



CHAPTER 1

Introduction

‘It is...an interesting question to be decided as to why and wherefore a poor little Fallopian tube or withered ovary should possess the power of setting men by the ears’, commented an editorial in the *Medical Press and Circular* in 1888.¹ Looking back to the nineteenth century, historians might be inclined to wonder the same thing. During this time, the ovary, as an object of physiological and pathological enquiry, and as a site of surgical intervention, engendered more debate and controversy within the profession than any other bodily organ. In the late 1830s, the removal of diseased ovaries, usually those with large non-malignant tumours, became the first surgical procedure involving major abdominal section to be performed with a degree of regularity, and in 1842, the Manchester surgeon Charles Clay began what was to become a long and unbroken series of operations where he removed the organ. During this decade, the operation was given a name that would be etched on the history of the Victorian era: ‘ovariotomy’, a neologism coined by the Edinburgh obstetrician James Young Simpson in 1843 to describe Clay’s work.

For the next twenty-five years, the justifiability of opening the abdomen to treat ovarian disease would remain contested, causing deep schisms in the profession, through which reputations were lost and careers ruined just as often as fortunes were gained and lives were saved. It was an operation that thrilled and horrified in equal measure with its daring, as surgeons cut through the peritoneum—the membrane in which the abdominal organs were enfolded—to remove the ovaries.

Its development marked a critical juncture in the emergence of modern surgery, as the justifiability of using surgery to treat a chronic internal disease became the centre of debate. The question of whether the chance to cure a patient allowed for the substantial risk to life posed by a major surgical operation went to the heart of medical ethics and divided the profession, raising questions about the degree of power that surgeons could and should exercise over the human body. Advocates and opponents of the procedure clashed over the operation in the pages of the medical press. Robert Liston, Professor of Surgery at University College London in the 1830s and 1840s, declared those who performed ovarian surgery to be liable to charges of homicide and denounced them as ‘belly-rippers’, a macabre turn of phrase, which signalled the emotionally charged atmosphere surrounding the operation.²

In the late 1860s, mortality rates for the operation began to decline significantly, in part due to the work of two exceptionally prolific and skilful practitioners, the Edinburgh obstetrician Thomas Keith and London surgeon Thomas Spencer Wells. Keith had begun performing ovariectomy in 1862 and five years later had published the striking results of his first fifty-one cases: forty of his patients had recovered, with all but one of those individuals seemingly completely cured.³ His recovery rate of around eighty per cent was equal to, if not better than, those of other established ‘capital’ operations: procedures like amputation, which came with a high risk of death.⁴ By the late 1870s, ovariectomy was beginning to be depicted as one of the major surgical innovations of the past decades, gaining a status similar to that of the discovery of anaesthesia or the introduction of Listerian antiseptics.

For the rest of the century, ovariectomy would occupy a complex position within medicine. It was an operation which symbolised surgical progress, but it also remained precipitously close to the boundaries of ethical acceptability. The controversial nature of the operation did not dissipate as more patients survived the procedure. On the contrary, ovarian surgery remained a frequent catalyst for debate as the medical and cultural climate changed over the course of the nineteenth century. From the priority disputes and accusations of greed that were directed at specialists in the operation during the 1860s, to the controversies of the 1880s and 1890s when some surgeons began removing ovaries as a means of curing other bodily diseases, those who performed ovariectomy were never more than a hair’s breadth from disrepute. Egos collided, and professional territories were defended by those who populated its practice; ‘with its lights and its shades, its friends and its foes, its converts and its perverses,

the history of ovariectomy reads like a romance', American gynaecologist William Goodell commented in 1879, capturing something of contemporary perceptions of the operation.⁵

By the end of the 1880s, many British surgeons were advancing the idea that ovarian surgery was out of control. The previous decades had seen several pioneers in the area have their careers laid waste by revelations that they had not published the full extent of their experiences with the operation, including cases which had resulted in death. The long-lasting effect of this was a peculiar paranoia among 'ovariotomists'—as those who performed the operation were increasingly known—about any hint of secrecy regarding operators' experiences with the procedure. The medical press was crammed with reports of ovariectomies well into the 1880s, as cases which saw even a slight deviation from the normal mode of operating or in outcome continued to be printed. However, some individuals expressed unhappiness that the prestige of ovariectomists still seemed to rest upon the number of ovaries that they removed. The high volume of cases—even if successful—was no longer viewed as inherently positive but rather a sign that women's reproductive organs were being removed indiscriminately.⁶ The British ovariectomist George Granville Bantock reported to the British Gynaecological Society a cautionary tale from America, where surgeons were perceived as even more gung-ho than their British counterparts. It was, he claimed, 'no uncommon thing in New York to see a soup-plateful of uterine appendages presented by some of the younger surgeons to some of the societies there'.⁷

