

# Patents, Priority Disputes and the Value of Credit: Towards a History (and Pre-History) of Intellectual Property in Medicine

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In recent years, intellectual property in medicine has generated much debate, becoming one of the most significant issues in modern day medical ethics and linking in with wider discussions about the commercialisation of medicine and the commodification of the human body. Recent high-profile cases in the USA have centred on gene patenting, that having been enthusiastically practised by universities and biotechnology companies, is now having its legality questioned. The unexpected March 2010 ruling of a federal court against Myriad Genetics, which invalidated the company's patents on the BRCA1 and BRCA2 genes, has highlighted the complexities that now govern the ethical and legal tenure of asserting property rights over biological material.<sup>1</sup>

These events provide an ideal opportunity for historians of medicine to strengthen their engagement with what we recognise today as 'intellectual property'.<sup>2</sup> While historians of science and technology have produced a wealth of literature on the subject,<sup>3</sup> medical ideas and procedures, understood in a more *clinical* sense, require further disentangling from this broader scope, not least because, as I intend to show here, medical practitioners' experiences of intellectual property can be so vastly different from that of other professions.

Such concerns have realised themselves in my own work looking at developments in British surgery in the nineteenth century, a period during which there was heightened interest in the social role of the inventor. Christine MacLeod has identified a growing

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<sup>1</sup>For an overview of the case and March 2010 ruling see: Bob Carlson, 'Surprise District Court Ruling Invalidates Myriad Genetics' BRCA Patents, But Appeal is Pending', *Biotechnology Healthcare*, 7, 2 (2010), 8–9.

<sup>2</sup>The term 'intellectual property' is relatively novel, not emerging as part of regular legal

vernacular until the end of the nineteenth century. However, it is used here to broadly encompass a range of issues surrounding the ownership of intellectual labours, from patenting to trade marking, to non-legal methods of managing and recognising credit such as publication, peer recognition and pecuniary reward. The term 'intellectual property' is arguably anachronistic for historians working on periods before the twentieth century, but nonetheless, for the purposes of this paper, it expresses many of the facets of knowledge ownership.

<sup>3</sup>This is captured most recently in the work of Peter Galison, Mario Biagioli, Christine MacLeod and Graeme Gooday.

cult of heroism around inventors in the eighteenth and early nineteenth century, centred on figures such as Isambard Kingdom Brunel, George Stephenson and James Watt, and the highly visible and influential products of their labours. The impoverished inventor became the heroic Briton, heralded for making an important contribution to national industry.<sup>4</sup> From the 1850s, major discussion ensued as to the extent to which inventor's rights should be legally enshrined, and numerous legislative changes over the next thirty years resulted in patent laws which served to strengthen patentee rights.<sup>5</sup>

Medical practitioners were notably absent from these debates. While some commentators hinted toward dissatisfaction with the lack of protection or reward for intellectual labours in medicine,<sup>6</sup> discussions of inventor's rights in the media rarely referenced medicine and the profession appeared reluctant to open itself up to the debate. When patenting was discussed within the pages of the medical journals, it tended to be with suspicion and disdain. For many, there was discordance between property rights and medicine, an inherent contradiction in permitting excessive individual reward within the framework of altruism which increasingly bound orthodox medical culture together. Scottish physician William Gairdner claimed to voice the view of many in 1868, stating his belief that there was:

A principle now firmly established in the medical profession... that the status of its members is considered lowered by any attempt to establish property in any remedy, or other invention for the relief of disease; whether by concealment, or by patenting, or otherwise advertising the invention for the benefit of its presumed owner.<sup>7</sup>

Much of the focus was on the popularity of so-called 'patent medicines' – patented or trademarked drugs, often luridly advertised, which grew in popularity in Britain towards the end of the century<sup>8</sup> – but interwoven within the anti-patenting sentiment was a moral bent which implied that careful negotiation was needed when attempting to establish ownership around an invention or innovation, even if it didn't involve patenting. For, regardless of the moral stance, credit disputes arose frequently and publicly in medicine. In the next section, the controversial operation of ovariectomy is presented as a short case study of the complexities that could emerge during these negotiations.

### Thomas Spencer Wells and Charles Clay

By the 1860s, those who performed ovariectomy – the premise of which at that time was predominantly to remove cystic ovaries via an abdominal incision – were beginning to overcome much of the opposition they had faced over the past two decades.

<sup>4</sup>Christine MacLeod, *Heroes of Invention: Technology, Liberalism and British Identity, 1750–1914* (Cambridge: Cambridge University Press, 2007), 2.

<sup>5</sup>Fritz Machlup and Edith Penrose, 'The Patent Controversy in the Nineteenth Century' *Journal of Economic History*, 10, 1 (1950), 1–29: 28–9.

<sup>6</sup>For examples of literature arguing for greater reward for intellectual labours in medicine, see James A. Dorr, 'Are Improvements in Medicine and Surgery

Proper Subjects of Patents?', *The Lancet*, 49, 1237 (1847), 523–4 and Anon., *Edinburgh Review*, 136, 278 (1872), 488–515: 514–15.

