those who aided at birth in capacities from attendant to professional midwife, birth figures are a crucial part of their history. Moreover, these experiences, of women in pregnancy, childbirth and midwifery are, of course, not marginal at all – they have simply been marginalised by much historical study, until recently. And this, I argue, is what the birth figure can show us: that however these images were used, adapted, and criticised by early moderns, and however they have been reduced, ignored or vilified by historians, they have always escaped being pinned, defined, refused or erased. They

were widely useful and widely used, and therefore are significant not just for 'women's history' or 'print history', but much more comprehensively for history. The little figure in the circle was the fetus *in utero*, but it was also the person in the world – these images are ready to show us that the pregnant body, and images of it, are fundamental, at the centre of early modern webs of culture and society. A symbol at one simple and complex, they have a great capacity to hold ideas and facilitate thinking. Like the bodies they represent, birth figures are crucial in their generative potential.

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