Bantock's disturbing image rivalled anything to be found in contemporary medical allegories such as Wilkie Collins' *Heart and Science* (1882–1883) or later, Bram Stoker's *Dracula* (1897), both of which, through the medium of gothic horror, addressed issues that were increasingly played out in the ovariectomy debate.⁸ In the 1880s, the operation had become entwined with controversies over animal experimentation as some anti-vivisectionist campaigners claimed that 'experimental' abdominal surgery on women was analogous to vivisection, a comparison that melded all too easily with Victorian understandings of female vulnerability.⁹ Cases were unearthed of women's ovaries being removed under circumstances of dubious consent and for seemingly trivial conditions. The filtering into the general press of such unpalatable aspects to ovariectomy caused anxiety among the profession. Gynaecological surgeons began acquiring an unfortunate reputation for unnecessary operating. Thus, the latter decades of the nineteenth century saw ovariectomists engaged in a battle to save their professional

identity, as many tried to distance themselves from the controversies engulfing the field. Fears of excessive operating were reinforced by growing evidence that the ovaries were responsible not just for reproduction but also for the development of feminine characteristics. This made the removal of both ovaries for anything less than a serious condition, questionable, and spurred some surgeons to consider more conservative measures. By the 1890s, both radical surgery and conservative resection of the ovaries were being presented as therapeutic choices for women; thus, it was not only the *place* of ovariectomy in the surgical canon that was being called into question but, by the turn of the twentieth century, also the very *definition* of the operation that was being contested.

A GENDERED OPERATION?

Within the history of ovariectomy, one does not have to look too hard to find affirmation that the operation was used experimentally and irresponsibly and that vulnerable women were operated on in circumstances where their consent is questionable. That the procedure was used, on occasion, to ‘cure’ maladies like hysteria, presents troubling questions about the way invasive medical procedures were being used to control female behaviour. Historians have been rightly attentive to the connections the operation reveals between normative gender values and experimental and risky surgery. Indeed, the operation served as an important tool for women’s historians in the latter half of the twentieth century, especially those intent on exposing patriarchy within the medical realm. For feminist activists Barbara Ehrenreich and Deirdre English, for example, writing in America in 1978 amid second wave feminism and an expanding women’s health movement, the operation was a clear indication of the repressive sexual politics of the Victorian era. Removal of the ovaries was, as they evocatively put it, part of the ‘gynecologist’s exotic catalog of tortures’.¹⁰ Ehrenreich and English set the scene for histories which viewed the operation as primarily configured upon surgical mismanagement—or at the very least over-management—of the female body. Ornella Moscucci’s *The Science of Woman* (1990), Thomas Laqueur’s *Making Sex* (1990) and Ann Dally’s *Women Under the Knife* (1991), while less polemical than Ehrenreich and English’s work, all identified the introduction of ovariectomy as a fundamental moment in the medicalisation of women, through which cultural notions of femininity were embedded into surgical practice.¹¹ More recent scholarship by

Deirdre Cooper Owens has nuanced understandings of the relationship between surgery, gender and race in nineteenth-century American gynaecology. Cooper Owens examines the ways in which doctors relied on gendered and racialised notions of black women, including an erroneous belief that they had a higher tolerance of pain, as a justification for their use of enslaved women's bodies as sites for experimentation with procedures centred upon the female reproductive organs, including ovariectomy.¹²

The cultural politics of ovariectomy are also explored in the works of Regina Morantz-Sanchez and Claire Brock, both of whom have drawn attention to the role female surgeons played in promoting the operation's practice on both sides of the Atlantic. Each has also highlighted the active role some female patients played in demanding ovarian surgery, showing that the position of female actors in the surgical encounter was highly variable depending on their social and economic status; patient experience did not always align to a narrative of passive patients and domineering doctors.¹³ This speaks to a wider network of literature which has critiqued the 'social essentialism' that constructivist accounts of medicine may give rise to, and which can lead to a broad strokes approach to gendering medicine.¹⁴ As the case of ovariectomy makes clear, patient agency must be taken into consideration, even if the nature of that agency was complex and, at times, compromised.

OVARIOTOMY AND INNOVATION

This book does not negate the importance of gender as a means of analysing ovariectomy. But it must be considered as one of multiple aspects at work in the introduction of the operation. In this study, it is innovation which is my conceptual focal point. Ovariectomy is one of the most significant and yet most accessible historical examples of the complexities of innovation in surgery; symbolic of the hopes and fears of the surgical profession, its performance was embedded in a network of ideas and ideals about the role of surgery in society. How was surgical innovation defined, diffused and understood? In this book, I seek to go beyond the polarisation, which has, until recently, been common in historical writing on surgery, with 'social' histories on one side, which often only pay lip service to the technical aspects of operations, and heavily technical accounts on the other, which can marginalise social and cultural considerations.¹⁵ In this way, it speaks to recent works by historians like Thomas Schlich, Christopher Crenner, Claire Brock and Sally Wilde in attempting to

recognise that the technical minutiae of operative surgery are worthy of analytical enquiry and that changes in the professional culture of surgery and in patient–practitioner relationships cannot be regarded as separate from the process of technical innovation.¹⁶

