

## 6 The ‘New World of Surgery’ Sepsis, Sentiment, and Scientific Modernity

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### Introduction

The Scottish surgeon Alexander Ogston (1844–1929) is significantly less well known than his English contemporary Joseph Lister, the founder of the antiseptic system of surgery. Unlike Lister, he was not ennobled for his contributions to surgery (although he was knighted in 1912) and neither was he memorialised in Westminster Abbey.<sup>1</sup> Nor, unlike Lister, has he been made the subject of innumerable popular biographies.<sup>2</sup> But as the discoverer, in the early 1880s, of what he called *Staphylococcus*, the microorganisms responsible for the infections that produce abscesses, he was in the first rank of British bacteriologists.<sup>3</sup> Indeed, together with his fellow Scot William Watson Cheyne (1852–1932), he was perhaps the only British surgeon of the late nineteenth century truly worthy of that title.<sup>4</sup> Ogston’s place in the narrative of antiseptic surgery’s rise to prominence is complex. He was a convinced Listerian, whose use of Lister’s famous carbolic acid spray was so committed that his students penned comedic verse about it.<sup>5</sup> At the same time, Ogston’s claims about the existence of *Staphylococcus* were initially challenged by Lister and

<sup>1</sup> Lister was offered burial in Westminster Abbey, but elected instead to be buried beside his wife in Hampstead Cemetery. A memorial plaque to Lister can be found in the north choir aisle.

<sup>2</sup> For example, Rickman John Godlee, *Lord Lister*, 2nd ed. (London: Macmillan, 1918); Hector Charles Cameron, *Joseph Lister: The Friend of Man* (London: Heinemann, 1948); Douglas Guthrie, *Lord Lister: His Life and Doctrine* (Edinburgh: E. & S. Livingstone, 1949); Frederick F. Cartwright, *Joseph Lister, the Man Who Made Surgery Safe* (London: Weidenfeld and Nicholson, 1963); Richard B. Fisher, *Joseph Lister, 1827–1912* (New York: Stein and Day, 1977); Lindsey Fitzharris, *The Butchering Art: Joseph Lister’s Quest to Transform the Grisly World of Victorian Medicine* (London: Allen Lane, 2017).

<sup>3</sup> Walter H. Ogston (ed.), *Alexander Ogston K.C.V.O.: Memoirs and Tributes of Relatives, Colleagues and Students, with Some Autobiographical Writings* (Aberdeen: Aberdeen University Press, 1943), pp. 98–100; Alexander G. Ogston, ‘Ogston, Alexander (1844–1929)’, *ODNB*.

<sup>4</sup> Michael Worboys, *Spreading Germs: Disease Theories and Medical Practice in Britain, 1865–1900* (Cambridge, UK: Cambridge University Press, 2000), pp. 151, 170–1.

<sup>5</sup> T. H. Pennington, ‘Listerism, Its Decline and Its Persistence: The Introduction of Aseptic Surgical Techniques in Three British Teaching Hospitals, 1890–99’, *Medical History* 39:1 (1995), 35–60, at pp. 43–4.

his 'bulldog', Cheyne, for contradicting their own views on the germlessness of healthy tissue.<sup>6</sup>

Nevertheless, Ogston was responsible for one of the most powerfully symbolic gestures in the history of antiseptics. He trained in Aberdeen and was appointed acting surgeon to the Royal Infirmary in 1870. Years later he wrote: 'How well I remember the old Aberdeen Infirmary before the days of Antiseptic Surgery. The wards, even the very corridors, stunk with the mawkish, manna-like odour of suppuration'. In the staff room, 'there hung a row of old, black coats covered with the dirt of years and encrusted with blood-stains, [...] the dirtier the more venerated'. Round about were hung Christian images, symbols, and scripture, and Ogston recalled the time when, inspired by anti-septic zeal, he entered the operating ward and 'tore down and burned the text in large letters which hung there: "PREPARE TO MEET THY GOD"'.<sup>7</sup>

Ogston's story is perhaps less straightforward than it might initially appear. Firstly, his gesture had as much to do with a distaste for the religious sanctimony of the hospital's lay governors as it did with any improvements in operative surgery brought about by antiseptics. Secondly, and in keeping with a historiography that has emphasised the complexity and mutability of early germ theories of disease, his post-hoc reflections on pre-antiseptic surgical practice, notably the reference to dirty coats, seem conditioned by a later, *aseptic* agenda about which Lister and many of his followers were, at least at first, deeply ambivalent, if not actively hostile.<sup>8</sup> Even so, Ogston's removal from the operating ward of this exhortation to eschatological imminence has a profound imaginative appeal and has been deployed by a number of commentators to dramatise the advent of antiseptic surgery.<sup>9</sup> Indeed, if Ogston's story exemplifies anything, it is less the revolutionary impact of germ theory *per se* (Michael Worboys has suggested there was no bacteriological 'revolution') and

<sup>6</sup> Ogston (ed.), *Ogston*, p. 100; Worboys, *Spreading Germs*, pp. 172–3.

<sup>7</sup> Ogston (ed.), *Ogston*, p. 93.

<sup>8</sup> This historiography is best exemplified by Lindsay Granshaw, "'Upon This Principle I Have Based a Practice": The Development of Antisepsis in Britain', in John V. Pickstone (ed.), *Medical Innovations in Historical Perspective* (Basingstoke: Palgrave Macmillan, 1992), 17–46; Christopher Lawrence and Richard Dixey, 'Practising on Principle: Joseph Lister and the Germ Theories of Disease', in Christopher Lawrence (ed.), *Medical Theory, Surgical Practice: Studies in the History of Surgery* (London: Routledge, 1992), 153–215; and Worboys, *Spreading Germs*. For two opposed positions on the relationship between antiseptics and asepsis, see Nicholas J. Fox, 'Scientific Theory Choice and Social Structure: The Case of Joseph Lister's Antisepsis, Humoral Theory and Asepsis', *History of Science* 26:4 (1988), 367–97; Worboys, *Spreading Germs*, pp. 186–92.

<sup>9</sup> For example, see Quentin N. Myrvik and Russell S. Weiser, *Fundamentals of Medical Bacteriology and Mycology* (Philadelphia: Lea and Febiger, 1988), p. 141. A version of this story featured on John Green's podcast *The Anthropocene Reviewed* in 2020: [www.wnycstudios.org/podcasts/anthropocene-reviewed/episodes/anthropocene-reviewed-staphylococcus-aureus-and-non-denial-denial](http://www.wnycstudios.org/podcasts/anthropocene-reviewed/episodes/anthropocene-reviewed-staphylococcus-aureus-and-non-denial-denial) (accessed 27/07/21).

more the capacity of the Listerian generation for myth-making, for their persistent and unyielding claim that they had effected an epochal transformation in surgical knowledge, practice, and identity, saving humankind through the healing power of science.<sup>10</sup> Writing in 1927, for example, one of Lister's former assistants, John Rudd Leeson (1854–1927), presented antiseptics as a harbinger of techno-scientific modernity, claiming that, like a latter-day Christopher Columbus, Lister had discovered 'a new world of surgery'.<sup>11</sup>

What is also significant about Ogston's story, especially for our purposes, is that it conceived of antiseptics as an emotional, as much as intellectual, watershed: ultimate deliverance from the terrors of operative surgery that had been attenuated, but not entirely eradicated, by the advent of anaesthesia. As Ogston himself put it in an address to the BMA in 1899:

We live in an era that can claim to be one of most exceptional, probably unique, interest. We have witnessed in it the most marvellous and rapid advances the world has ever experienced in the powers of mastering and warding off disease. We have passed through many gloomy years, in which we worked our life's work blindly and in the dark, with dread fastening on the heart as surely as the hand grasped the knife, for ever [*sic*] trembling before the horrors of surgical pestilence; and now we have been privileged to see the dawn of a new day when septic disease is being robbed of its terrors by the discoveries of Lister, whose great gifts to humanity coming generations will hereafter delight to recall, recognising that whatever we owe to the great surgeons of the past has been but little in comparison with the benefits he has conferred on us and through us on all mankind.<sup>12</sup>

It is perhaps no coincidence that in his memoirs, Ogston's reflections on antiseptics immediately follow those on anaesthesia, wherein he recalls his student days and the surgical practice of William Keith (1802–71), colloquially known as 'Old Danger', who rejected chloroform and implored his patients to "Put your trust for a minute in Dr Keith and God".<sup>13</sup> After all, anaesthesia and antiseptics were often represented in later nineteenth- and early twentieth-century accounts as the twin markers of surgical modernity. But in his 1899 speech, Ogston gave priority to antiseptics and painted the era immediately prior to the advent of germ theory as one of darkness and dread. As Christopher Lawrence has argued, such rhetorical sleights of hand were not uncommon in this period, as Listerian surgeons 'flattened out the brilliant peak of the 1850s from which they had once surveyed the benighted past', consigning even

<sup>10</sup> Worboys, *Spreading Germs*, pp. 83, 278. Ogston does not fall into the category of the Listerian generation as conceived by Crowther and Dupree, as he was not one of Lister's students. Nonetheless, he was certainly inspired by Lister's work: M. Anne Crowther and Marguerite Dupree, *Medical Lives in the Age of Surgical Revolution* (Cambridge, UK: Cambridge University Press, 2007), p. 119.

<sup>11</sup> J. R. Leeson, *Lister as I Knew Him* (London: Ballière, Tindall, and Cox, 1927), p. 170.

<sup>12</sup> *Lancet* 154:962 (5 August 1899), p. 325.      <sup>13</sup> Ogston (ed.), *Ogston*, p. 92.

the immediate post-anaesthetic period to the surgical 'dark age'.<sup>14</sup> Indeed, for many surgeons of Ogston's generation, anaesthesia constituted what, to borrow his metaphor, might be called a *false* dawn. In Chapter 5, we explored how anaesthesia transformed the emotional dimensions of surgery, lessening the dread of operations for patient and surgeon alike. By reducing the impact of shock and eliminating the need to operate with haste, it opened up new corporeal horizons for surgical intervention, including such invasive procedures as ovariectomy. However, by the 1860s, a number of practitioners were growing increasingly concerned by rates of post-operative mortality, particularly from septic afflictions such as erysipelas, septicaemia, and pyaemia, and especially among patients in large, urban hospitals. This phenomenon, underscored by broad statistical comparisons between hospitals and between hospital and private practice, was denominated 'hospitalism' by James Young Simpson.<sup>15</sup> This term was subsequently adopted by many surgeons, including John Erichsen, who came to see hospitals themselves, in terms of their management, environment, and even physical structure, as the preeminent problem facing patient recovery and post-operative wound care.<sup>16</sup> Whether there was a *genuine* crisis in post-operative mortality or not is debatable. Some historians have suggested that 'it is entirely plausible that a deterioration in the state of wounds and their contents was coincident with industrialisation and urbanisation'.<sup>17</sup> Others have argued that 'without Simpson there would have been no controversy'.<sup>18</sup> What is certain is that the *perception* of a crisis took something of the shine off anaesthesia, then barely twenty years old, and provoked a heated, protracted, and ultimately hugely significant debate within British surgery.

Joseph Lister's intervention into this debate is so well known as to require no substantial repetition here. Beginning in 1867, Lister, then working at the University of Glasgow, wrote a series of articles in the medical press in which he suggested that sepsis was a chemical process of putrefaction caused by the action of airborne particles or 'germs'. He maintained that these germs might be eliminated by the use of carbolic acid. As historians have pointed out, much of what Lister argued in the late 1860s was relatively uncontentious.<sup>19</sup> It was his reliance on the French chemist Louis Pasteur's (1822–95) germ theory of

<sup>14</sup> Christopher Lawrence, 'Democratic, Divine and Heroic: The History and Historiography of Surgery', in Lawrence (ed.), *Medical Theory, Surgical Practice*, 1–47, at p. 10.

<sup>15</sup> James Young Simpson, *Hospitalism: Its Effects on the Results of Surgical Operations* (Edinburgh: Oliver and Boyd, 1869).

<sup>16</sup> John Eric Erichsen, *On Hospitalism and the Causes of Death after Operations* (London: Longmans and Green, 1874).

<sup>17</sup> Worboys, *Spreading Germs*, p. 75.

<sup>18</sup> A. J. Youngston, *The Scientific Revolution in Victorian Medicine* (London: Croom Helm, 1979), p. 220.

<sup>19</sup> Lawrence and Dixey, 'Principle', p. 163; Worboys, *Spreading Germs*, p. 82.

fermentation, together with his exclusive emphasis on the influence of external agents in the production of sepsis, that alienated some of his colleagues. Much of the historiography has contrasted Lister's conception of the action of living germs with the 'cleanliness school' of surgeons who considered a much wider range of environmental factors in the production of post-operative disease. But what is also clear is that Lister's resolute focus on the wound as the principal object of surgical concern, and as the primary site of prophylactic and therapeutic intervention, effectively discounted a whole raft of constitutional factors, including the emotional state of the patient, that had, until then, been central to surgical understandings of patient recovery and, hence, operative success. Lister and his followers would change both their practice and their principles over the succeeding fifteen years, making Listerism something of a conceptual moving target.<sup>20</sup> Nonetheless, as Listerism gained ground, and as bacteriology, in the German mould, came to provide the underlying theoretical rationale for antiseptic practice, the patient, as an idiosyncratic and constitutionally unstable entity, slipped almost entirely from surgical view.