<sup>7</sup>Anon., 'The Theory of Professional Remuneration', *British Medical Journal*, 1, 371 (1868), 122–3.

<sup>8</sup>T.A.B Corley: 'Interactions Between the British and American Patent Medicine Industries, 1708–1914', pamphlet reprint from *Business and Economic History*, 16 (1987), 111–29: 112.

Decreasing post-operative mortality rates steadily put the operation in a more favourable light and by the mid-century the procedure was being proclaimed by many as symbolic of the future of modern surgery, a bright new hope in the exploration and treatment of diseased organs, both of the female reproductive system and more generally of the abdomen. Its success gave heightened credibility to those who had continued to persevere with the operation, and discussion soon began to shift from the propriety of its performance to the question of who had been responsible for its progress.

One of the longest and most controversial disputes to arise was that between London surgeon Thomas Spencer Wells and Manchester surgeon Charles Clay. Wells was one of the best known surgeons of the Victorian era. After his first successful ovariectomy in 1858, he had begun performing it consistently and had built up a distinguished reputation through his work on the operation that allowed him to retain a lucrative private practice as well as his position at the Samaritan Hospital for Women. In 1865 he published *Diseases of the Ovaries: Their Diagnosis and Treatment*. The book contained detailed information on all Wells' ovariectomy cases and was widely praised for being the first complete record of a surgeon's experience with the operation, detailing both successes and failures.

What is most significant about the book from the perspective of intellectual property however, is the introduction. It was here that Wells discreetly compartmentalised his own work in ovarian surgery from that which had come before, and where he implied that it was he who had prevented the operation from sliding into disuse in the 1850s. It was an easy narrative for Wells to construct - the operation's progress had been piecemeal and marred with prominent opposition - but, as a number of surgeons would publicly claim,<sup>9</sup> it also painted an inaccurate picture that what had come before Wells had had little impact and that ovariectomy was so opposed that it would have been given up on altogether if he had not revived it.

In one respect in particular, his version of ovariectomy's history attracted attention: his failure to acknowledge Charles Clay. Clay differed from many other self-proclaimed ovariectomists at that point; rather than making sporadic attempts at the operation, he had been performing it consistently since 1842, preceding Wells' first success by some sixteen years. Clay was highly respected, both in Britain and abroad,<sup>10</sup> and was believed by many to have been the first to have successfully performed the operation in England.<sup>11</sup> By the time of the publication of Wells' book, both claimed a similar

<sup>9</sup>One example is Birmingham surgeon Robert Lawson Tait who was adamant that Wells had stolen credit from earlier ovariectomists. See Lawson Tait, 'The Revival of Ovariectomy', *British Medical Journal*, 2, 1249 (1884), 1165.

<sup>10</sup>Clay was well respected by American ovariectomists. See Edmund Peaslee's defence of Clay's legacy in: Edmund Randolph Peaslee, *Ovarian Tumors: Their Pathology, Diagnosis and Treatment, Especially by Ovariectomy* (New York: D. Appleton, 1872), 272

<sup>11</sup>During the 1830s a number of provincial practitioners, such as William West and William

Jeaffreson, began to remove diseased ovaries through small abdominal incisions; however the status of these operations as 'ovariotomies' was disputed by Clay, due to the lack of major abdominal section. Some ascribed the first successful ovariectomy in Britain to Scottish surgeon John Lizars who had removed a diseased ovary in 1825. Clay acknowledged Lizars and credited himself only as the first to have performed ovariectomy in England. See Charles Clay, 'Dr. Clay's Reply to Dr. Granville on Ovarian Extirpation', *Medical Times*, 8, 204 (1843), 326-7.

post-operative survival rate for their patients of around two thirds.<sup>12</sup> Yet, in his introduction, Wells denounced Clay's work, claiming that 'his operations not being performed in an hospital before numerous professional witnesses and no connected series of cases being published, his example had but little influence.'<sup>13</sup>

Wells' dismissal of Clay was indicative of what was increasingly required of medical men to affirm their authority in a credit claim and, whether intentionally or not, had drawn attention to the old fashioned practices of Clay who continued to operate mainly outside the more public space of the hospital – unlike Wells, who used his position at the Samaritan Hospital to attract many eminent witnesses to his operations. Public operations were essential in the construction of a surgeon's reputation, and operations performed in private practices, whether witnessed or not, were demoted in value in a medical culture that increasingly viewed the hospital as the centre of innovation and education. Wells' comment on the necessity of adequate publication may have seemed a more obvious requirement to practitioners wishing to make public their innovation, but the criticism rankled with Clay, in particular the implication that he should have produced a monograph rather than have published separate articles. Clay disagreed with the idea that such a publication was necessary to ensure credit, believing that books were 'too often only a polite advertisement of the author's whereabouts'.<sup>14</sup> Monographs certainly did have the capacity to function in this way but Clay had failed to acknowledge their growing importance as a way of stabilising credit, and their part in fashioning surgeons into gentlemen and scientists who could compete with physicians in their eloquence. Text was being made equal to operating as an expression of surgical authorship.