An approach which makes innovation its guiding framework requires some justification, or at least, clarification. ‘Innovation’ is a rather amorphous word and can be applied to so many different things that it can all too easily come to mean nothing as a reference point. Generally, we understand the term to convey novelty or newness. But the broadness of this definition means that ‘innovation’ often implies not only novelty but advancement as well. ‘Innovation’ is a term ascribed a great deal of value in today’s cultural climate, a buzzword for businesses of all kinds. As pervasive as ‘innovation’ is today, the historical context to medical innovation, and particularly surgical innovation, has been less well understood. As John Pickstone noted, “‘innovation’ is a fashionable word, but not without reason; we are all rather weary of ‘progress’”.¹⁷ As he seems to imply, innovation can become simply a more circumspect way to describe narratives of progress. Pickstone raised these concerns over twenty years ago, and yet they resonate strongly today. ‘Innovation’ has become the favoured term for many organisations as part of the representation of their ideas, goods and services; not least in medicine, where both private and ostensibly public initiatives have pushed the idea that the creation and diffusion of new products and processes is the only logical economic rationale for optimising and improving medical services.¹⁸

Emerging innovations have rarely been accepted unquestioningly. Innovation is a contested and lengthy process, not simply the invention and introduction of a ‘better’ product or service. In medicine especially, new procedures, technologies and theories have often triggered concerns about the risks they might bring, especially to the patient, and medical historians have been attentive to the interplay between risk, consent and innovation. Edited volumes by Pickstone, as well as Ilana Löwy and Thomas Schlich and Ulrich Tröhler, have thrown light on the diverse fates of new medicines and medical technologies.¹⁹ More recently, Thomas Schlich and Christopher Crenner have vastly widened the scope of historical investigation of surgical innovation, with their edited volume devoted to the subject. The volume marks out the need to consider the distinct challenges and complexities of surgical innovation within the broader category of medical innovation, given its close associations with physicality and corporeality and its strong technological component.²⁰

Crucially, Schlich and Crenner also stress the importance of positioning successful surgical innovations in the context of the alternative technologies and therapeutics *not* taken up by medical professionals; ‘taking these alternatives into account helps understand the choices and decisions made by historical actors’, they contend.²¹

Most historical work on medical innovation tends to focus upon the twentieth century, reflecting an idea that it was during this period significant doubts began to arise as to whether innovation in medicine was intrinsically a ‘good’ thing; ‘there have been mixed feelings about medical innovations since the 1960s, and one can identify an increased interest in risk in recent times’ wrote Schlich and Tröhler.²² Disillusionment with scientific and technological innovation has become entangled with ideas of modernity.²³ This has not necessarily precluded historical analysis of medical innovations before the twentieth century: all the volumes cited above include some essays that deal with innovations from before this time.²⁴ Nonetheless, it has led some historians to assume that before the twentieth century medical novelties were much more readily accepted as positive changes; John Pickstone even pinpointed the nineteenth century as exemplifying this, suggesting that ‘we no longer have the high Victorian confidence that change is for the best’.²⁵

Just like the related concept of ‘risk’, because ‘innovation’ is fashionable *now* we might assume that projecting it onto the more distant past is presentist. But this belies a long and rich history of innovation—both as a word and concept. As historian of science Benoît Godin has observed, ‘for most of its history the concept innovation, a word of Greek origin, carried pejorative connotations. As “Introducing change to the established order”, innovation was seen as deviant behaviour, forbidden and punished’.²⁶ Often synonymic with notions of revolution—another word which would come to have important connotations for nineteenth-century surgeons—innovation had long been fraught with political and social uncertainty. Only in the nineteenth century, as the impoverished inventor was recast as the heroic Briton who fulfilled a productive role in society, did innovation begin to be understood more positively, or at least, less as a signal of radicalism or instability.²⁷ Surgeons were keen to apply this characterisation to themselves, and as more patients survived ovariectomy, medical men increasingly perceived the operation to be deeply symbolic, not just of Victorian progress but also of Victorian *morality*: a procedure that had saved the lives of thousands of suffering women across the social spectrum. Nonetheless, as Godin points out,

'innovation' continued to have troubling associations throughout the century. Even for those who saw ovariectomy as progress, there were ripples of unease about the extent to which surgery was being transformed by the operation; as one surgeon suggested in 1866, ovariectomy was 'perhaps the most startling innovation in surgery of late years...our old notion, that it was death to the patient to interfere with the peritoneum, has been somewhat rudely swept away by the wholesale manner in which it is now cut through, and burnt through, and mopped out with sponges'.²⁸ Even if innovation was not considered an outright mischief and was seen as necessary to progress, it remained shocking and, at times, brutal.

THE DISTINCTIVENESS OF SURGICAL INNOVATION

From today's viewpoint, there has been a striking continuity over the last two centuries in the way that innovation in surgery has been conceived of as distinctive. The performance of novel and experimental surgery remains contentious, continuing to be fertile ground for media speculation, feeding curiosity among the public about the closed world of surgery and the drama, emotion and medical spectacle concealed within it.²⁹ Recent controversies around novel procedures such as synthetic tracheal transplants and vaginal mesh implants have garnered poor press for surgeons and attest to the still very present possibility of patients undergoing risky operations in circumstances where their informed consent is debatable.³⁰ Moreover, the question of standardisation also concerned nineteenth-century surgeons in ways that it continues to do so today.³¹ Attaining standardisation in surgery has always been checked by the aspect of performance that is central to it, which can make achieving uniformity in practice difficult. Despite the advent of minimally invasive and robotic technologies in surgery in recent years, just as in the nineteenth century, surgery today is largely the product of individual idiosyncrasies and reliant on an operating surgeon's manual dexterity. Today, this is most apparent in the difficulties of reconciling randomised controlled trials with operative surgery; 'choices about the exact size and location of the incision are individual to the surgeon and to each patient, as are the exact steps of each operation' the surgeon Peter Angelos has written; 'thus, it is often difficult to standardise procedures, which make large multicentre clinical trials of surgical procedures difficult to undertake'.³² In his study of coronary artery bypass grafting