This image, of the surgeon losing sight of the patient through the lens of his microscope, is perhaps *too* seductive, not least because it resonates with Nicholas Jewson's highly influential argument about the 'disappearance of the sick man' from Western medicine.<sup>21</sup> The reality was rather more complicated, for, as Lawrence has shown, British practitioners were generally resistant to German laboratory methods until some way into the twentieth century.<sup>22</sup> Nonetheless, as we shall see in the first part of this chapter, the increasingly materialist and reductionist understandings of the body, and of surgical disease, that came to prominence in the last three decades of the nineteenth century, and were not seriously questioned until the emergence of holism in the 1920s, had profound implications for the emotional cultures of surgery.<sup>23</sup> They completed that shift away from the patient as an emotionally agentic individual that had been initiated by the advent of anaesthesia, and concluded the transition from an emotional regime of Romantic sensibility to one of scientific modernity.

As the second part of this chapter will demonstrate, however, the place of emotions within modern antiseptic surgery was somewhat more complex than

<sup>20</sup> Lawrence and Dixey, 'Principle'.

<sup>21</sup> Nicholas D. Jewson, 'The Disappearance of the Sick Man from Medical Cosmology, 1770–1870', *Sociology* 10 (1976), 225–44.

<sup>22</sup> Christopher Lawrence, 'Incommunicable Knowledge: Science, Technology and the Clinical Art in Britain, 1850–1914', *Journal of Contemporary History* 20:4 (1985), 503–20. For a counterpoint, see Rosemary Wall, *Bacteria in Britain, 1880–1939* (London: Pickering and Chatto, 2013), pt. I.

<sup>23</sup> Christopher Lawrence and George Weisz (eds), *Greater Than the Parts: Holism in Biomedicine, 1920–1950* (Oxford: Oxford University Press, 1998).

simple erasure, for if the *ontology* of emotions in surgical practice certainly diminished to the point of insignificance, their *rhetorical* deployment by Lister and his acolytes positively flourished. As we shall see, Lister was frequently portrayed by his supporters and hagiographers as an almost preternaturally compassionate man whose care of, and attention to, his patients was unsurpassed. Indeed, emotions played a vital part in the mythologising of antisepsis as an almost divine deliverance from human suffering. And yet, while Lister was something of a transitional figure in terms of the emotional regime of surgery, a man who had one foot in the cultures of Romantic sensibility, this chapter argues that his emotional disposition was more akin to a performative politesse than to the ideals of Romantic intersubjectivity. It likewise asserts that the rhetorical deployment of emotion by his supporters was part of a wider strategy by which sentimentalised ideas of medical virtue were used to counter growing popular anxiety about medical morality in relation to such issues as vivisection and the women's movement. Indeed, despite such images of surgery being presented to the public, Lister can be said to have ushered in a new model of surgical identity, based on varied notions of *detachment*, that would come to form the basis for the professional ideal in the twentieth century.

### **'A Different Thing Altogether': Emotions, Ontology, and Antiseptic Surgery**

In October 1867, between the publication of the first and second of his *Lancet* articles outlining the antiseptic system of surgery, Joseph Lister wrote to his father, Joseph Jackson Lister (1786–1869), claiming that 'I now perform an operation for the removal of a tumour, etc., with a totally different feeling from what I used to have; in fact, surgery is becoming a different thing altogether'.<sup>24</sup> That phrase 'a different thing altogether' clearly evokes the fundamental break that Lister thought he had made with the 'old world' of surgery. That Lister referred to performing operations with a 'totally different *feeling*' also suggests the phenomenological and affective dimensions of that transformation. We shall consider Lister's emotional disposition in due course. Firstly, however, we must determine what was distinct about his approach and what exactly it was different *from*. While Lister's talk of disjuncture was amplified by his supporters into a rhetoric of revolution, the historiography has demonstrated that the emergence of antisepsis was a messy, complex, and contested affair that was not truly settled until at least the mid-1880s.<sup>25</sup> And yet, even if there was no revolution, the surgery of the early 1890s looked quite different

<sup>24</sup> Godlee, *Lister*, p. 198.

<sup>25</sup> Granshaw, "'Upon This Principle'"; Lawrence and Dixey, 'Principle'; Worboys, *Spreading Germs*.

to that of the early 1860s. While the literature has tended to focus on the environmental dimensions of antiseptic and aseptic surgery, and the tensions between germ theory and hospitalism, another major object of contemporary contention, which has received less attention in the scholarship, was the role of the patient's constitution, including their emotional and mental state, in post-operative recovery. This section addresses that oversight, demonstrating that Listerian antiseptics had transformative implications for the place of emotion within British surgery.

In order to understand how this transformation was effected, and indeed resisted, we need to understand the place of emotion in surgery in the early 1860s, in the years immediately before Lister's work on wounds. Chapter 3 demonstrates that the pre-anaesthetic surgical patient was characterised by an ontological 'messiness' in which their reaction to, and recovery from, operative surgery was dependent upon a 'complex melding of constitutional, nervous, and emotional factors'. Thus, according to surgeons such as Astley Cooper and John Abernethy, a patient might bring about their own demise through overwhelming feelings of dread and despair, might sink under mental despondency during their recovery, or might die, delirious, under the influence of a post-operative hectic fever. This was particularly true of complex, 'capital' operations but, so powerful was the impact of emotions on patient recovery, even relatively minor procedures might be attended with dire consequences if the patient was not of the right mind.

The advent of anaesthesia transformed this situation, eliminating the pain of operative surgery and mitigating some of the dread experienced by patients at the prospect of a procedure. And yet, revolutionary though it was, anaesthesia did not signal an immediate end to the role of the patient's emotions in determining the outcome of an operation. For one thing, and as we saw in the previous chapter, anaesthesia produced its own anxieties. In 1870, for example, *The Lancet* expressed concern about the popular reporting of deaths under chloroform, stating that 'they serve to alarm patients and their friends, to surround the idea of an operation with unnecessary anticipations of evil, and possibly, in some cases, to *modify through the emotions the ultimate results of treatment*'.<sup>26</sup> For another, in terms of patient subjectivity, surgical case reports from the early 1860s could exhibit a remarkable continuity with the pre-anaesthetic past. Take, for instance, the following description by Cornelius Black (1822–86) of a patient undergoing ovariectomy in 1863:

The state of the patient's mind was placid, cheerful, and of confident hope in the result. She had long contemplated the operation, and she felt a satisfaction when the day for it arrived. In speaking of it she never betrayed the slightest apprehension as to the result.

<sup>26</sup> *Lancet* 95:2420 (15 January 1870), p. 90. Emphasis added.

She slept more soundly the night before the operation than she had slept for a long time before. She took a hearty breakfast on the following morning; and when the hour for testing her courage came, she walked to the operating table without evincing the least fear of the issue which awaited her. Few will doubt that this state of mind conduced to her recovery.<sup>27</sup>

A good way to gauge the place of emotions within the surgery of the early 1860s is to look at the lectures of two surgeons who came to play an ambivalent role in the reception of antisepsis. The first of these men was James Paget (1814–99), who would receive Lister's ideas with cautious curiosity, before ultimately rejecting them. In 1862, he delivered the 'Address in Surgery' to the Edinburgh meeting of the BMA, in which he spoke about the effect of nervous shock on a patient's recovery from surgery. 'If we include under this heading only those in which patients die without ever rallying from the depression into which the operation has cast them', he stated, 'then they are very rare [...] and my impression is that they are made rarer than they used to be [...] by the use of anaesthetics'. 'Yet such deaths do happen', he maintained, for the 'mental state of dread or grief, the loss of blood; the anaesthetic; the violent impression on the nervous centres [...] is reflected from these centres, not upon the heart alone, but upon all the organs of organic life'. Indeed, he continued, 'My impression is that the tendency of the present day is to attribute too much to the loss of blood, and too little to the impression on the nervous system, which being, through anaesthetics, not consciously perceived, is apt to be forgotten'.<sup>28</sup> The second man was Paget's St Bartholomew's Hospital colleague, William Savory (1826–95), who would become one of Lister's most outspoken and implacable critics. In a series of lectures on 'life and death' delivered to the Royal Institution in 1862, Savory spoke of the impact of the emotions on the functioning of the heart. The heart, he argued, 'may be arrested by causes which operate through the nervous system'. 'It is quite true', he affirmed, 'that the heart will leap from joy, or sink from fear, and emotions in still stronger degree may check its action to an extent sufficient to produce death'.<sup>29</sup>

As can be seen, the action of the emotions on the body was often absorbed into a concept of nervous shock, and was part of more general ideas about the constitutional idiosyncrasies of the patient inherited from the pre-anaesthetic era. But such ideas were not static. Indeed, reading Paget's lectures across the 1860s, it is possible to detect a subtle shift away from the idea that emotional states were an unambiguous determinant of operative outcomes, even before the advent of antisepsis. Speaking to his students on the 'Various Risks

<sup>27</sup> *Lancet* 82:2081 (18 July 1863), p. 63.

<sup>28</sup> *British Medical Journal* 2:85 (16 August 1862), p. 157.

<sup>29</sup> William Savory, *On Life and Death: Four Lectures Delivered at the Royal Institution of Great Britain* (London: Smith and Elder, 1863), p. 167.

of Operations' in the summer of 1867, Paget argued that statistical tables of hospital mortality could not 'tell the several or united influences of differences of constitution, of sound or unsound health, of diseases of internal organs, of race and temper and habits of life. Yet the question of the safety of an operation may turn on these very things'.<sup>30</sup> However, he was equivocal about how much could be predicted from a patient's temperament:

The healthiest nervous system, in so far as it may be judged of by the mind, is that in which a patient faces an operation quietly, and with a courage which is not too demonstrative. Cases are told, and some of them, probably, are true, and I have seen confirmations of them, which would make it very probable that an abiding gloom, or fear of death, or a foretelling of death, or an utter indifference to the result of the operation, are very bad states. But, after all, your estimate of the risks on any such grounds as these must be a vague one. A better sign is the capacity for sleep.<sup>31</sup>

Worboys has called these broadly constitutionalist approaches to surgical recovery, which represented the intellectual *status quo* in 1865, 'physiological', in that they conceptualised disease as 'disturbances in normal functioning that resulted from a patient's predisposition interacting with a configuration of environmental influences'.<sup>32</sup> Such models often had a residual humoralist aspect, for as John Rudd Leeson recalled of his time at St Thomas' Hospital in the early 1870s: 'A great deal was said about "temperaments": if high fever followed an operation it was due to a "sanguineous temperament"; if luckily the patient escaped a gross infection, the beneficent possession of a "phlegmatic temperament" was assumed'.<sup>33</sup> Shortly, however, they would be challenged by Lister's 'ontological' conception of disease, which 'made diseases "things" or entities that were separate from the patient'.<sup>34</sup>

Lister's first public intervention into the issue of wound management was concerned with compound fractures, a condition whose unpredictable, though often dire, resolution had long vexed surgeons, and had led John Abernethy to proclaim that only God knew why some of his patients died and others did not.<sup>35</sup> Indeed, Lister opened his article by stating that the 'frequency of disastrous consequences in compound fracture, contrasted with the complete immunity from danger to life or limb in simple fracture, is one of the most striking as well as melancholy facts in surgical practice'.<sup>36</sup> Most surgeons of the period

<sup>30</sup> *Lancet* 90:2288 (6 July 1867), p. 1.

<sup>31</sup> *Lancet* 90:2295 (24 August 1867), p. 220.

<sup>32</sup> Worboys, *Spreading Germs*, pp. 4–5.

<sup>33</sup> Leeson, *Lister*, pp. 9–10.

<sup>34</sup> Worboys, *Spreading Germs*, p. 5.

<sup>35</sup> RCSE, MS0232/1/1, John Flint South, 'Lectures on the Principles of Surgery delivered by John Abernethy Esq. FRS in the Anatomical Theatre at St Bartholomew's Hospital in the years 1818 and 1819', f. 241.

