

# **The construction of forensic knowledge in Victorian Yorkshire: Dr Thomas Scattergood and his casebooks, 1856–1897**

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## **Abstract**

Forensic medicine became a recognised discipline in the nineteenth century, growing alongside the medical and legal professions. Very few medical men taught or studied forensic medicine at the start of the nineteenth century but by the end it was an integral part of medical education, and forensic science had begun to emerge as a separate discipline. This chapter focuses on the forensic expertise and practice of Leeds-based doctor, toxicologist, and lecturer Thomas Scattergood (1826–1900). Alongside his teaching career, he researched forensic techniques and acted as a consultant and medico-legal witness in criminal cases across the north of England.

Scattergood's personal casebooks will be used as the starting point to explore the kinds of forensic techniques available in the second half of the nineteenth century. These volumes contain Scattergood's compiled notes on a wide range of potential forensic clues, including blood splatters, the effects of fire, water, lightning and earth on the body, knife or blade injuries, strangulation, chemical decomposition of bodies and a variety of poisonings. Case studies from his notebooks illustrate the scientific developments made in forensic medicine in this period. The casebooks also provide insights into the range of individuals involved in the business of medico-legal practice. Beyond his Yorkshire College-based laboratory Scattergood engaged with coroners, policemen, lawyers, judges, postmen, farmers and other doctors, among others, and he therefore lies at the heart of our work to unravel the networks involved in Northern forensic investigations.

## **List of Keywords**

Arsenic; blood; case notes; crime; experiment; expert; forensic medicine; forensic science; forensic techniques; Leeds Medical School; medicine; medico-legal practice; murder; network; nineteenth century; Northern England; poison; professional; strychnine; test; Thomas Scattergood; toxicology; witness; Yorkshire College

“13 May 1856. Received by railway a box from Mr Allanson of Watford, in which was a jar closed with a bladder, and containing a stomach (which might be of a dog) with contents, and two portions of intestine.”<sup>1</sup> The box was accompanied by a letter requesting a chemical analysis of the enclosed samples, marking the start of what became the extensive medico-legal practice of the Leeds-based doctor, toxicologist, and lecturer Thomas Scattergood (1826–1900). He carefully documented his forensic work in two casebooks compiled over the course of forty years, providing a record of the mainly criminal cases for which he acted as a consultant, together with his experiments, sketches, annotations, conclusions and many associated newspaper clippings. This chapter uses Scattergood’s casebooks and media reportage of the inquiries he was involved in to examine the development of forensic techniques and the construction and circulation of forensic knowledge in the second half of the nineteenth century.

Scattergood was one of a small number of medically-trained toxicologists whose forensic practice was correspondingly wide, taking in a range of suspicious deaths and injuries of both humans and animals. The casebooks reveal that as he grew in experience, repute and confidence, Scattergood was asked to carry out a wider range of investigations, though poisonings formed the majority of his practice. Forensic examinations were undertaken at the request of coroners, police officers, other doctors, farmers, lawyers and landowners, hinting at the wider networks that Scattergood’s status as a regional expert witness connected him to.

The chapter thus addresses three broad areas of historiographical and historical interest. Firstly, we consider the medico-scientific content of the notebooks, to show that, iceberg-like, the detailed work that underpinned even relatively uncomplicated forensic cases lies largely hidden; criminal depositions, court proceedings and media reportage had little need for or interest in such detail, even in capital cases. Secondly, the cross-referencing and multiple types of tests that Scattergood conducted are considered as a means of constructing forensic knowledge, adopted as part of his routine forensic practice. We ask whether this knowledge was truly objective or whether it was subtly oriented towards the expectations of his clients. This is linked to our final point: Scattergood’s role as an expert witness, in precisely the period when this special type of witness was gaining public recognition, adds to our understanding of the historical development and professionalisation of forensic investigation.

### **Introducing Thomas Scattergood**

Thomas Scattergood was born on 14 February 1826 in Huddersfield, where his father worked as a Methodist minister. He studied medicine in Newcastle-upon-Tyne and Leeds before being appointed to the post of assistant apothecary at the Leeds General Infirmary in 1846; he subsequently qualified MRCS and LSA in 1850 and entered general practice in Leeds. In 1851 he became a lecturer in chemistry at the Leeds School of Medicine (founded in 1831), and from 1869 to June 1888 he lectured in forensic medicine and toxicology, subjects in which he gained a regional reputation as an expert. Alongside his other commitments, in 1863 he took up the post of honorary surgeon to the Hospital for Women and Children, becoming consultant surgeon in 1889; an obituary reported that he had a “vast and varied experience of the diseases peculiar to women” and that although he never claimed to be a specialist, his advice was often sought.<sup>2</sup> He was instrumental in the amalgamation of the Medical School with the Yorkshire College (established 1874) and became the first Dean of the