in the 1970s, David S. Jones examined how, even in the late twentieth century, technological innovations in surgery largely remained outside the domain of the randomised controlled trial. In the shadow of trials becoming the ‘gold standard’ for assessing new treatments, the relative imperviousness of surgery to the method has put it increasingly at odds with other branches of medicine.³³

Nineteenth-century surgeons likewise struggled to reach a definitive consensus as to what innovation meant to them and what was the best way to achieve it; standardisation in surgery was both desired and yet problematic to the flourishing of new procedures, which, like today, was seen to rely on a certain amount of creativity.³⁴ This was most obviously revealed in the well-documented tensions between ‘art’ and ‘science’ in nineteenth-century medicine. Steve Sturdy has argued that divisions between the two have been overstated by historians.³⁵ Certainly, such a dichotomy indicates a questionable reliance on rather essentialist concepts of ‘science’ and ‘art’ in medicine, when the two were never entirely separate entities anyway—it was perhaps more the case that an imbalance in favour of science was suspected, rather than an outward hostility to scientific surgery itself. Nonetheless, doctors *did* worry about the loss of artistic flair in the face of scientific medicine, and surgeons did imagine art and science to be two ideal constituents of surgery.³⁶

These continuities are balanced out—if not outweighed—by historical contingencies. Today, clinical medicine is predicated upon levels of collective, experiential information, guidelines and managerial regulation unimagined in the nineteenth century. Thus, by reflecting on how surgical innovation was understood before the significant changes that would occur in the organisation of medicine in the twentieth century, I look to the very specific culture of the long nineteenth century and understandings of professional etiquette, patient–practitioner relationships and medical philosophies at this time. In this context, how was surgical innovation dealt with? And to what extent was surgical innovation perceived of as distinct from other types of medical innovation? The time span of this study is relatively lengthy, looking at a period from around the middle of the eighteenth century, when ovarian surgery first began to be discussed, up until the first decade of the twentieth century. But it focuses tightly on a specific technique—surgical interference with the ovaries—in what might be described as an operation-centred history, something which differentiates it considerably from previous historical work on

ovariotomy and, with the notable exception of Thomas Schlich's work on osteosynthesis, most work on the history of surgery.³⁷

The British experience of ovariotomy is the focus of this book. It was an experience, however, that was continually informed by international contexts. British practitioners' self-identity was in part shaped by the perception they had of themselves on the international stage and in their competitive rivalry with surgeons overseas, most noticeably those in France and America, where the operation had its roots. Within British medical culture, there were also deep divides, between general practitioners and elite consultants, obstetricians and general surgeons, and between metropolitan and provincial practitioners; all would impact upon the shaping of the operation. This book then, takes as its starting point what was ostensibly a single innovation in a single country, tracing its antecedents, diffusions and controversies. If this initial trajectory may seem linear, the outcome is anything but. This is not a story of how an innovation was developed and accepted. Rather, it shows how complex the integration of ovariotomy was into practice because its meaning and definition were continually contested.

SOURCES

The book draws upon a range of personal and institutional records. In the former category, collections containing the correspondence and papers of James Young Simpson, Robert Lee, Charles Clay and Robert Liston have helped to build a picture of practitioners' personal experiences of the operation. Archival material pertaining to lectures given by integral actors in surgery and obstetrics such as James Blundell, William Hunter and John Hunter has shed light on the ways in which senior members of the profession sought to shape students' understandings of surgical ethics.

As with many other areas of medicine, particularly those involving women's experiences, patients' first-hand accounts of ovarian surgery are lacking. For the most part, where patient experiences are cited, they are taken from archival or printed sources, and mainly derived from literature where the patient experience has been mediated through the voice of the (almost invariably male) practitioner. This should not be assumed to necessarily invalidate such accounts; in fact, many of them speak to the relationship between the patient and the networks of practitioners they encountered, where the power dynamics were not always straightforward.

Institutional records such as those for the Académie Royale de Chirurgie in Paris, the Samaritan Hospital for Women in London, the Chelsea Hospital for Women and the London Hospital have also provided significant insights. Patient records, doctors' committees, society meetings and operation registers have provided both in-depth detail about individual cases and the opportunity to find data which reveal the extent to which ovariectomies were being performed in hospital settings. These records were not always easy to analyse. At the London Hospital, for example, some cases are documented in one type of record but not in another (for instance they are listed in the Surgical Beadle's Register but not in the Surgical Index) or are indexed under different categories of operation depending on the record. An operation where both the uterus and ovaries were removed might be described as both 'ovariotomy' and 'hysterectomy', for example. Nonetheless, the records consulted were sufficiently expansive and accurate so as to make the data taken from them useful.