<sup>36</sup> Joseph Lister, *The Collected Papers of Joseph Lister*, vol. 2 (Oxford: Clarendon Press, 1909), p. 1.

would doubtless have agreed. Where many demurred was Lister's explanation for this phenomenon. Lister had been introduced to the theories of the French chemist Louis Pasteur around 1865 and was persuaded by Pasteur's argument that the 'atmosphere produces decomposition of organic substances', not due to the action of oxygen 'or any of its gaseous constituents', but because of 'minute particles suspended in it, which are the germs of various low forms of life [...] regarded as merely accidental concomitants of putrescence, but now shown [...] to be its essential cause'.<sup>37</sup> For Lister, these germs were deposited on the dead tissue of wounds, such as those produced by compound fractures, giving rise to a process of putrefaction, or sepsis, that poisoned the patient, often fatally. As Lister famously declared to the BMA Annual Meeting in August 1867, 'Upon this principle I have based a practice'.<sup>38</sup> This practice involved the application of a chemical substance, carbolic acid (or German creosote as it was popularly known), in order to kill these germs, or at least inhibit their entry into the wound. At first, Lister employed carbolic-infused putty laid upon the wound, but he shortly abandoned this in favour of a complicated multi-layered dressing that provided a chemical barrier without allowing the acid, which was highly irritating, to come into direct contact with the skin and produce 'carbolic induced suppuration'.<sup>39</sup> In 1871, Lister also introduced a steam-powered spray to diffuse carbolic acid over the patient during surgery. This spray became the most iconic symbol of Lister's technique. However, it ultimately proved of dubious value and, after little more than a decade, it was increasingly marginalised, although not entirely abandoned until 1887.<sup>40</sup>

What is important about Lister's technique, and what made it different from what had come before, was its singular focus upon the condition of the wound. In his early writings, Lister made reference to the state of his surgical wards at the Glasgow Royal Infirmary, including their proximity to a 'foul drain' and their having been built just above 'a multitude of coffins, which had been placed there at the time of the cholera epidemic of 1849'. However, he cited these factors not in support of an environmentalist explanation for post-operative mortality, but rather in order to disprove their significance, his rates of mortality having declined precipitously in spite of these conditions. It was, he maintained, the implementation of his antiseptic system that had effected this dramatic change.<sup>41</sup> Likewise, while Lister attended to the post-operative 'comfort' of his patients, he showed little or no interest in

<sup>37</sup> Godlee, *Lister*, p. 162; Lister, *Papers*, vol. 2, p. 2.

<sup>38</sup> Lister, *Papers*, vol. 2, p. 37.

<sup>39</sup> Lawrence and Dixey, 'Principle', pp. 165, 169.

<sup>40</sup> Godlee, *Lister*, p. 286; Worboys, *Spreading Germs*, pp. 95, 170. Lawrence and Dixey, 'Principle', p. 191.

<sup>41</sup> Lister, *Papers*, vol. 2, pp. 45, 124–5.

their general physical condition, or the specifics of their diet, at least when compared to his ever-watchful contemporaries. Leeson arrived in Edinburgh (to where Lister had returned in 1869 as Professor of Clinical Surgery) from St Thomas', which, following hospitalist concerns, had been entirely rebuilt to Florence Nightingale's (1820–1910) 'pavilion principle' in 1871. He was therefore somewhat surprised by what he found on Lister's wards. '[N]o medicine was ordered', he observed, 'a strange thing in those days, and every-one seemed to be on the same diet':

I seemed to have been in a dream where everything was topsy-turvy and all that I had been taught to consider essential seemed non-essential; the costly buildings, the spacious wards, the indispensable "Nightingales" [nurses] and the bottles of medicines, so far as the well-being of the patient was concerned, appeared superfluous.<sup>42</sup>

Lister evidently relished overturning established wisdom about post-operative patient care. In marked contrast to the views of the cleanliness school, he 'seemed to revel in the "dirty" conditions of his wards' in a manner that was positively provocative.<sup>43</sup> For Lister, the condition of the wound was all that mattered. But even here, appearances could be deceptive. In 1875, for example, he famously rejected conventional notions of cleanliness *in toto*. 'If we take cleanliness in any other sense than antiseptic cleanliness', he claimed, 'my patients have the dirtiest wounds and sores in the world. I often keep on the dressings for a week at a time, during which the discharges accumulate and undergo chemical alteration', which 'conveys [...] both to the eye and to the nose an idea of anything rather than cleanliness'. 'Aesthetically they are dirty', he maintained, 'though surgically clean'.<sup>44</sup> It was as if antiseptics not only provided a new logic for explaining post-operative infection, but severed the very connection between surgical pathology and observable reality.

Lister's contemporaries challenged his ideas on a number of grounds. For some, such as the Glasgow surgeon John Reid (1809–81), they went against everything that surgeons had come to believe about 'natural' healing. 'The atmosphere, which from their earliest years they were accustomed to regard as their best friend', he exclaimed, 'must now be looked on as their worst enemy. Instead of breathing a pure mixture of oxygen and nitrogen, they were really swallowing myriads of living animalcule. The idea was too absurd to be soberly entertained'.<sup>45</sup> Others refused to countenance the existence not only of germs, but even of sepsis itself. As late as 1880, the surgeon Thomas Darby (c.1809–86) of Bray in Ireland told the BMA Annual Meeting that he 'entirely disbelieved

<sup>42</sup> Leeson, *Lister*, p. 19.

<sup>43</sup> Christopher Lawrence, 'Lister, Joseph (1827–1912)', *ODNB*.

<sup>44</sup> Lister, *Papers*, vol. 2, p. 254.

<sup>45</sup> *Glasgow Medical Journal* 2:1 (November 1869), p. 135.

the germ-theory', and that 'there was no such thing, properly speaking, as anti-septic treatment, seeing there was no such thing as septicaemia'.<sup>46</sup>

However, perhaps the most consistent grounds for opposing Lister's theory was that it completely neglected what Reid called 'the state of the system of the patient'.<sup>47</sup> Such objections were forcibly outlined in a series of addresses to the BMA Annual Meeting in the later 1860s and 1870s. One of the first of these was given by the Leeds surgeon Thomas Nunneley (1809–70), who referred to the 'fashionable [...] method of treating wounds by what has been called "antiseptic treatment"' in which 'the sound physiological and pathological doctrines and practice of the last generation of British surgeons are unheeded, and in danger of being [...] forgotten'. For Nunneley, the *truly* antiseptic measures of the past were applied 'to the constitutional condition, and not to extrinsic circumstances as now'. Compared to the holistic practice of his generation, Lister's system took 'No account [...] of the constitution of the patient, his habits of life, his strength or his weakness, the condition of his digestive organs, the state of his blood, his temperament, diathesis, hereditary disposition, age or sex, [or] his state of mind'. Instead, 'Surgical science and medical knowledge are reduced to the one plain rule of, *in full faith* – for that is as essential as the acid itself – plentifully imbruing the part with carbolic acid'.<sup>48</sup>

Similar views were expressed almost exactly a decade later by William Savory, in what has been described as 'perhaps the last set-piece attack on [Lister's] system by an elite metropolitan surgeon'.<sup>49</sup> Savory did not reject germ theory *per se*, but he was concerned that 'what is called "antiseptic surgery"', fixes the surgeon's attention too exclusively on the dressing of the wound, to the exclusion of other matters of at least equal importance'.<sup>50</sup> Like Nunneley, Savory thought that too little scrutiny was being paid to the constitutional condition of the patient and too much to external factors, or, as he put it, 'I venture to think that of late the [...] error has prevailed, of regarding only the conditions under which the poison is formed, and losing sight altogether of the conditions under which it affects the blood'. Quoting William Roberts (1830–99), whose words were, he claimed, 'some of the wisest which have been spoken' on the subject of post-operative sepsis, Savory concluded that the 'essence of the principle [...] is not exactly to protect the wound from the septic organisms, but to *defend the patient against the septic poison*'.<sup>51</sup>

In the eyes of his critics, Lister's myopic focus on the condition of the wound, which came at the expense of the whole patient, was epitomised by

<sup>46</sup> *British Medical Journal* 2:1026 (28 August 1880), p. 342.

<sup>47</sup> *Glasgow Medical Journal* 2:1 (November 1869), p. 135.

<sup>48</sup> *British Medical Journal* 2:449 (7 August 1869), pp. 152–3. Emphasis in original.

<sup>49</sup> Worboys, *Spreading Germs*, p. 161.

<sup>50</sup> *British Medical Journal* 2:971 (9 August 1879), p. 232.

<sup>51</sup> *British Medical Journal* 2:971 (9 August 1879), pp. 211, 216. Emphasis in original.

his elaborate system of carbolic-infused dressings. For Savory, the practice of dressing wounds had to be shaped by patient subjectivity as much as pathological observation. 'I am guided', he claimed, 'by the state of the patient; whether spare or full-bodied; his sense of local and general comfort, freedom from or complaint of pain; and the season or temperature'. Indeed, in recommending a simple bread poultice, Savory explicitly appealed to the patient's general sense of well-being. This 'homely article', he claimed, 'far more frequently draws from the patient the word "comfort" than any other form of dressing. "Yes, that is comfortable", is a familiar expression after the application of a poultice'.<sup>52</sup> For another of Lister's high-profile opponents, the Birmingham surgeon Sampson Gamgee (1828–86), a regular and highly technical re-dressing of the wound also undermined one of the most important aspects of post-operative care:

A system of treatment which requires that whenever discharge is seen to come through the dressings, these are to be changed under the carbolic spray, is opposed to the great principle of local and constitutional rest, subjecting the patient to a great deal of pain and the surgeon to a great deal of trouble.<sup>53</sup>

What lay behind this powerful resistance to Lister's shift from the constitutional to the local and the subjective to the objective? Lister's supporters generally framed opposition to antisepsis in terms of age. For example, Lister's nephew and biographer, Rickman John Godlee (1849–1925), pointedly referred to John Erichsen's 1874 lectures on hospitalism as demonstrating 'the mental aspect of the middle-aged London surgeon at that time towards the whole question'.<sup>54</sup> There is an element of truth in these claims; Reid, Darby, and Nunneley were all around 58 when Lister first mooted his theory of antisepsis in 1867, while Nunneley's constant reference to John Hunter as his intellectual Pole Star suggests that he was a surgeon of the 'old school'.<sup>55</sup> But such explanations can only go so far. After all, Erichsen was only nine years older than Lister. Moreover, despite Godlee's claims that Savory's 1879 address 'warmed and comforted the soul of many a middle-aged man, who had begun to feel the discomforts of an undermined faith', Savory was actually less than five months older than Lister, while Gamgee, who had been a classmate of Lister's at University College London, was almost exactly a year younger.<sup>56</sup>

Perhaps a more important continuity between antiseptic sceptics can be found in their rejection of what they saw as Lister's universalist understanding of sepsis, wherein an exposure to germs was, in and of itself, sufficient to

<sup>52</sup> *British Medical Journal* 2:971 (9 August 1879), pp. 213–14.

<sup>53</sup> *Lancet* 112:2886 (21 December 1878), p. 870.

<sup>54</sup> Godlee, *Lister*, p. 131.

<sup>55</sup> *British Medical Journal* 2:449 (7 August 1869), pp. 143–56.

<sup>56</sup> Godlee, *Lister*, p. 323.

produce disease. 'If the germ-theory [...] contained the truth, the whole truth, and nothing but the truth', Savory asked, 'what possible explanation is to be given of that which is witnessed daily and hourly – the kindly repair of exposed wounds?' An adherent of germ theory 'would inevitably come to the conclusion that to expose any wound unguarded to the atmosphere would be to seal the fate of the patient', when this was clearly not the case.<sup>57</sup> For Savory, recovery was, rather, a highly contingent and idiosyncratic process that required delicate surgical judgement.

Another objection to Lister's approach stemmed from his tendency towards theoretical abstraction over an experiential knowledge of individual bodies, constitutions, and temperaments. This is not to say that Lister did not produce case histories; he did. However, these generally failed to satisfy his critics, as did his hesitancy, at least before the 1880s, to publish consistent statistical data.<sup>58</sup> Rather, in explicating his theory, Lister regularly employed experimental and demonstrative methods that were more in keeping with chemistry than surgery, and which confused and antagonised some of his contemporaries. This difference in method was most clearly exemplified by his beloved flasks. These, which were a modification of Pasteur's famous experiments from the early 1860s, contained boiled urine, one with an open neck, another 'lightly plugged with cotton wool' and a third exposed to the air, but with a curved neck. Within days, the open necked-flask was 'turbid and putrid' while the other two, even after six months, were 'clear and perfectly "sweet"'. Given that the urine in the curved-neck flask was as exposed to the atmosphere as that in the straight-necked one, its unaltered state suggested that some particulate entity had been prevented from reaching the urine and that the 'cause of putrefaction was therefore something *in* the air and not of the air itself'.<sup>59</sup> When Leeson was first shown these flasks, he remembered 'thinking it was strange that so eminent a surgeon should be interested in such an unusual subject and could find time to study such irrelevant and out-of-the-way matters'. And yet they were 'the most precious of the Professor's possessions', which, when Lister was appointed Professor of Surgery at King's College London in 1877, were the cause of much 'concern and anxiety' as he and his wife Agnes (1834–93) carried them on their laps, in a first-class railway compartment, all the way from Edinburgh to London, lest any misfortune should befall them.<sup>60</sup>

<sup>57</sup> *British Medical Journal* 2:971 (9 August 1879), p. 210.

<sup>58</sup> Savory was one of Lister's most vocal critics on this point: Ulrich Tröhler, 'Statistics and the British Controversy about the Effects of Joseph Lister's System of Antisepsis for Surgery, 1867–1890', *Journal of the Royal Society of Medicine* 108:7 (2015), 280–7; Thomas Schlich, 'No Time for Statistics: Joseph Lister's Antisepsis and Types of Knowledge in Nineteenth-Century British Surgery', *Bulletin of the History of Medicine* 94:3 (2020), 394–422.