new Faculty of Medicine in 1884, a post he held until his death in February 1900, four years before the University of Leeds was established as the modern successor to the Leeds School of Medicine. Scattergood died aged 74 of cardiac arrest following a bout of influenza and was buried in Lawnswood Cemetery, Leeds.<sup>3</sup> Unlike many Victorians of his profession, Scattergood published very little during his career: he contributed one brief article and a letter to the *British Medical Journal* but nothing at all to *The Lancet*,<sup>4</sup> and he did not publish his lectures on forensic medicine as a textbook. But he gave talks outside the medical school on a range of subjects including minerals,<sup>5</sup> warmth and life,<sup>6</sup> ‘monsters’,<sup>7</sup> and disease,<sup>8</sup> and he was an active member of the Leeds Musical Festival Committee, the Leeds Sanitary Aid Society, and other philanthropic bodies.<sup>9</sup>

During his lifetime Scattergood was extremely well known as a forensic expert in the North of England: he was sent work from across the country and appeared in numerous court cases. In a newspaper cutting of a murder trial in 1877, Scattergood is reported saying of himself “I am a surgeon, living at Leeds, and am lecturer at Leeds School of Medicine. I have also had considerable experience as an analytical chemist.”<sup>10</sup> We are fortunate that, given the dearth of published work by Thomas Scattergood, he compiled three manuscript casebooks and a set of lecture notes which span his career. His notebooks record the cases he dealt with in some detail, including experiments and speculations on how to detect cause and manner of death. These rich sources allow us to explore the work of one forensic expert based in an area of the United Kingdom so far unexplored in the existing historiography,<sup>11</sup> and to examine how his expertise reflected changes in nineteenth-century science and medicine. Scattergood’s work gives us an insight into the types of crimes committed against both humans and animals — the latter have never before been included in histories of forensic practice — and how one expert in particular conducted medico-legal investigations. We begin by presenting an overview of the medico-scientific content of the casebooks, before considering in more detail his work as the main forensic expert witness in the trials of two notorious murderesses, Elizabeth Pearson (1875) and Mary Ann Cotton (1872), as a means of explicating our three main points of analysis.

### **Practicing Forensic Medicine in Leeds: Case Studies and Clues**

Although Scattergood had an interesting and extensive lecturing career and ran a successful medical practice, our research focuses primarily on his forensic work. His experience and interest in forensic medicine and science were wide-ranging, as the index compiled at the end of his first casebook confirms,<sup>12</sup> but his lasting legacy is as a toxicologist. Together with psychiatry, toxicology was the main area of medico-legal expert practice in the Victorian period, and historians have shown the potential that existed for controversy arising from scientific disagreements between experts.<sup>13</sup> It is however to Scattergood’s credit that he was never embroiled in professional arguments of the type that his more famous contemporary, Alfred Swaine Taylor of Guy’s Hospital in London, experienced.<sup>14</sup> Taylor was a pioneer of nineteenth-century medico-legal practice and teaching, however, and Scattergood’s lecture notes contain frequent references to him, particularly his *Principles and Practice of Medical Jurisprudence*, published in 1865.<sup>15</sup> Scattergood also owned a copy of the second edition of the textbook by another London expert, William Guy of King’s College,<sup>16</sup> demonstrating both the importance of the expanded volume of research and teaching in forensic medicine during the period and Scattergood’s commitment to ensuring that he kept abreast of developments in what was still a relatively new field.

At the start of the nineteenth century forensic medicine was neither systematically practiced nor taught to medical men, although there was a growing recognition that a surgeon might well have to give evidence at an inquest or a trial, prompting the publication of the earliest textbooks in English on the subject, those by Samuel Farr (1788) and William Dease (1793). But it was in the mid-nineteenth century that modern forensic medicine came into its own. The earliest lectures delivered in Britain were those by Andrew Duncan in Edinburgh, in 1789, but although it became an important part of the Scottish curriculum, and one of Duncan's English students, G. E. Male was inspired to write a textbook in 1816, forensic medicine was untaught in London until the 1820s.<sup>17</sup> However, from January 1831 formal teaching in forensic medicine expanded quickly because the Society of Apothecaries introduced a new requirement for students seeking its Licence, the main qualification for medical practitioners in England and Wales between 1815 and 1886. Henceforth, all students had to take a compulsory course of lectures in forensic medicine, and medical schools had therefore to offer suitable courses. Given that he qualified in 1850, Scattergood would certainly have studied forensic medicine as part of his training, probably in Newcastle where it was taught by Dr Robert Mortimer Glover, a gifted chemist, pharmacologist and physician.<sup>18</sup> Scattergood was evidently so interested in the subject that he became one of the first to teach extensive courses on toxicology and forensic medicine in Leeds. As well as teaching, Scattergood also practiced and consulted on numerous cases during his career.