It might be tempting to see published sources as of secondary significance to personal correspondence and papers, which could be considered to provide a more authentic voice to historical actors because they were not intended for a public audience. In the case of ovarian surgery, however, what *was* said publicly was just as significant as what was not and none the less authentic for that. The permanence and publicity of print often made the pages of medical journals a more productive location than private correspondence for thrashing out issues of surgical morality and etiquette. Moreover, private communications were often referenced and re-published in the press anyway, blurring the boundaries between public and private. There is no question that much of the debate about ovarian surgery was very intentionally played out publicly and that this was facilitated by the emergence of medical weeklies during the first half of the nineteenth century, something which will be explored in more detail in Chapter 3. While medical societies were already well established, the introduction of titles such as the *Lancet* in 1823, the *Medical Times* in 1839, and *The Provincial Medical and Surgical Journal* in 1840 meant that a culture of print centred on medical practice was flourishing. Journals like the rabble-raising *Lancet* seemed to encourage heated exchanges of correspondence between ovariectomists and other interested parties, while editorial pieces gave voice to strongly worded opinions about the operation that were then quickly spread among practitioners all over the country and beyond. Yet, there were significant boundaries in place which hint at the complexity to the meanings of 'public'

debate; the leaking of medical discussions into the non-medical press was thought to be dangerous ground by most medical practitioners, and when reports about controversies in ovarian surgery spilled into the non-medical press, it was much to the chagrin of the profession. Popular surgical monographs have also been useful in showing the kind of pedagogical information that was being disseminated about ovariectomy on a wide scale. Surgical textbooks of the nineteenth century were by no means disinterested manuals objectively listing technical information. On the contrary, they often cited the issues of medical morality that controversial surgical innovations brought to the fore, discussing not only the technical aspects of an operation but its ethics too.

OUTLINE OF THE BOOK

While today we often associate innovation with cutting edge, radical change, the development of ovarian surgery was a drawn-out, often lumbering process, although one, crucially, that was set in motion earlier than other forms of abdominal surgery. The operation to remove diseased ovaries is most usually conceptualised as an innately Victorian invention. This is a notion that was perpetuated not only by Victorian surgeons themselves as they forged historical accounts of the operation, but also by many historians, who have viewed the procedure as reflective of Victorian ideals regarding surgical ethics and gender. Chapter 2 offers a different perspective by tracing the roots of ovarian surgery back to the eighteenth century. During this time, the diseased ovary was seen to be pathologically complex, which made it an object of curiosity in the burgeoning field of morbid anatomy. Diseased ovaries were notoriously difficult to diagnose at an early stage and considered almost impossible to treat by medical therapeutics. These difficulties led to an interest among English, Scottish, French and American medical practitioners in the possibility of finding a surgical solution to the disease. The chapter argues for the need for innovation to be understood as a process that is often temporally expansive, challenging contemporary understandings of ‘innovation’ which have seen it effectively become a byword for speed and efficiency.

Chapter 3 brings together two novelties of the early nineteenth century, ovariectomy and the weekly medical press, to unpack the debates around the justifiability of the operation which occurred between the 1830s and 1860s, a time during which it was given the appellation ‘ovariectomy’.

The procedure polarised the medical community. For an increasingly vocal group of advocates, the operation was heralded as the beginning of a new era in surgery. For influential opponents, it was nothing more than a useless and possibly criminal procedure. How was it possible that the operation could be construed in such diametrically opposite terms? This question stimulates the key theme of the chapter: namely how representations of the operation in the public sphere were constructed, principally through the medical press. There was a thirst for knowledge about the operation. But by what means was the truth about ovariectomy's risks best conveyed? The operation was subject from both its supporters and detractors to highly emotive 'subjective' accounts, which centred upon patient narratives, as well as to 'objective' statistical deconstructions. Surgical statistics were a crucial part of conveying the risks of the operation, but, as some surgeons argued, how could mere mortality rates, stripped of details, represent the full account of a patient's pathology, or the unexpected mysteries of the internal body, and the multitude of risks in the days after an operation?

Chapter 4 looks at how the professional community assigned credit to those responsible for innovation in ovarian surgery. By the mid-1860s, the standing of ovariectomy, both within the professional sphere and beyond, was rapidly improving. As the operation's status ascended, those who had risked their reputation by performing it became more vocal about receiving credit for doing so. Claims for credit could be deconstructed into the components that formed the operation: new surgical instruments, aftercare methods and different types of incision could all be claimed as individual innovations, challenging notions of ovariectomy being a single invention. There was also a high-profile dispute, principally between Charles Clay and Thomas Spencer Wells, as to who should be credited overall with establishing ovariectomy in Britain. The quarrel between Clay and Wells attested to an instability in the definition of the operation, with both surgeons pointing to distinctions in their practices, which complicated claims to credit. Traditional legal methods of attaining intellectual property, such as patenting, were considered inapplicable to surgery for ethical and practical reasons. And yet, with reforms in patent law improving intellectual property rights for inventors in other areas of industry during the middle decades of the century, medical practitioners sought to construct alternative methods for managing and awarding credit.