<sup>59</sup> Leeson, *Lister*, pp. 94–5. See also Godlee, *Lister*, pp. 224–5.

<sup>60</sup> Leeson, *Lister*, pp. 24, 94.

For Lister's critics, his attachment to these flasks was indicative of his detachment from the complexities of quotidian surgical experience. Thus, while Gamgee confessed that he was 'quite willing to admit the facts of the flasks', he asked: 'What do the facts amount to in their *surgical application*? Is not the whole history of physiology and surgery full of examples, to prove the fallacy of arguing from the demeanour of organic parts *removed from the body*, to what occurs in the living system?'<sup>61</sup> Similarly, when Lister gave his opening lecture of the winter session at King's College London and chose to speak on the fermentation of milk by what he called '*Bacillus lactis*', Cheyne remembered that the 'expression on the faces of the audience was very interesting and rather amusing; the majority of the surgeons present could not understand what the lactic fermentation of milk had to do with surgery'.<sup>62</sup> Where once the patient had been a complex, messy, and idiosyncratic entity, now they were akin to a urine- or milk-filled flask, subject to a chemical process of putrefaction. As Godlee explained, for a Listerian surgeon treating an abscess was 'comparatively simple'. All he had to do was 'open the abscess—so to say, to uncork the bottle full of putrescible material—and to keep its contents from decomposing in spite of the admission of air'.<sup>63</sup>

In accounting for the response to that first King's lecture, Cheyne recalled that 'Those were the days of the "practical surgeon" as opposed to the "scientific surgeon"'.<sup>64</sup> This was a distinction that had been made by Erichsen in 1873, and it warrants some consideration.<sup>65</sup> In Chapter 1, we saw how Romantic surgeons harnessed the legacy of John Hunter to claim that *theirs* was the generation of the 'scientific' surgeon. Such claims exemplify the changing meanings of the word 'science'. For surgeons of the early nineteenth century, scientific surgery connoted something more than manual craft: it suggested a thorough knowledge of anatomy and physiology. During the course of the nineteenth century, however, the notion of science as applied to surgery expanded to include pathology, experimental physiology, and biochemistry.<sup>66</sup> While Leeson recalled that, during his time at Edinburgh, 'we never saw a microscope [...], nor did we ever see Lister use one', surgical science would, as the 1880s dawned, also increasingly include microbiology and, of course, bacteriology.<sup>67</sup> Even so, there were many surgeons in the later

<sup>61</sup> Sampson Gamgee, *On the Treatment of Wounds: Clinical Lectures* (London: J. & A. Churchill, 1878), pp. 132–3. Emphasis added.

<sup>62</sup> William Watson Cheyne, *Lister and His Achievement* (London: Longmans and Green, 1925), p. 33.

<sup>63</sup> Godlee, *Lister*, p. 188. <sup>64</sup> Cheyne, *Lister*, pp. 3–4.

<sup>65</sup> John Eric Erichsen, *Modern Surgery, Its Progress and Tendencies* (London: H. K. Lewis, 1873), p. 4.

<sup>66</sup> William F. Bynum, *Science and the Practice of Medicine in the Nineteenth Century* (Cambridge, UK: Cambridge University Press, 1994).

<sup>67</sup> Leeson, *Lister*, p. 92.

decades of the nineteenth century who classed themselves as 'practical' men. Nunneley framed his 1869 Address in precisely those terms, while, even as late as 1908, the Edinburgh surgeon John Chiene (1843–1923) could decry what he regarded as an overemphasis on laboratory work, reminding his audience that the 'most important elements' of human life 'are beyond the reach of the knife and the penetration of the microscope'.<sup>68</sup> The practical surgeons of the late nineteenth century prided themselves on their clinical skill and on an exquisite judgement honed by long experience. Theirs was surgery in the 'real world'. By contrast, they were generally suspicious of what they saw as the abstract, theoretical approaches of men like Lister. It has often been said that Lister's ideas met with more approval in Germany than in his native land, and there was a definite view among some surgeons that scientific surgery was a foreign import. Commenting on Savory's 1879 address, for example, the *British Medical Journal* wrote:

[T]hose who are tempted to give in to the fashionable folly of national self-depreciation, and to believe that every thing of value in science must be imported from somewhere, and by preference from Germany, may be brought to a sounder mind when they see, by this address, how far in advance the English surgeons are of their foreign compeers in that essential of the art: the saving of human life.<sup>69</sup>

It would be a crude oversimplification to reduce late nineteenth-century British surgery to a practical/scientific binary, and to align the former with Lister's opponents and the latter with his supporters. Such binaries certainly had rhetorical force, and men like Cheyne were not averse to claiming that the days of the practical surgeon were past.<sup>70</sup> But even Erichsen acknowledged that he did not 'for one moment wish it to be supposed that I consider them as being absolutely separated by a hard and fast line'.<sup>71</sup> Nor would it be accurate to suggest that a sensitivity to the emotional and mental state of a patient was intrinsically incompatible with a Listerian approach. Indeed, it is possible to find examples, at least in the later 1860s and early 1870s, of surgeons who combined constitutionalist and antiseptic principles.<sup>72</sup>

Moreover, it is important to recognise that the persistence of emotion as an ontological category within post-operative patient care varied according to surgical specialism. It may perhaps come as no surprise, given what we heard in Chapter 5 about the gendering of emotion in surgery from the 1840s onwards, that it was in the field of gynaecology and obstetrics, as well as in the

<sup>68</sup> *British Medical Journal* 2:449 (7 August 1869), p. 144; John Chiene, *Looking Back 1907–1860* (Edinburgh: Darien Press, 1908), p. 6.

<sup>69</sup> *British Medical Journal* 2:971 (9 August 1879), p. 233.

<sup>70</sup> Cheyne, *Lister*, p. 34. <sup>71</sup> Erichsen, *Modern Surgery*, p. 4.

<sup>72</sup> For example, see *Lancet* 96:2461 (29 October 1870), pp. 604–7.

treatment of women more generally, that emotion retained its greatest explanatory force for the longest time. At the height of antiseptic disputation in the mid-1870s, the Obstetrical Society of London hosted a series of debates on puerperal fever, a septic condition afflicting postpartum women. As Worboys points out, the contagiousness of puerperal fever had long been contested, but the issue was 'sharpened' in 1875 by the prosecution of two midwives for 'manslaughter by infection'.<sup>73</sup> What is notable about these debates, at least for our purposes, is the sheer ubiquity of emotion as a causal agent. For example, William Newman (1833–1903) of Stamford asserted that 'one should take into consideration [...] the mental conditions which not uncommonly associate themselves with pregnancy', claiming that, of the cases of puerperal fever he had encountered, 'a good number of them' involved 'elements of distinct mental disturbance'. Newman was not talking here about 'insanity' but rather 'the distressing circumstances, of the condition of pregnancy', which, he alleged, played 'a material part [...] in predisposing the system to the virulent development of septic poisons'. Newman's comments were echoed by John Braxton Hicks (1823–97), who claimed that it 'is evident that mental emotions have the power in some way, directly or indirectly, of bringing about a state of things which we term puerperal fever'.<sup>74</sup> Elsewhere, in 1877, the aural surgeon William Bartlett Dalby (1840–1918) stated: 'that emotional causes exercise a very decided influence on the function of hearing cannot fail to be observed by those who are in the habit of paying attention to affections [*sic*] of the ear' and 'because women are, more than men, mastered by their emotions, it is far more frequently in their case that such causes appear to exercise an influence in this direction'.<sup>75</sup> Of course, this is to say nothing of non-surgical conditions such as hysteria, in which 'mental emotion' and gender remained inextricably intertwined.

And yet, caveats aside, there is little doubt that the triumph of antiseptics brought about the end of emotion as an ontological category within surgical practice and that, in so doing, it extinguished the dying embers of an emotional regime of Romantic sensibility and signalled the hegemony of modern technoscientific surgery. As the historiography has clearly shown, Lister's ideas were highly flexible, and were often reconfigured to accommodate new challenges. Hence, he was able to quell a certain amount of opposition by moving away from a purely exogenous understanding of sepsis towards a 'seed and soil' model.<sup>76</sup> Even so, his epistemology allowed little, if any, room for what he called the 'philosophical investigation of "constitutional conditions"'. At the 1879 International Congress of Medical Science in Amsterdam, for example,

<sup>73</sup> Worboys, *Spreading Germs*, p. 104. <sup>74</sup> *Lancet* 105:2694 (17 April 1875), p. 541.

<sup>75</sup> *Lancet* 110:2815 (11 August 1877), p. 200. <sup>76</sup> Worboys, *Spreading Germs*, pp. 161–4.

he was compelled to answer some objections to his theories based on the fact that they discounted such issues as diathesis (predisposition):

Mr. Lister said that it was one of the glories of antiseptic surgery that it set the patient so free from what were formerly known as the "surgical risks" of operation [...] that it was only in quite exceptional cases and conditions that the operator had to ask himself any question of the kind. The questions of diathesis were not so much neglected by the antiseptic surgeon; they were rather removed out of the way by the antiseptic method, and taken into another category.<sup>77</sup>

A good example of the broader impact of this shift away from the constitutional, the psychological, and the emotional in understandings of operative surgery can be found in the multi-volume *System of Surgery*, edited by Frederick Treves and published in 1895. One of the essays in this collection, as comprehensive an insight into British surgical thought at the turn of the twentieth century as can be found, was titled 'The Influence of Constitutional Conditions upon Injuries' and was written by Treves himself. For the most part, Treves' chapter is concerned with factors such as age, sex, weight, and so on. Nonetheless, there is one very brief section dedicated to 'Affections [*sic*] of the nervous system', in which Treves declares that the 'mental state of a healthy patient as expressed by the terms "nervous", "neurotic", "excitable", "apathetic", has little definite effect upon the result of an operation or injury'. Immediately below this, however, is a brief coda to the following effect: 'The least favourable frame of mind is that marked by gloom and utter apathy, and by a morbid, stoical indifference, difficult to dispose of'.<sup>78</sup> These two passages appear to contradict each other, and it might therefore be best to think of this coda as a vestigial, almost folkloric, relic of a previous emotional regime, one that no longer possessed a substantive ontological referent.

Needless to say, the disappearance of emotion, and of subjectivity more generally, from late nineteenth-century surgical ontology had its most profound impact on the patient, who, in marked contrast to the Romantic surgical era, no longer exercised a meaningful emotional agency, either within or without the operating theatre. But it also had significant and far-reaching implications for surgeons too. One of the most important of these concerned ideas of *responsibility*. As we saw in Chapter 2, Romantic surgical culture was steeped in a pathos that derived from the frequently tragic outcome of surgical intervention. While early nineteenth-century surgeons often gave expression to feelings of personal responsibility concerning operative failure, the sheer unpredictability of events meant that virtually nothing was guaranteed. As such, men like John Abernethy reassured their students that they could

<sup>77</sup> *British Medical Journal* 2:977 (20 September 1879), p. 454.

<sup>78</sup> Frederick Treves (ed.), *A System of Surgery*, vol. 1 (London: Cassell, 1895), p. 268.

not be blamed if a patient died due to circumstances outside of their control (which, beyond active incompetence, covered most things). As we saw in the previous chapter, the advent of anaesthesia relieved many of the emotional burdens on surgeons, and markedly reduced the frequency of intraoperative or immediate post-operative death. But the high mortality from post-operative infections that characterised (or was said to characterise) the 1850s and 1860s meant that, in this regard at least, the experience of post-anaesthetic surgeons was not so different from that of their pre-anaesthetic forebears. Thus, in his 1869 address, Thomas Nunneley appealed to chance in a way that would have been eminently recognisable to Abernethy and his contemporaries when he asserted that, beyond all the other constitutional variables involved, there was a 'general law affecting all' surgeons, namely that 'At one time, all his operations do well; he hardly loses a case, whatever the operation may be [...] while, at another time, precisely similar cases do as badly, so that even very trivial wounds and operations are followed by death'.<sup>79</sup> This concept of 'runs of luck' was often remarked upon by post-antiseptic surgeons reflecting on the past. Lister's house surgeon and close personal friend Hector Clare Cameron (1843–1928) told his audience:

In the absence of any certain knowledge of the real mode of causation of these wound-begotten diseases [...] the surgeon felt no real personal responsibility regarding them, whatever grief and disappointment he might experience when his best efforts repeatedly ended in disaster and failure. When his patients were decimated and his heart was well-nigh broken by those terrible visitants [...] he received the sympathy of his friends and pupils. He had done his work well, and a hail in harvest had come to destroy it. He was in no way to blame. He was a man beset by misfortune.<sup>80</sup>

However, by establishing an ontological framework within which the hitherto unpredictable occurrence of sepsis might be explained and, ultimately, prevented, Listerian antiseptics transformed notions of personal responsibility in surgery. This was no accident. It was, in fact, a central component of Listerian ideology. Thus, Leeson remembered attending to the dressing of an abscess on the surgical ward of the Edinburgh Royal Infirmary when Lister 'made a surprise visit, accompanied by two foreign professors'. Pausing at the foot of the bed, Lister allegedly explained to his guests 'in a most impressive voice' that "'If this gentlemen dares to let a single germ enter this wound he will be as culpable as though he took his scalpel and plunged it into the patient's carotid'". 'It was not a light matter working under such responsibility', Leeson explained, 'but this was the spirit in which all the work was done;

<sup>79</sup> *British Medical Journal* 2:449 (7 August 1869), p. 156.