Clay was sufficiently provoked by this perceived assault on his reputation to send a series of letters to *The Lancet* in 1865 after the publication of Wells' book, and then a second set to the *British Medical Journal* in 1880 in the midst of celebrations of Wells' thousandth ovariectomy. In both sets of correspondence he presented a model of credit that differentiated greatly from that of Wells. For Wells the value of credit was related to the acceptance and approval that the operation received from the profession. Credit was not simply a matter of priority – the first to successfully extirpate a diseased ovary in this case – but derived from winning the trust of other medical men. Without this trust, which Wells did not believe existed, Clay's credit could be challenged and even negated by competitors. Clay, on the other hand, reiterated the value of priority. He evoked the image of himself as an isolated inventor, working before professional approval had glorified the operation. *He* had been the one to demonstrate the operation was workable, alone and unsupported. In 1880, fifteen years after the publication of Wells' book and nearing his eightieth year, Clay remained as indignant as ever that credit had been stolen from him: 'my operations

<sup>12</sup> During their exchange of letters in *The Lancet* during 1865, Wells and Clay quibbled a great deal over the minutiae of their disclosed statistics – for instance, whether incomplete or slightly different operations should be included or not – however, both admitted broadly similar success rates.

<sup>13</sup> T. Spencer Wells, *Diseases of the Ovaries: Their Diagnosis and Treatment: Vol. 1* (London: John Churchill & Sons, 1865), x.

<sup>14</sup> Charles Clay, 'On Ovariectomy and Ovariectomists', *The Lancet*, 85, 2165 (1865), 200–2: 201.

in this country were my own,' he wrote, 'I had no pilot to guide me, no one to assist me, in my difficult task.'<sup>15</sup>

The dispute showed that credit in operative surgery could be particularly slippery. Imitation of practice was an established tenet of surgical education – for a surgeon to witness another's operations and then apply what he saw to his own work was fundamental to the transmission of knowledge.<sup>16</sup> But any idea for a surgical method had to be suitably adjusted to the variability of the case and the idiosyncrasies of the surgeon, making definitive statements about where methods of practice originated difficult to maintain. Clay himself appeared unsure at times of how Wells' method of operating related to his own. In one letter to *The Lancet* he described Wells and himself as employing 'two modes of practice... perfectly distinct from and opposed to each other' and yet in the same letter alluded to Wells as his imitator.<sup>17</sup> The statements were inconsistent, encouraging readers to see both sameness and difference in their operations, but Clay used both tactics to assert that he was the original pioneer of ovariectomy.

Maintaining personal identity in an operation – away from one's own practice of it – was not always easy, and the blurred boundaries of imitation and originality in operations presented a challenge to the management of credit. Yet it was important that the credit issue was dealt with, not just for the sake of individuals involved in disputes. For ovariectomy, conceptualised as a new operation with little history before the nineteenth century,<sup>18</sup> historicising the operation and establishing its origins was also important for collective identity. It allowed for the construction of a positive narrative to the operation that reflected the growing confidence of the surgical self.

Operative surgery is useful for posing historical questions about intellectual property in medicine away from the usual patented product foci. In the case of ovariectomy, we see that lack of patent protection meant other ways had to be found to construct definitive categories of who invented what and when. Surgeon's individualised methods and abilities and the variability in the cases they were faced with had the potential to destabilise collective assumptions of what constituted a specific type of operation. The continued ambiguity that surrounds the intellectual property of innovations not embodied in physical products<sup>19</sup> is perhaps demonstrative of the particular difficulties there can be in applying ownership to methods.

Framing medical history in the context of knowledge ownership is worthy of both reassessment and extension. The role of the patient's body in the establishment of credit, for example, has barely been considered, even though case histories and pathological

<sup>15</sup> Charles Clay 'The History of Ovariectomy', *British Medical Journal*, 2, 1020 (1880), 109–10: 110.

<sup>16</sup> Thomas Schlich has discussed in detail the application of tacit knowledge to surgery. See Thomas Schlich, *Surgery, Science and Industry: A Revolution in Fracture Care, 1950s–1990s* (Basingstoke: Palgrave Macmillan, 2002), 65–85.

<sup>17</sup> Charles Clay, 'The Ovariectomy Controversy', *The Lancet*, 85, 2171 (1865), 380.

<sup>18</sup> Wells, *op. cit.* (note 13), xiii.

<sup>19</sup> In UK law, methods – for example, a business or medical diagnostic method – are unpatentable. In

the USA, the case of *Bilski vs Kappos* (2010) has highlighted the current ambiguities regarding the patentability of methods. The case saw the Supreme Court reject the principle that patentability could only be determined by the 'machine or transformation test' – i.e., that a process has to be tied to a particular machine, or involve the transformation of an article into a different state – potentially paving the way for a system in which there will be more patent protection for non-material innovations.

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specimens were often the crucial material through which claims were realised. Credit and priority disputes are not insignificant asides; they are often the visible signs of flows of power over which control is sought but not always found.

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