Following on from some of the issues raised in the preceding chapter, Chapter 5 will explore the contentious relationship between ovariectomy and money. In the 1850s, murmurings abounded in the medical press about the lucrative nature of ovariectomy. These rumours were played upon by opponents of the operation, keen to perpetuate a characterisation of ovariectomists as money-grubbing opportunists preying upon the desperately ill. However, they contained an element of truth: a private ovariectomy could be very expensive with surgeons charging up to a hundred guineas for an operation. These powerful financial associations were revealing not only of the ascendance of surgeons' professional status but also the pecuniary gains and, potentially, losses that association with surgical innovation could bring. At a time when many other medical procedures and therapies were comparatively simple and relatively cheap, the skills and risks associated with major surgical operations, as well as the lengthy period of aftercare they required, raised questions about money distinct from the rest of medicine. In the final part of the chapter, I look more broadly at the place of ovariectomy within consumer society. In the 1880s and 1890s, as the operation became markedly safer, there were growing concerns that ovariectomy was being performed excessively, and even unnecessarily, as both surgeons and patients were swept up in a 'fashion' for ovariectomy. It led to troubling questions about the impact of consumerism upon medical authority.

Accounts of ovariectomy's history almost invariably conclude with the outcries in the 1880s and 1890s, followed by the operation's apparent decline. The reality was more complicated. In Chapter 6, I argue for a framework of surgical innovation that moves beyond simplistic dichotomies of success and failure, of straightforward beginnings and neat endings. Instead, this chapter offers something more akin to an exploration of the 'afterlife' of the operation that followed the controversies surrounding it towards the end of the century. The need to do so, I argue, is elucidated by the fractured identity of ovariectomy by the 1890s, as the methods of and reasons for operating upon the ovaries began to rapidly proliferate. As the term 'ovariectomy' became more uncertain in meaning, a range of other terms emerged to refer to new techniques in ovarian surgery that were being practiced; taxonomic and conceptual confusion was becoming readily apparent. 'Afterlife' alludes also to growing fears at the turn of the century about the long-term effects upon women's health that might come from removing their ovaries. The term speaks also to the formation of ovariectomy as an historical

phenomenon during this time—even while it remained in contemporary practice—as its long history became the subject of intense reflection on the part of the profession.

NOTES

1. ‘The Militant Spirit in Gynaecology Societies’, *Medical Press and Circular* 45 (9 May 1888): 495.
2. The phrase was first attributed to Robert Liston by the obstetrician Robert Lee in his 1853 publication, *Clinical Reports of Ovarian and Uterine Diseases* (London: John Churchill, 1853), 83.
3. Thomas Keith, ‘Fifty-One Cases of Ovariectomy’, *Lancet* 90, no. 2297 (7 September 1867): 290–291.
4. James Paget, ‘The Address in Surgery’, *British Medical Journal* 2, no. 155 (16 August 1862): 161. In which Paget estimated that ten to fifty per cent of amputations remained fatal as did ‘20 or more per cent’ of lithotomies.
5. William Goodell, *Lessons in Gynecology* (Philadelphia: D. G. Brinton, 1879), 299.
6. ‘The British Gynaecological Society, November 11th 1885’, *British Gynaecological Journal* 1, no. 4 (1886): 386.
7. ‘The British Gynaecological Society, November 11th 1885’, 386. ‘Uterine appendages’ was a term used (and still is today) to collectively describe the ovaries, Fallopian tubes and surrounding ligaments.
8. Wilkie Collins, *Heart and Science: A Story of the Present Time* (Peterborough: Broadview Press, 1996); Bram Stoker, *Dracula* (London: Penguin, 1994). First published as a serial between 1882 and 1883, *Heart and Science* was Collins’ response to the vivisection debate. A vehemently anti-vivisection vehicle, the horror of doctors’ experimentations were neatly characterised in Dr. Nathan Benjulia, a villainous vivisector who neglects a vulnerable young woman with brain disease in an effort to hasten death and acquire her brain for post-mortem study. Bram Stoker’s *Dracula* published in 1897, when anxieties about the overuse of ovariectomy were still heightened, has equally been read as a metaphor for male medical control of female behaviour, embodied particularly in the attempts to save the vampiric and sexually charged character, Lucy Westenra. See Tabitha Sparks, *The Doctor in the Victorian Novel: Family Practices* (Farnham and Burlington: Ashgate, 2009), 118.
9. However, this was somewhat complicated by the fact that some prominent ovariectomists, most notably Robert Lawson Tait, were also strongly opposed to vivisection. For more on vivisection and gender, see