<sup>80</sup> Hector Clare Cameron, *Lord Lister, 1827–1912: An Oration* (Glasgow: James MacLehose and Son, 1914), pp. 12–13.

we knew that Lister relied upon us not to fail him'.<sup>81</sup> By making the surgeon what *The Lancet* called 'the custodian of the wound', antiseptic had ushered in a surgical modernity that promised ever greater control and perfection, but also demanded ever greater certainty and accountability.<sup>82</sup> In the second part of this chapter, we shall therefore consider the ways in which such factors shaped professional identities and laid the groundwork for the modern surgical ideal.

### **'One Cannot Consult with a Deity!' Emotions, Performance, and the Modern Surgeon**

As a young man, the English poet William Ernest Henley (1849–1903) was blighted by ill-health and in 1868–9 was forced to spend nine months in St Bartholomew's Hospital, during which time his left leg was amputated below the knee. Shortly thereafter his right foot was similarly afflicted, and he spent some time at the Royal Sea-Bathing Hospital in Margate. The doctors there recommended amputation, but Henley declined, opting instead to make the long journey to Edinburgh to seek treatment under Joseph Lister.<sup>83</sup> During his two-year-long stay at the Edinburgh Royal Infirmary, Henley penned a number of poems, which first appeared in the *Cornhill Magazine* in 1875 and later as the collection *In Hospital* (1903). One of these poems, initially entitled 'A Surgeon' and subsequently retitled 'The Chief', is a portrait of Lister himself. As its final stanza reads: 'His wise, rare smile is sweet with certainties, / And seems in all his patients to compel / Such love and faith as failure cannot quell. / They hold him for another Herakles, / Warring with Custom, Prejudice, Disease, / As once the son of Zeus with Death and Hell'.<sup>84</sup> Lister's acolytes would quote Henley's poem routinely, to the point of ubiquity, as evidence of his compassionate character.<sup>85</sup> Meanwhile, subsequent historical research has suggested that as a patient, Henley was not alone in his positive estimation of Lister.<sup>86</sup> But what is notable about this poem is the relative emotional distance at which Lister resides from the narrator. Lister is a man who 'compels' 'love and faith' through his 'wise, rare smile' and his demeanour of certainty, but he

<sup>81</sup> Leeson, *Lister*, pp. 144–5; Claire Brock, 'Risk, Responsibility and Surgery in the 1890s and Early 1900s', *Medical History* 57:3 (2013), 317–37.

<sup>82</sup> *Lancet* 106:2725 (20 November 1875), p. 744. For a later reflection on this transformation, see Cameron, *Joseph Lister*, pp. 174–5.

<sup>83</sup> Ernest Mehew, 'Henley, William Ernest (1849–1903)', *ODNB*.

<sup>84</sup> *Cornhill Magazine* 32:187 (July 1875), pp. 124–5. Intriguingly, in the later version, the 'they' becomes 'we': William Ernest Henley, *In Hospital* (Portland: Thomas Mosher, 1903), p. 21.

<sup>85</sup> For example, see Godlee, *Lister*, pp. 160–1; RCSE, MS0021/1/15, St Clair Thomson, *Lister, 1827–1912: A House Surgeon's Memories* (1937), p. 28.

<sup>86</sup> For an account of Lister's relationships with his patients, see Mary Wilson Carpenter, 'Lister's Relationships with Patients: "A Successful Case"', *Notes and Records of the Royal Society* 67:3 (2003), 231–44.

is also a god-like hero, a largely unapproachable figure, engaged in intellectual and moral battles on a far higher plane.

As we have seen, Lister's system of antiseptic surgery, which, in various modified forms, was effectively axiomatic by the 1890s, had hugely significant implications for the role of emotions in surgical practice, notably in the conceptualisation of surgical disease and the management of surgical cases. Surgeons were no longer required, as they had been in the Romantic era, to effect an intersubjective engagement with their patients, to monitor their mood and watch for signs of despondency or dejection. Instead, all they had to do was follow Lister's system, keep the wound free of germs, and all would be well. But if emotions no longer possessed a meaningful surgical *function*, that does not mean that they disappeared from surgical culture altogether. Rather, as this section demonstrates, they underwent something of a transmutation, which originated with anaesthesia and was completed by antiseptics, from the highly wrought and profoundly intersubjective qualities of Romantic sensibility to the more performative, rhetorical, and detached cultures of scientific modernity. This does not mean that Romantic surgical emotions were not performative, for we have seen that they were and, as Reddy's concept of the emotive suggests, all forms of emotional expression are both outwardly directed and inwardly felt. Neither should 'detachment' necessarily be taken to suggest a cooling of emotional tone and tenor, for the rhetoric of Listerian surgery was often characterised by the highest forms of sentimentality. What is undoubtedly true, however, is that during the course of the later nineteenth century, the emotional identity of the British surgeon shifted from that of the man of feeling, fighting to save his individual patient from an unseen and largely unknowable enemy, to that of a heroic miracle worker whose achievements were emblematic of the triumphs of techno-scientific modernity.

Perhaps the best way of understanding this process of transmutation is to consider the emotional identity of Lister himself. Now, lest it appear that this chapter is advancing a 'great man' understanding of history that gives undue weight to the influence of an individual, it is important to clarify that Lister was not alone in exemplifying this change, nor was he singularly responsible for it. At the risk of indulging in counterfactuals, it seems entirely plausible, given the contemporaneous developments in later nineteenth-century European and North American medical science, that this shift would have happened even without him. And yet, Lister presents a particularly important and valuable case study for two reasons. Firstly, as we shall see, he is something of a transitional figure, who clearly demonstrates the shifts in surgical rhetoric, performance, and representation across the second half of the nineteenth century. Secondly, he attained a uniquely exalted position in the pantheon of late nineteenth-century surgery, not only in Britain but also

abroad, meaning that his character and demeanour were readily translated into a broader professional ideal.

Joseph Lister was educated at University College London in the mid to late 1840s, the precise moment at which anaesthesia was first introduced. Indeed, he was present at Robert Liston's first operative use of ether on 21 December 1846, albeit as an arts student, as he did not begin his medical course until the winter of 1848.<sup>87</sup> Lister was therefore initiated into what was effectively a pre-anaesthetic surgical culture, one that had yet to fully absorb the practical and emotional implications of the shift from operative subject to operative object. That Lister owed much of his early influence to the crepuscular cultures of Romantic sensibility is powerfully evident in the first lecture he ever gave. This was an 1855 introduction to a course of surgery at Edinburgh, where Lister had moved two years earlier in order to work under James Syme.<sup>88</sup> As was common for introductory addresses in this period, this lecture sought to inculcate students in what were called surgical 'morals', namely the values and behaviour deemed appropriate to the office of surgeon. Lister's text, which survives in both draft and manuscript forms, is saturated with a language of love, something that was undoubtedly shaped by his Quaker upbringing.<sup>89</sup> Thus, he told his students that it would be a 'delightful reflection to any man of rightly constituted mind' that his studies would allow him to gain 'so much additional power of benefitting your fellow creatures' and help him to fulfil his 'grand duty to his fellow man, that of loving his neighbour as himself'. Lister represented surgical education as a divinely ordained process of transformation, stating that it was 'in the dissecting room that the medical student first discerns the spell which the holy object of our profession casts over all that is intimately connected with it, changing as if by enchantment things previously offensive and loathsome into objects of intense interest or even of affection'.<sup>90</sup> But what is perhaps most remarkable about this lecture was the ways in which it invoked the emotional cultures of Romantic surgery, even in its points of reference. Thus, despite the advent of anaesthesia nearly a decade earlier, Lister spoke as if that transformation had never taken place:

if there be among you any who feel that they have warm, tender, and anxious hearts, and fear that they will never be able sufficiently to steel their breast against the 'dint of pity', wilfully to inflict pain on man, woman and child, and perform the most torturing operations, deaf to the tears, groans and entreaties of their patients, to such I would say

<sup>87</sup> Lister, *Papers*, vol. 2, p. 491; Godlee, *Lister*, pp. 15–18; Lawrence, 'Lister'.

<sup>88</sup> See Godlee, *Lister*, p. 43.

<sup>89</sup> Lister was raised a Quaker, but left the Society of Friends on his marriage to Syme's daughter, Agnes, in 1856. He later joined the Episcopalian Church.

<sup>90</sup> RCSE, MS0021/4/1/2 [folder 13], Draft and manuscript of Lister's introductory lecture to new students at his surgery lectures at Edinburgh University, 1855, manuscript, pp. 1–2.

be not at all discouraged. It is indeed a very prevalent notion [among the public] that a good surgeon must necessarily be hard hearted, callous and indifferent to the welfare of his patients; but there cannot possibly be a greater mistake.<sup>91</sup>

In support of these claims about the affinity between surgery and emotional sensitivity, Lister gave the example of the early eighteenth-century surgeon William Cheselden, who felt 'sickness and moral anxiety' in advance of an operation, as well as that of the recently deceased Liston who, despite being 'renowned over the whole world as a bold and most skilful operator', once declared "'I wish to God I might never touch the knife again"; so anxious had he been made by a Case in private practice'.<sup>92</sup> As Lister concluded: 'Be assured Gentlemen, that it is for the better for you to possess a somewhat over sensitive and over anxious temperament than the contrary; and that you are rather called upon to foster rather than to repress the generous and refined feelings of your nature'.<sup>93</sup>

Such emotional elements would continue to feature in Lister's lectures in the early 1860s, although by that time they would occupy significantly less space. For example, his introductory lecture to the medical students of Glasgow, delivered on 1 November 1864, was more concerned with such matters as 'the vitality of cells', 'inflammation', and the 'classification of surgical diseases' than with surgical morals. And yet, at the very end, he assured them, in terms reminiscent of his earlier talk, that:

I would not have any gentlemen to think himself too tender-hearted or too loving in his disposition. It is only the general public who suppose that cruelty is essential to a surgeon: the truth is that the more feeling and love for his fellow creatures he has, the better it will be.<sup>94</sup>

By the late 1860s, however, the emotional dimensions of surgery had completely disappeared from his lectures, which were now dominated by the scientific theory and technical application of antisepsis. This was the case with his first talk as Professor of Clinical Surgery at Edinburgh in 1869, which was entirely concerned with the management of wounds.<sup>95</sup> Nor would these emotional or moral elements ever reappear in his public presentations. On opening

<sup>91</sup> RCSE, MS0021/4/1/2, manuscript, p. 15. The text in square brackets was inserted above the original wording, suggesting that Lister was keen to clarify that this was a public misapprehension, not a professional ideal.

<sup>92</sup> RCSE, MS0021/4/1/2, manuscript, p. 15.

<sup>93</sup> RCSE, MS0021/4/1/2, manuscript, pp. 16–17.

<sup>94</sup> RCSE, MS0021/4/1/9, Volume containing notes of lectures on surgery delivered by Lister at Glasgow University 1–21 November 1864, p. 8.

<sup>95</sup> RCSE, MS0021/4/1/10, Published copy of the Introductory Lecture given by Lister to students at the University of Edinburgh, 8 November 1869 [Folder 36]. One of Lister's students estimated that he spent 75 per cent of his teaching time on the topic of dressings: Crowther and Dupree, *Medical Lives*, p. 105.

his inaugural lecture to the staff and students of King's College London in October 1877, Lister suggested that he had two options. The first was 'to convey to the student some of the exalted privileges and correspondingly high responsibilities of the beneficent calling to which he proposes to devote himself'. The second was 'to treat of some special subject, in the hope that I might say something which may have interest [and] instruction'. Tellingly, he announced that the 'latter is the course which I have decided to follow', and he spent the rest of the lecture, as we have heard, talking about the fermentation of milk, much to the confusion of his audience.<sup>96</sup>

Such developments may provide only a crude measure of Lister's personal emotional disposition. Nonetheless, they tell us a great deal about the relative value that he ascribed to the emotional dimensions of surgery over the course of his career and, as such, they provide a useful way to track the ideological shift from one emotional regime to another. We can, moreover, gain a greater insight into Lister's emotional identity from his private correspondence. In 1853, shortly after arriving in Edinburgh, he wrote:

If the love of surgery is a proof of a person's being adapted for it, then certainly I am fitted to be a surgeon: for thou canst hardly conceive what a high degree of enjoyment I am from day to day experiencing in this bloody and butcherly department of the healing art. I am more and more delighted with my profession, and sometimes almost question whether it is possible such a delightful pursuit can continue. My only wonder is that persons who really love Surgery for its own sake are rare.<sup>97</sup>

What is striking about this statement is how markedly it contrasts with the sentiments of Romantic surgeons like Henry Robert Oswald, John Abernethy, or Charles Bell. As we saw in Chapter 2, these men often reflected on the intense anxiety engendered by the practice of operative surgery, and on the profound misery occasioned by their frequent exposure to the sufferings and deaths of their patients.<sup>98</sup> Lister, on the other hand, expresses nothing but joy at his experiences and marvels that more people do not share his love of surgery. No doubt this change in tone owed a great deal to the introduction of anaesthesia, and the reduction of pain and distress that it brought about. It would also be unreasonable to judge Lister's emotional disposition from such statements alone, not least because this letter coincides with the period of his career when he was still deploying the cultural tropes of Romantic sensibility. Nonetheless, it is clear that, in terms of his personal reflection on

<sup>96</sup> RCSE, MS0021/4/2/2 [folder 53], Address delivered by Lord Lister at the opening of the Medical Session of 1877 at King's College, Strand, 1 October 1877, p. 2.

<sup>97</sup> Godlee, *Lister*, p. 35.

<sup>98</sup> See also Michael Brown, 'Wounds and Wonder: Emotion, Imagination and War in the Cultures of Romantic Surgery', *Journal for Eighteenth Century Studies* 43:2 (2020), 239–59.

the surgeon's art, his sentiments lack the agonised introspection that was so characteristic of his pre-anaesthetic forebears.

This is not to say that emotions do not feature in Lister's private papers or his publications, because they do. He did write to his father about the anxiety he felt during an operation, though this feeling was swiftly eclipsed by 'a greater thrill of surgical joy than I ever before experienced'.<sup>99</sup> In his early work on antiseptics, he also wrote about the 'sickening and often heartrending' experience of losing his patients to post-operative infection.<sup>100</sup> Moreover, much of Lister's correspondence is underwritten by a religious faith, which, as in his first lecture, was expressed in terms of a love for humanity. Thus, in March 1857, he told his sister that 'I trust I may be enabled in the treatment of patients always to act with a single eye to their good, and therefore to the glory of our Heavenly Father'. 'If a man is able to act in this spirit', he continued, 'and is favoured to feel something of the sustaining love of God in his work, truly the practice of surgery is a glorious occupation'.<sup>101</sup>

Lister was, furthermore, widely noted for the tenderness and care that he displayed towards his patients. As Leeson recalled of his first impressions of the man, 'I had never witnessed such personal care bestowed upon a case, nor ever remember a surgeon who seemed to be working under such a sense of anxious responsibility over a dressing'. In fact, he described Lister's care as 'almost womanly'.<sup>102</sup> Leeson, like Henley, also remembered Lister's 'sweet and assuring smile', which, he claimed, cast everything else about him 'into shadow'. 'It went to the patient's heart and nerved him with strength', he rhapsodised; 'It flooded his mind with confidence and hope; he felt that his was no mere "case" but the supreme concern of a friend as well as of a supreme healer'.<sup>103</sup> As to the patients themselves, Leeson maintained that '[t]heir confidence in him was absolute and their reverence boundless'.<sup>104</sup>

Leeson's comments are fulsome in the extreme, but they are mirrored by other accounts, such as that of St Clair Thomson (1859–1943), who was Lister's house surgeon at King's College Hospital in the 1880s. Like Leeson, he remembered Lister's 'great gentleness and sympathy' with even the 'humblest or roughest of his hospital patients'. Like Leeson, he also remarked upon Lister's tendency to refer to his patients in 'such kindly terms as "this poor fellow", or "this good woman" or "this little chap"'.<sup>105</sup> There is, moreover, ample evidence of Lister using such terms in his correspondence. For example, in a letter he sent in February 1891 to Lionel Vernon Cargill (1866–1955), another of his house surgeons at King's, he wrote:

<sup>99</sup> Godlee, *Lister*, p. 98.   <sup>100</sup> Lister, *Papers*, vol. 2, p. 124.   <sup>101</sup> Godlee, *Lister*, p. 62.

<sup>102</sup> Leeson, *Lister*, pp. 19, 120.   <sup>103</sup> Leeson, *Lister*, pp. 51, 86.   <sup>104</sup> Leeson, *Lister*, p. 159.

<sup>105</sup> RCSE, MS0021/1/15, p. 25; Leeson, *Lister*, pp. 63, 67–8, 103.

I have to go out today, and cannot visit the Hospital. It seems a pity the poor woman with erysipelas should not have the benefit of the [iodine trichloride] if it really is of use to her. Accordingly I send by the bearer a bottle of 1:20 carb[olic] solution, which is that which I used before.<sup>106</sup>

Likewise, in another letter to Cargill, possibly about the same case, Lister wrote: 'Poor woman, she was the victim of a series of unhappy circumstances. The very fact of our having special means, young and not so much explained, to look after her, prevented perhaps the due care in guarding against bed sore'.<sup>107</sup>

Ostensibly, then, Lister might appear to be a man of emotional sensitivity and compassion, very much in the mould of his Romantic forebears. But what comes across from his writings and, in particular, his ubiquitous use of the phrase 'this poor man' or 'this poor woman' is less a sense of deep emotional communion than a rigid formalism, a kind of paternalistic politesse in which the rhetoric of care takes precedence over a substantive intersubjectivity. This is not to imply that Lister did not care for his patients, or that he was not, in a normative, clinical way, *kind* to them. Nor is it to suggest that all Romantic surgeons were, in practice, the men of feeling that authors like John Bell maintained they should be. But it is notable that, even for the most generous observers like Leeson, the principal manifestations of Lister's care were a concern over the state of his patients' dressings (the centrepiece of his antiseptic system) and a customarily polite form of address. Again, this does not mean that Lister did not listen to his patients, because their testimony suggests that he did.<sup>108</sup> But when one looks for the *substance* of Lister's emotional engagement with those under his care, at least within the sources available to us, one is apt to come up short.

And yet, at the same time, it is remarkable to what extent the *myth* of Lister, shaped as it was by the hagiographic accounts of men like Godlee, Leeson, Cheyne, and Thomson, was underpinned by a rhetoric of emotion. Leeson's book in particular is characterised by a lavish language of sentiment, which adorns virtually every other page. So powerful was this apparent desire to present Lister as a man of deep feeling that some authors chose to read emotions onto him, even when there was no evidence for them. This is particularly true of Godlee's canonical biography, published in 1917, five years after Lister's death. For instance, in relation to Lister's early exposure to the 'sad calling' of surgery in the sepsis-ridden wards of University College Hospital, Godlee remarks:

Amidst such surroundings Lister had his first introduction to surgery, and its sadder side made a deep impression upon him. But there is little or no reference to this in his letters. Medical students have not much time, as a rule, for letter-writing, and are not apt to indulge in moralizing.<sup>109</sup>

<sup>106</sup> RCSE, MS0021/1/2/4, Cargill, Lionel Vernon, Lister to Cargill, 12 February 1891.

<sup>107</sup> RCSE, MS0021/1/2/4, Lister to Cargill, 20 April 1891.

<sup>108</sup> Carpenter, 'Lister's Relationships'. <sup>109</sup> Godlee, *Lister*, p. 20.

Likewise, in relation to the loss of Lister's patients from post-operative infection in the years immediately prior to his development of the antiseptic system, Godlee writes:

But, so far, his correspondence contains hardly one reference to this gloomy subject. This can only be explained by supposing that he looked upon it as the common lot, and did not allow himself to be so much depressed by it as to lose interest in the improvement of the science to which he had devoted his life. Possibly he did not like to burden his father with accounts of the melancholy side of what he was constantly holding up as the noblest and happiest of callings.<sup>110</sup>

Another striking aspect of the mythic portrayal of Lister is the way in which emotions are presented as perhaps the *primary* motivation for his development of the antiseptic system. Like Godlee, Leeson asserts that Lister's first encounters with post-operative sepsis made a profound impact on him. He even claims that the very mention of the words 'hospital gangrene' would induce Lister's head to fall and his speech to falter 'under the emotion that its memory evoked'.<sup>111</sup> However, whereas Godlee's biography states that this 'dismal aspect of surgery' was forced 'into the background' by 'the interest of the work', Leeson maintains that it 'orientated his life', for he was 'so distressed [...] by its ravages that it kindled that fire to unravel these mysteries which burnt henceforth on the altar of his heart'.<sup>112</sup> Indeed, Leeson repeatedly suggests that this 'overwhelming sense of responsibility [...] took its full toll of anxiety and care, and clothed him with a garment of sadness which he seldom seemed able to discard'.<sup>113</sup>

Such hagiographic narratives also tend to instrumentalise emotions. In almost all the Whiggish historical accounts written by his acolytes in the early twentieth century, the positive emotions of sympathy and compassion are arraigned on the side of Lister and his associates, while their opponents are represented as blinkered, officious, and cold-hearted. This is particularly conspicuous with regard to the opposition that Lister encountered on his arrival at King's College London. We have already heard about the scepticism with which his inaugural lecture was received, and this response was also characteristic of those charged with implementing his system, namely the nursing staff. In his biography, Godlee quotes extensively from Lister's former student, John Stewart (1848–1933), on this point. Stewart recalled the case of a young boy with osteomyelitis of the femur whose removal from the ward to the operating theatre was checked by the sister, who stated that patients could not be moved without a permit from the Hospital Secretary. Stewart proceeded, in defiance of both official protocol and the 'menacing' demeanour of the nurses,

<sup>110</sup> Godlee, *Lister*, p. 124.    <sup>111</sup> Leeson, *Lister*, p. 41.

<sup>112</sup> Godlee, *Lister*, p. 20; Leeson, *Lister*, p. 31.    <sup>113</sup> Leeson, *Lister*, pp. 58–60.

to 'wrap the unconscious boy in his bed-clothes' and take him to his surgery. 'To us coming from the Royal infirmary [of Edinburgh] with its simple, kindly, common sense routine, in which the patients' welfare and comfort were the first consideration, this cold machine-like system was intolerable', Stewart reflected.<sup>114</sup> Godlee, meanwhile, perceived the insidious implications of such resistance:

This lack of sympathy and absence of enthusiasm amongst the sisters were unheard of in Lister's previous experience. He could hardly believe such a state of mind to be possible. It created an unpleasant atmosphere in the wards. But it did more. The success of his new treatment depended largely on the local assistance of the nursing staff in carrying out details which it was almost impossible for him personally to supervise. Their indifference or veiled opposition was therefore a source of real danger to his patients.<sup>115</sup>

Such accounts beg the question of why Lister and his antiseptic system were so frequently configured in emotive terms. In answering this question, it is important to note that such framing was not simply the product of early twentieth-century retrospection. Rather, the groundwork for this mythos was laid in the later nineteenth century, including by Lister himself.<sup>116</sup> And indeed, the impetus behind these highly emotionalised representations derived from a set of circumstances that straddled both the late nineteenth and early twentieth centuries and concerned the wider social and cultural identity of medicine and surgery in late Victorian and Edwardian Britain.

The shift away from a holistic and constitutional understanding of disease towards the laboratory-based microbiological and biochemical approaches of modern medicine and surgery had not gone unnoticed by the public. As early as 1879, the *British Medical Journal* noted:

In more than one place lately, outside critics have discussed the bearing and manner of physicians towards their patients, and have developed a somewhat unexpected thesis. Medical men of the present day, we are told [...], are too apt to assume an abrupt and cold manner, and to treat their patients rather as impersonal elements in a scientific problem, than as individuals whose feelings and conditions are all-important to themselves.<sup>117</sup>

The *Journal* vigorously refuted the accusation that modern medical practitioners displayed a 'tendency either to hardness, coldness or severity of demeanour', as well as the claim that they dealt with their patients as

<sup>114</sup> Godlee, *Lister*, pp. 409–10.

<sup>115</sup> Godlee, *Lister*, p. 412. On the relationship of nursing staff to antiseptic practice, see Claire L. Jones, Marguerite Dupree, Iain Hutchison, Susan Gardiner, and Anne Marie Rafferty, 'Personalities, Preferences and Practicalities: Educating Nurses in Wound Sepsis in the British Hospital, 1870–1920', *Social History of Medicine* 31:3 (2018), 577–604.

<sup>116</sup> For example, see his defence of his 'enthusiasm' for antiseptics: *Lancet* 114:2336 (6 December 1879), p. 854.

<sup>117</sup> *British Medical Journal* 2:980 (11 October 1879), p. 583.

'pathological specimens, rather than as human beings self-contained and differentiated by their moral and mental conditions no less than their physical suffering'.<sup>118</sup> Nonetheless, the charge was a serious one and it stuck as closely to surgeons as to physicians.