- Mary Ann Elston, 'Women and Anti-vivisection in Victorian England, 1870–1900', in *Vivisection in Historical Perspective*, ed. Nicolaas A. Rupke (London and New York: Routledge, 1990), 259–294.
10. Barbara Ehrenreich and Deirdre English, *For Her Own Good: 150 Years of the Experts' Advice to Women* (London: Pluto Press, 1979), 111–112.
 11. Ornella Moscucci, *The Science of Woman: Gynaecology and Gender in England 1800–1929* (Cambridge University Press, 1990), 135; Thomas Laqueur, *Making Sex: Body and Gender from the Greeks to Freud* (Cambridge, MA and London: Harvard University Press, 1990), 175; Ann Dally, *Women Under the Knife: A History of Surgery* (London: Hutchinson Radius, 1991).
 12. Deirdre Cooper Owens, *Medical Bondage: Race, Gender, and the Origins of American Gynecology* (Athens: University of Georgia Press, 2017), 15–41.
 13. Regina Morantz-Sanchez, *Conduct Unbecoming of a Woman: Medicine on Trial in Turn-of-the-Century Brooklyn* (Oxford: Oxford University Press, 1999); Claire Brock, *British Women Surgeons and Their Patients, 1860–1918* (Cambridge: Cambridge University Press, 2017), esp. 7–8.
 14. See for example, Christina Beninghaus, 'Beyond Constructivism? Gender, Medicine and the Early History of Sperm Analysis, Germany 1870–1900', *Gender and History* 24, no. 3 (2012): 647–653.
 15. Traditionally, such an approach has been associated with heavily technical, whiggish surgical histories; as Christopher Lawrence has observed: 'because it is a practice, surgery has been easily accommodated to empirical and positivist philosophies of medical progress'. Christopher Lawrence, 'Democratic, Divine and Heroic: The History and Historiography of Surgery', in *Medical Theory, Surgical Practice: Studies in the History of Surgery*, ed. Christopher Lawrence (London: Routledge, 1992), 14. Arguably surgery, more than other areas of medicine, has been disproportionately subject to 'whiggish' histories.
 16. Thomas Schlich, *The Origins of Organ Transplantation: Surgery and Laboratory Science 1880–1930* (Rochester: University of Rochester Press, 2010), 9–10; Claire Brock, 'Risk, Responsibility and Surgery in the 1890s and Early 1900s', *Medical History* 57, no. 3 (2013): 325–326; Sally Wilde and Geoffrey Hirst, 'Learning from Mistakes: Early Twentieth-Century Surgical Practice', *Journal of the History of Medicine and Allied Sciences* 64, no. 1 (2009): 38–77. Wilde and Hirst, in particular, stress the practice-based nature of surgical innovation.
 17. John V. Pickstone, 'Introduction', in *Medical Innovations in Historical Perspective*, ed. John V. Pickstone (Basingstoke: Macmillan, 1992), 1.
 18. In 2011, the then Chief Executive of the NHS in England, Sir David Nicholson, wrote that 'innovation must become core business for the NHS'.

- This was from a policy document which focused on the role of innovation in heightening the efficacy of state health care, tellingly titled ‘Innovation; Health and Wealth’. Department of Health ‘Innovation, Health and Wealth: Accelerating Adoption and Diffusion in the NHS’ (2011), <http://www.institute.nhs.uk/images//documents/Innovation/Innovation%20Health%20and%20Wealth%20-%20accelerating%20adoption%20and%20diffusion%20in%20the%20NHS.pdf>, accessed 25 August 2013. Additionally, numerous companies such as ‘healthcare innovation hub’ Medipex focus solely on ‘commercialising innovative medical products’ conceived of both within the NHS and in the private sphere. <http://www.medipex.co.uk/>, accessed 25 August 2013.
19. Pickstone, ed., *Medical Innovations*; Ilana Löwy, ed., *Medicine and Change: Historical and Sociological Studies of Medical Innovation* (Montrouge: John Libbey Eurotext, 1993); Thomas Schlich and Ulrich Tröhler, eds., *The Risks of Medical Innovation: Risk Perception and Assessment in Historical Context* (Abingdon and New York: Routledge, 2006).
 20. Thomas Schlich and Christopher Crenner, ‘Technological Change in Surgery: An Introductory Essay’, in *Technological Change in Modern Surgery*, ed. Thomas Schlich and Christopher Crenner (Rochester: University of Rochester Press, 2017), 1.
 21. Schlich and Crenner, ‘Technological Change in Surgery’, 12.
 22. Schlich and Tröhler (2006): Preface.
 23. Thomas Schlich, ‘Risk and Medical Innovation: A Historical Perspective’, in *The Risks of Medical Innovation: Risk Perception and Assessment in Historical Context*, ed. Thomas Schlich and Ulrich Tröhler (Abingdon and New York: Routledge, 2006), 2. Certainly, strategies of risk analysis and methodical implementations of systems of innovation were more visible by the twentieth century. Both are perhaps best exemplified in the introduction of the randomised controlled trial into medicine in the 1950s, through which numerous dimensions of risk were built into the innovation process. See Peter Keating and Alberto Cambrosio, ‘Risk on Trial: The Interaction of Innovation and Risk in Cancer Clinical Trials’, in *The Risks of Medical Innovation: Risk Perception and Assessment in Historical Context*, ed. Thomas Schlich and Ulrich Tröhler (Abingdon and New York: Routledge, 2006): 225–241.
 24. Ian Burney, ‘Anaesthetic Death and the Evaluation of Risk in Nineteenth-Century English Surgery’, in *The Risks of Medical Innovation: Risk Perception and Assessment in Historical Context*, ed. Thomas Schlich and Ulrich Tröhler (Abingdon and New York: Routledge, 2006), 38–52; Ulrich Tröhler, *Quantification in British Medicine and Surgery 1750–1830, With Special Reference to Its Introduction into Therapeutics* (PhD thesis, University College London, 1978).
 25. Pickstone, ‘Introduction’, 1.

26. Benoît Godin, 'Social Innovation: Utopias of Innovation from c. 1830 to the Present', Project on the Intellectual History of Innovation, Working Paper No. 11 (Montreal: INRS, 2012), 8, http://www.csiic.ca/PDF/SocialInnovation_2012.pdf, accessed 25 August 2013.
27. As exemplified by James Watt and George Stephenson. See Christine MacLeod, *Heroes of Invention: Technology, Liberalism and British Identity: 1750–1914* (Cambridge: Cambridge University Press, 2007).
28. William P. Swain, 'Transactions of Branches: On Recent Improvements in Surgery', *British Medical Journal* 2, no. 298 (15 September 1866): 304.
29. For more on the relationship between surgery and the media, see Ayesha Nathoo, *Hearts Exposed: Transplants and the Media in 1960s Britain* (Basingstoke: Palgrave Macmillan, 2009). Writing on the first heart transplants in the 1960s, Nathoo contends they were 'as much media as medical events', 2.
30. In 2016, the BBC TV series *Storyville* ran a three part documentary, *Fatal Experiments: The Downfall of a Supersurgeon*, following the controversial operating practices of the Swiss-born Swedish-based surgeon Paolo Macchiarini. Macchiarini developed a synthetic trachea that he claimed could be transplanted into those suffering from congenital abnormalities of the trachea, tracheal cancer or other conditions. Six of the seven operations Macchiarini performed failed, with the patients subsequently dying after the operation. Macchiarini has since been stripped of his medical licence. In 2017, Macchiarini was found to be negligent in four cases and to have conducted fraudulent research. He narrowly escaped charges of involuntary manslaughter. The controversy over mesh implants to treat pelvic organ prolapse in women has been more wide reaching. The surgical procedure has been performed hundreds of thousands of times. However, new studies suggest the implant has been responsible for complications in large numbers of women, ranging from repeated infections to chronic pain and incontinence. At the time of writing, hundreds of women were involved in a class action lawsuit against the NHS and manufacturers of the mesh implants. Hannah Devlin and Nicola Davis, 'Vaginal Mesh Operations for Prolapse Should Be Banned, Watchdog to Say', *The Guardian* (27 November 2017), <https://www.theguardian.com/society/2017/nov/27/vaginal-mesh-operations-should-be-banned-health-watchdog-to-say>, accessed 5 December 2017.
31. As attested to in historical studies such as Thomas Schlich's on the introduction of osteosynthesis for bone fractures by Swiss surgeons in the 1950s. Schlich shows how the organisation responsible for innovating the technique, the AO Foundation, attempted to diffuse osteosynthesis as a standardised technique through both educational manuals and practical instruction. But Schlich also highlights the resistance of some

- surgeons to the AO's brand of scientific, standardised surgery. Thomas Schlich, *Surgery, Science and Industry: A Revolution in Fracture Care, 1950s–1980s* (Basingstoke: Palgrave Macmillan, 2002), 252–253.
32. Peter Angelos, 'The Art of Medicine: The Ethical Challenges of Surgical Innovation for Patient Care', *Lancet* 376, no. 9746 (25 September 2010): 1046.
 33. David S. Jones, 'Visions of a Cure: Visualization, Clinical Trials, and Controversies in Cardiac Therapeutics, 1968–1998', *Isis* 91, no. 3 (2000): 523. For more on the role of creativity, invention and innovation in twentieth-century surgery see Sally Frampton and Roger Kneebone, 'John Wickham's New Surgery: "Minimally Invasive Therapy", Innovation, and Approaches to Medical Practice in Twentieth-century Britain', *Social History of Medicine* 30, no. 3 (2017): 544–566.
 34. Stefan Timmermans and Marc Berg suggest that 'the notion that predictability, accountability and objectivity will follow uniformity belongs to the Enlightenment master narratives promising progress through increased rationality and control', Stefan Timmermans and Marc Berg, *The Gold Standard: The Challenge of Evidence-Based Medicine and Standardization in Health Care* (Philadelphia: Temple University Press, 2003), 8.
 35. Steve Sturdy, 'Looking for Trouble: Medical Science and Clinical Practice in the Historiography of Modern Medicine', *Social History of Medicine* 24, no. 3 (2011): 739.
 36. 'Our present system of medical education is to my mind erring greatly on the side of devoting too much time to the science of our profession and too little to its art', complained the psychiatrist Lionel Weatherly in 1898. Lionel Weatherly, 'Remarks on Medical Progress', *Lancet* 152, no. 3918 (1 October 1898): 852.
 37. Schlich, *Surgery, Science and Industry*. Osteosynthesis involves the implantation of metal implants to fix bone fractures. As a technique used to treat bones in various parts of the body, however, it is considerably different from ovariectomy, which is an organ-specific procedure.

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