Neither were such concerns solely restricted to the general public. In 1895, Lister's colleague at King's College Hospital, the physician Isaac Burney Yeo (1835–1914), penned an essay for the influential monthly periodical *The Nineteenth Century* in which he claimed that increased specialisation and a narrowing of the clinical gaze had a negative impact on the patient–practitioner relationship. When a practitioner has 'the care of the whole complex organisation of his patient', Yeo maintained, 'he feels an interest in his charge altogether different from that experienced by the man who looks after a small portion of it only'. 'It is impossible', he alleged, 'to feel the same kind of interest in such a fractional part of the patient as in the whole man' and he was 'convinced that this modern tendency to extreme specialisation detracts from the wholesome and legitimate influence which the profession of medicine should exercise on society'. Compared to the healers of old, he concluded, the modern physician and surgeon were looked upon as 'more mercenary and less disinterested than they were wont to be'.<sup>119</sup>

Such suggestions of clinical coldness and self-interest were only the most moderate manifestation of a contemporary anxiety about medical and surgical science, which, at its more extreme end, could lead to far more damaging accusations of medical immorality. The advent of anaesthesia and antiseptics may have allowed the surgeon to reach hitherto unimaginable heights of public approbation, and even to trump the physician in the imagined hierarchy of medicine's 'golden age', but the last quarter of the nineteenth century also saw the emergence of perhaps the most powerful and coordinated opposition movement that medicine and surgery had yet faced. This opposition was all the more significant for Lister and his followers, in that it centred on several related issues in which he was deeply implicated.

The first, and most important, of these issues was vivisection. Lister was a vocal proponent of physiological experiments on living animals and was an active member of the Association for the Advancement of Medicine by Research (AAMR), founded in 1882.<sup>120</sup> As Rob Boddice has demonstrated, debates around vivisection in this period were framed by contested understandings and representations of emotion. Opponents of vivisection presented

<sup>118</sup> *British Medical Journal* 2:980 (11 October 1879), p. 583.

<sup>119</sup> J. [sic] Burney Yeo, 'Medicine and Society', *Nineteenth Century* 38:226 (December 1895), 1025–40, at pp. 1026–7.

<sup>120</sup> Rob Boddice, *The Humane Professions: The Defence of Experimental Medicine, 1876–1914* (Cambridge, UK: Cambridge University Press, 2020), pp. 42–3.

it as a cruel, barbaric act that brutalised those who practised it. Meanwhile, supporters of physiological research sought to discriminate between the alleged sentimentalism of their adversaries, focused as it was on the sufferings of the individual animal, and the higher emotional object of their own endeavours, namely the good of humankind.<sup>121</sup> Lister's interventions into this debate conformed precisely with this latter approach. In 1875, Queen Victoria (1819–1901) wrote to Lister requesting that he make a public statement opposing vivisection in advance of a Royal Commission on the issue. Lister politely declined, explaining his reasons for doing so. He contrasted vivisection with the hunting of animals, stating that the former was 'justified by far nobler and higher objects', namely 'devising [the] means [...] for procuring the health of mankind, the greatest of earthly blessings, and prolonging of human life'. Countering the charge of cruelty levelled at men like himself, he suggested that 'the term cruelty seems to me altogether misapplied in the discussion of this question. An act is cruel or otherwise, not according to the pain which it involves, but according to the mind and object of the actor'. Unlike the huntsman, the vivisector did not relish the immediate consequences of his actions. Rather, he performed experiments 'at great sacrifice to his own feelings and with every care to render the pain as slight as is compatible with the high object in view'.<sup>122</sup>

The emotional politics of vivisection were shaped by the fact that many of its leading opponents, including Frances Power Cobbe (1822–1904), were women. Many of these individuals, Cobbe included, were also prominent members of the late nineteenth-century women's movement, which sought greater rights and freedoms for women, including the right to vote and the freedom to pursue the career of their choice.<sup>123</sup> One of the key issues that galvanised the early women's movement in Britain was the passage of the Contagious Diseases Acts (CDAs) between 1864 and 1869. These Acts infamously sought to reduce the incidence of venereal disease among members of the armed forces by allowing suspected sex workers to be forcibly detained, subject to medical examination, and potentially confined to a lock hospital. For many first-wave feminists there was an intrinsic connection between violence towards women (both in general and in the specific context of sexual exploitation) and cruelty towards animals, given that both groups nominally

<sup>121</sup> Rob Boddice, *The Science of Sympathy: Morality, Evolution and Victorian Civilization* (Urbana: University of Illinois Press, 2016), chs. 3 and 4; Boddice, *Humane Professions*.

<sup>122</sup> Godlee, *Lister*, pp. 377–80.

<sup>123</sup> Carol Lansbury, *The Old Brown Dog: Women, Workers, and Vivisection in Edwardian England* (Madison: University of Wisconsin Press, 1985); Diana Donald, *Women against Cruelty: Protection of Animals in Nineteenth-Century Britain* (Manchester: Manchester University Press, 2019), ch. 5.

came under the social and legal 'protection' of men. Furthermore, both involved the exercise of a state-sanctioned medical authority.<sup>124</sup> Lister was not as outspoken on the CDAs as he was on the issue of vivisection, but he was certainly supportive of them; as late as 1897, more than a decade after their repeal, he aroused some disquiet in the House of Lords when he stated that 'he had no objection in principle to the Contagious Diseases Act; that he thought it a most beneficent Act and that he hoped, at no distant time, to see it re-enforced in this country'.<sup>125</sup> Lister was, moreover, no friend to the wider women's movement and vigorously opposed female entry into the medical profession. Not only did he ban women from his own classes, but in 1878 he even pressured the BMA to redraft its constitution to exclude women and demanded that it expel its two existing female members, Elizabeth Garrett Anderson (1836–1917) and Frances Hoggan (1843–1927).<sup>126</sup>

By the early twentieth century, Lister's strident opposition to female medical graduates was something of an embarrassment and was generally dismissed, fudged, or ignored altogether. Godlee mentions it in the most fleeting manner imaginable, while Leeson inaccurately claims that Lister was 'mildly inclined' to grant women the right to practise medicine and maintains he was 'not aware that [Lister] took any part in the matter'.<sup>127</sup> In the late nineteenth century, however, the combined issues of vivisection and women's rights made for a potent challenge to surgical authority. This is perhaps most clearly exemplified by Cobbe's influential 1881 *Monthly Review* article 'The Medical Profession and Its Morality'. Herein, Cobbe addresses the medical profession's treatment of women and animals, claiming that their involvement with the CDAs derived from their 'gross materialism' and 'utter disregard for human souls when lodged in the bodies of the despised and wretched'. Long after these Acts were repealed, she argued, 'the memory of them will make the hearts of all women burn with indignation against the profession'.<sup>128</sup>

Cobbe had a specific political agenda, of course, but she situated this agenda within a broader critique of medical science and emotional authenticity that, as the editorial commentary on her article suggests, tapped into wider anxieties.<sup>129</sup> It was, she claimed, the 'misfortune of the Medical profession that the performance of its ordinary duties involves the *appearance of human feelings*, which may or may not be present [...], but which the patient and his

<sup>124</sup> Anne L. Scott, 'Physical Purity Feminism and State Medicine in Late Nineteenth-Century England', *Women's History Review* 8:4 (1999), 625–53.

<sup>125</sup> Godlee, *Lister*, p. 545. <sup>126</sup> Crowther and Dupree, *Medical Lives*, pp. 152–4.

<sup>127</sup> Godlee, *Lister*, p. 476; Leeson, *Lister*, pp. 174–5.

<sup>128</sup> [Frances Power Cobbe], 'The Medical Profession and Its Morality', *Modern Review* (April 1881), 296–328, at pp. 321–22.

<sup>129</sup> [Cobbe], 'Medical Profession', p. 326.

friends will usually expect to see exhibited, and the doctor be almost *driven to simulate*'.<sup>130</sup> The apparent 'kindness' of the profession was, she maintained, illusory: 'a patient is to a doctor what a rock is to a geologist, or a flower to a botanist – the much coveted *subject of his studies*':

The impression may be false, and is necessarily vague, but it is extremely strong and widespread that the primary beneficent object of the profession, its only ostensible object – namely, Healing, – is daily more and more subordinated to the secondary object, namely Scientific Investigation; in short, that the means have become the end, and the end the means.<sup>131</sup>

Cobbe's comments reflect her intense distrust of the medical profession, a distrust that derived from her identity as a feminist and anti-vivisectionist. But her critique was not an isolated one and clearly resonates with George Bernard Shaw's (1856–1950) later excoriation of medical morality, contained in his famous 1909 'Preface on Doctors' to *The Doctor's Dilemma* (1906).<sup>132</sup> Such criticisms presented modern medical and surgical science as self-interested, cruel, and remote from the patient, concerned only with narrow technical detail. And they provide an essential context for understanding why Lister's early twentieth-century biographers sought to present him and, by association, modern scientific surgery in such profusely sentimental terms. Take, for example, the following episode recounted by Leeson. This was what he called the 'delightful doll story', which supposedly took place on Lister's wards in Glasgow. A 'little girl' was suffering from an abscess of the knee, which Lister proceeded to dress:

When all was finished she produced her doll which had lost a leg; a fumble under her pillow brought out the limb, and holding dolly in one hand and the leg in the other, gravely handed them to Lister. With seriousness and concern he received the case, shook his head ominously, for it was very serious, fitted them together, asked for a needle and cotton, and carefully and securely stitched on the limb, and with quiet delight handed her back to her mother. Her large brown eyes spoke endless gratitude but neither uttered a word.<sup>133</sup>

This story is accompanied by an illustration (Figure 6.1), presumably commissioned for the occasion. It is historically inaccurate, for the surgeon in the foreground is shown holding a carbolic acid sprayer, which Lister did not invent until after he had left Glasgow. But accuracy is not the point here. Like the story itself, it is a highly sentimentalised allegory about Lister's loving care for the most vulnerable, and about the essential humanity behind the austere

<sup>130</sup> Cobbe], 'Medical Profession', p. 302, Emphasis added.

<sup>131</sup> [Cobbe], 'Medical Profession', pp. 302, 310. Emphasis in original.

<sup>132</sup> George Bernard Shaw, *The Doctor's Dilemma, Getting Married, and The Shewing-up of Blanco Posnet* (London: Constable, 1921), pp. xiii–xciv.

<sup>133</sup> Leeson, *Lister*, p. 160.

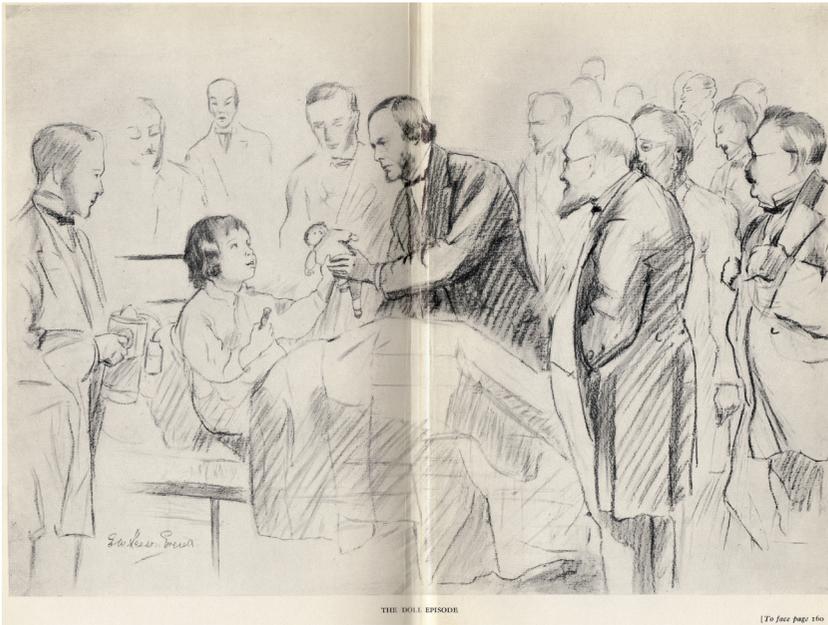


Figure 6.1 'The Doll Episode' from J. R. Leeson, *Lister as I Knew Him* (1927). Author's photograph.

façade of scientific surgery. Indeed, in contrast to the story, the illustration dispenses with the figure of the mother, emphasising the direct emotional connection between Lister and the girl, while the juxtaposition of the carbolic acid sprayer and the tender exchange between the two suggests a congruity between the technical dimensions and emotional implications of antiseptic surgery. But what is also interesting about this image is that it includes a large audience to witness the 'delightful' scene. Lister's compassion is, then, a performance, a rhetorical device with which to counter accusations of cruelty, self-interest, and narrow technical specialism.

In this sense, 'The Doll Episode' is reminiscent of that most iconic representation of late nineteenth-century medical humanitarianism, Luke Fildes' *The Doctor* (1891) (Figure 6.2). As Barry Milligan has shown, Fildes' work, which depicts a doctor anxiously watching over a sick young girl in the cottage of a poor family, was only the most successful of a raft of late nineteenth-century genre paintings that combined the medical and the domestic.<sup>134</sup> Fildes' image was unusual, however, in focusing so squarely on the figure of the doctor. As

<sup>134</sup> Barry Milligan, 'Luke Fildes' *The Doctor*, Narrative Painting, and the Selfless Professional Ideal', *Victorian Literature and Culture* 44:3 (2016), 641–68, at pp. 642–54.



Figure 6.2 Luke Fildes, *The Doctor* (1891). Item No. N01522. Tate.

Fildes himself remarked, 'He should be *the* actor in the little drama I had conceived – father, mother, child should only help to show *him* to better advantage'.<sup>135</sup> As with 'The Doll Episode', here the child's parents (and even the child herself) serve merely as witnesses to professional compassion and selflessness. Moreover, as a number of commentators have pointed out, by focusing on the supposedly timeless relationship between doctor and patient, Fildes' painting presented a vision of professional practice that was, in many ways, antithetical to the reality of modern medicine.<sup>136</sup> Indeed, in the United States, *The Doctor* functioned for many decades as a palatably homely means to assert the moral value of an individualised, free-market form of healthcare in the face of more bureaucratic and statist models.<sup>137</sup> Within the context of late nineteenth- and early twentieth-century Britain, however, it represented an attempt to reconcile the triumphs of techno-scientific medical modernity with popular sentimentalism and established notions of care.

Such considerations bring us back to where we began with William Henley, for if these attempts to meet accusations of medical and surgical immorality

<sup>135</sup> Quoted in Milligan, 'The Doctor', p. 655. Emphasis in original.

<sup>136</sup> Milligan, 'The Doctor', pp. 656–7.

<sup>137</sup> John Harley Warner, 'The Aesthetic Grounding of Modern Medicine', *Bulletin of the History of Medicine* 88:1 (2014), 1–47, at pp. 32–45.

presented the practitioner as compassionate, they also served to elevate him to a level of heroism that rendered him remote. This was certainly the case for Lister who, as even his supporters averred, was an emotionally distant figure. Though possessed of a 'scrupulous politeness' there was, Leeson claimed, 'an atmosphere of indescribable distance which enveloped Lister' that 'forbade familiar approach and which neither time could bridge nor custom abate'.<sup>138</sup> Lister always referred to his dressers as 'Mr', rather than by their surname alone, was not easy in company, and, as Leeson recalled, if he had friends 'we never saw them'.<sup>139</sup> Thomson concurred in this estimation. 'His manner had a certain aloofness in it', which 'encouraged no familiarity'. 'I, myself, always felt that his soul "was like a star and dwelt apart"', he wrote.<sup>140</sup>

This remoteness underpinned Lister's heroic identity, presenting the image of a man who operated on a different plane to the rest of humanity. Cheyne reached for a medieval analogy, writing: 'I like to think of Lister, with his courtly manners and indomitable courage, as one of the knights of olden times sallying out single-handed to find and destroy a formidable enemy'.<sup>141</sup> But for most of his acolytes, Lister was more than this: he was a saint or, more accurately, a god. As has been argued elsewhere, despite the ostensibly secularising tendencies of modernity, late nineteenth-century surgical heroism was often couched in religious terms, with the achievements of modern technoscientific surgery presented as a miraculous salvation from suffering.<sup>142</sup> In this sense, the deification of Lister was in keeping with broader cultural currents. Nevertheless, as the man often referred to as the 'father' of modern, scientific surgery, he was, perhaps, its ultimate expression.<sup>143</sup> Leeson, for example, marked out Lister's very birth as a near-divine deliverance from 'the pestilence that walketh in darkness' and claimed that just as 'Jesus never wrote a line [...] no text-book or treatise upon antiseptic appeared from Lister's pen'. Instead, the task of spreading Lister's 'gospel' fell to his 'disciples'.<sup>144</sup> And yet, although a class apart, readily identified by their hands, roughened and coarsened by the effects of carbolic acid, theirs was a drone-like existence compared to their master, for, as a patient once remarked, "'When the Professor [Lister] enters the wards I feel as though God Almighty Himself has come in"'.<sup>145</sup>

<sup>138</sup> Leeson, *Lister*, pp. 51, 60. <sup>139</sup> Leeson, *Lister*, pp. 61, 142.

<sup>140</sup> RCSE, MS0021/1/15, pp. 22, 23. <sup>141</sup> Cheyne, *Lister*, p. 13.

<sup>142</sup> Christopher Lawrence and Michael Brown, 'Quintessentially Modern Heroes: Surgeons, Explorers, and Empire, c.1840–1914', *Journal of Social History* 50:1 (2016), 148–78, at pp. 169–70.

<sup>143</sup> For example, see Rhoda Traux, *Joseph Lister: The Father of Modern Surgery* (New York: Bobbs-Merrill, 1944).

<sup>144</sup> Leeson, *Lister*, pp. 99, 183, 190, 196. St Clair Thomson referred to Lister's 'evangel': RCSE, MS0021/1/15, p. 19.

<sup>145</sup> Leeson, *Lister*, pp. 50, 54–5.

Historians and medical ethicists alike have often sought to locate the origins of modern 'clinical detachment' in the writings of the Canadian physician William Osler (1849–1919), notably his 1889 address to the medical students of the University of Pennsylvania on 'Aequanimitas'.<sup>146</sup> This speech, in which he advocates the values of emotional self-control, of equanimity and imperturbability, in clinical practice, is perhaps more complex than the 'conscious callousness' it has sometimes been taken for, as Osler was careful to warn against 'hardening "the human heart by which we live"'.<sup>147</sup> Nonetheless, it is remarkable for the ways in which Osler sought to inject a self-conscious, scientific objectivity into the psychic management of the patient.<sup>148</sup> However, when it comes to the emotional disposition, and cultural identity, of the *surgeon*, a strong case can be made for Joseph Lister providing the blueprint for the modern professional ideal. Lister was the epitome of the emotional regime of scientific surgical modernity with whose legacy we continue to grapple. He was a man who, while effectively denuding emotional intersubjectivity of clinical meaning, reconfigured that emotion into the professional performance of a compassionate and selfless dedication to a higher calling. In this sense, he might be called 'emotionally detached'. But he was also detached in the sense of being set apart from his patients. Unlike Romantic surgeons, whose failures made them all too human, the achievements of antiseptic surgery rendered Lister virtually unimpeachable, in the eyes of his patients as much as his hagiographers. And in so doing, it set the template for the modern surgeon as a god among (wo)men, one whose authority, for good or ill, brooks no argument. After all, as Leeson put it: 'One cannot consult with a deity!'<sup>149</sup>

### Conclusion

The deification of Lister and the celebration of modern techno-scientific surgery were, as we have seen, frequently couched in terms of human salvation. While appeals had long been made to medicine and surgery's 'benefit to mankind', such claims were, at least prior to the second quarter of the nineteenth century, largely figurative or symbolic. By the last quarter of the nineteenth century, on the other hand, the notion of surgery's social utility was increasingly conceived of as substantive. At one level, this is because it was now statistically demonstrable. But just as importantly, it was because the object of care was no longer simply an amorphous humanity but was increasingly figured as being co-extensive with a discrete bio-political entity in the form of the imperial nation state. As we saw

<sup>146</sup> Jodi Halpern, *From Detached Concern to Empathy: Humanizing Medical Practice* (Oxford: Oxford University Press, 2001), pp. 22–5; Boddice, *Science of Sympathy*, pp. 49–50.

<sup>147</sup> Boddice, *Humane Professions*, p. 3; William Osler, *Aequanimitas: With Other Addresses to Medical Students, Nurses and Practitioners of Medicine* (London: H. K. Lewis, 1904), p. 5.

<sup>148</sup> Halpern, *Detached Concern*, p. 23. <sup>149</sup> Leeson, *Lister*, p. 65.

in Chapter 5, promoters of the Anatomy Act often made a connection between surgery and war as equivalent forms of national service and, from the 1830s onwards, war and imperial conquest would become perhaps the dominant conceptual framework through which the medical profession conceived of its relationship with the state.<sup>150</sup> These tendencies would only intensify in the latter decades of the nineteenth century when, as the focus of surgical emotion moved from the individual patient to the collective social good, that good was conceived in increasingly nationalistic, imperialistic, and militaristic terms.<sup>151</sup>

In 1898, an elderly Lister returned to Edinburgh in order to accept the freedom of that city. Also there to collect his honour was Sir Garnet Wolseley (1833–1913), the celebrated imperial officer and Commander-in-Chief of the British Army. In his speech, Lister drew an association between their two different forms of heroism:

The work of a general of the very highest rank, like Lord Wolseley, has certain analogies to that of the ideal surgeon. For the cure of ills in the body-politic he performs operations – bloody, painful, dangerous. But he executes his task with the least possible expenditure of human life and of human suffering, and he addresses himself to his work in the spirit of self-denying, of self-sacrificing devotion.<sup>152</sup>

There was a certain irony in this juxtaposition, given both Lister's pacifist upbringing and Wolseley's general contempt for doctors.<sup>153</sup> But if Lister was only an uncertain exemplar of this trend (he was, after all, the only one of seven resident surgeons at Edinburgh who did *not* volunteer to serve in the Crimea), then many of his colleagues demonstrated a far closer affinity for the military-imperial project of late Victorian and Edwardian Britain.<sup>154</sup> Such values were inculcated in the student through introductory lectures that, as the century wore on, became increasingly bellicose in tone, and drew ever closer links between Britain's perceived imperial glories and what the Orientalist poet Edwin Arnold (1832–1904), speaking to the students of St Thomas' in 1895, called 'a march of constantly augmenting conquests, over that strange fascinating waste of twilight and wondering exploration which is called "science"'.<sup>155</sup> Others signalled their active investment by volunteering for military service. Alexander Ogston, for example, served in three military campaigns, namely the Suakin Expedition (1885), the South African War (1899–1902),

<sup>150</sup> Michael Brown, "'Like a Devoted Army': Medicine, Heroic Masculinity, and the Military Paradigm in Victorian Britain", *Journal of British Studies* 49:3 (2010), 592–622.

<sup>151</sup> Lawrence and Brown, 'Quintessentially Modern'. <sup>152</sup> Godlee, *Lister*, p. 552.

<sup>153</sup> For example, see Jessica Meyer, *An Equal Burden: The Men of the Royal Army Medical Corps in the First World War* (Oxford: Oxford University Press, 2019), p. 25.

<sup>154</sup> John Shepherd, 'The Civil Hospitals in the Crimea (1855–1856)', *Proceedings of the Royal Society of Medicine* 59:3 (1966), 199–204, at p. 199.

<sup>155</sup> *Lancet* 146:3762 (5 October 1895), p. 827. Military volunteer organisations were also popular among students: see Leeson, *Lister*, p. 145.

and the First World War (1914–18).<sup>156</sup> Meanwhile, when Frederick Treves embarked at Waterloo station on the first leg of his journey to South Africa in November 1899, the 'hero of the day' was carried shoulder high through a crowd of over 400 cheering medical students in a manner that reminded *The Times* of 'a rush of forwards on the football field'.<sup>157</sup>

There were complexities here of course, not least because the later nineteenth century also saw the flowering of a culture of medical and surgical internationalism, epitomised by the International Congress of Medical Science, an event at which Lister was frequently fêted and at which, in 1881, he even managed to get the Frenchman Louis Pasteur and the German Robert Koch (1843–1910) to shake hands, despite the bitterness caused by the Franco-Prussian War.<sup>158</sup> Even so, in the context of the fraught, social-Darwinist tensions of international relations in the late nineteenth and early twentieth centuries, surgery was as much a vehicle for nationalism and militarism as for international cooperation.<sup>159</sup> And when the Great War finally came, it led many surgeons, including Alexander Ogston, to rewrite their personal memories of that most German of sciences, bacteriology, and induced the *British Journal of Surgery* to claim, in defiance of all evidence, that Germany's contribution to surgery had been negligible.<sup>160</sup>

If the outbreak of the First World War encouraged British practitioners to write Germany out of the history of modern scientific surgery, then a move to rewrite the broader history of surgery had already been underway for some time. As we have heard, antiseptic surgeons of the Listerian and post-Listerian generations tended to present the surgery of the past, even sometimes the mid-century achievements of anaesthesia, as part of an undifferentiated surgical 'dark age' that served merely to amplify the greater glories of techno-scientific surgical modernity. Often this contrast was expressed in emotive terms, the pre-antiseptic age being one of almost inconceivable pain, misery, and distress. In the Epilogue, we shall consider how such historical narratives have laid the groundwork for contemporary perceptions of the pre-anaesthetic era and have contributed to our long-standing neglect of that period's deep emotional richness and complexity.

<sup>156</sup> Alexander Ogston, *Reminiscences of Three Campaigns* (London: Hodder and Stoughton, 1919).

<sup>157</sup> *Times* 13 November 1899, p. 12; Lawrence and Brown, 'Quintessentially Modern', p. 156.

<sup>158</sup> Godlee, *Lister*, p. 445. On the culture of surgical internationalism, see Thomas Schlich, "'One and the Same the World Over": The International Culture of Surgical Exchange in an Age of Globalization, 1870–1914', *Journal of the History of Medicine and Allied Sciences* 71:3 (2016), 247–70.

<sup>159</sup> See Osler, *Aequanimitas*, pp. 277–306 for complaints about 'chauvinism' and 'nationalism' in medicine.

<sup>160</sup> Ogston (ed.), *Ogston*, pp. 86–91; *British Journal of Surgery* 3:9 (January 1915), pp. 1–2. See also M. Anne Crowther, 'Lister at Home and Abroad: A Continuing Legacy', *Notes and Records of the Royal Society* 67:3 (2013), 281–94, at p. 288.