Of the three casebooks held by the Brotherton Library at the University of Leeds, volumes one and two focus primarily on Scattergood's forensic work. They are well organised and mostly chronological: volume one covers 1856 to 1876 and volume two goes from 1875 to 1897, though the entries tail off quickly after 1885 as, presumably, Scattergood began to wind up his forensic practice once he became Dean of the Medical School. Almost every case in both volumes has a title and date, includes detailed notes about the case, and records the specimens Scattergood worked with, his actions and thought process, and the results of his findings and the court case if there was one. Some of the case entries have marginal annotations, sketches, or newspaper clippings relating to the work.

The newspaper clippings from court cases are often carefully annotated and grammar-checked. He was obviously a pedantic man and wanted all of the details to be correct, at least in his own records. He was described in an obituary as having "sound and ready judgement", a "strong will" and a "sense of justice". It was noted that his "strict uprightness" made him well suited to preside over the Medical Board at the College. He was known for his "honesty of purpose"; his "apparent brusqueness was simply directness of purpose and love of truth."<sup>19</sup> But Scattergood's records are not particularly attentive to people: he wasted few words on facts about patients, victims or killers, restricting details to a few words or a line or two at most. He was not concerned particularly by the psychology of murder.<sup>20</sup>

The third volume is less organised than the first two. It contains some forensic cases and patient notes, but also includes Scattergood's speculative thoughts on the way in which medical men could ascertain causes of death, in what seem to be a series of memos related most probably to his teaching. A fourth notebook records a partial lecture course on forensic medicine. It is so incomplete that it is impossible to determine how many lectures there were or how the contents changed over the years, but the material seems to have been compiled between 1869 and the mid-1880s and did not change much, if insertions and deletions can be taken as indicators of change. Through these

notes and the other three casebooks we know that Scattergood advised his students they needed to be aware of a huge range of topics including: decomposition of bodies in the earth; age of bodies; circumstances of death; blood stains, clotting and splatters; human versus animal distinctions; internal examinations; wounds and injuries as causes of death; time of injury; weapons that caused injury; injuries due to accident, suicide or homicide; injuries caused in life or death; chemical injuries; death by fire/burning, lightning, cold, and strangulation; amputations; assault; police work; adulteration of food; and abortions.<sup>21</sup> His work included cases of human and animal death or injury, and he dealt with patients and 'clients' from amongst the living and the dead; he appears to have wanted his students to take note of it all.

Scattergood's notes are often quite concise, hiding the sheer amount of work he must have undertaken, but the summaries of his experiments and observations suggest the high level of analysis that supported his conclusions. One of the best examples of this phenomenon occurred in 1876 when Scattergood testified at the inquest on Jessie Fitzakerly, whose case is discussed below. He summarised his testimony in 40 words, but this conclusion was based on work carried out with four other men: a Dr Hollingsworth; Scattergood's son Oliver, who did not qualify in medicine until 1884; and two others whom we have not yet identified. The work involved a full post-mortem examination and a visit to the site of Fitzakerly's death, all of which was recounted in three pages of closely-written notes that included a sketch of her head injury.<sup>22</sup>

In every case, even the most straightforward, expertise and time was required but Scattergood, the media, and the courts summarised such work simply. Even in capital cases it does not seem that Scattergood was required to present his findings in minute detail: it was the conclusions to be drawn from them that were considered most important. But even though the outside world was rarely able to access the detail of Scattergood's work many people would have come across him in newspapers as he built up his reputation in the courts. It seems likely that there were also verbal networks of recommendation: Scattergood was well-known as an active member of the Leeds medical and social community. There were also professional networks, both medical and legal, which included his colleagues, the police, coroners, lawyers and judges, and an as yet unexplored network of other people, many of whom worked with or had some professional interest in animals.

This chapter opened with Scattergood's first recorded case, when in May 1856 a letter from Mr Allanson of Watford, Hertfordshire arrived by railway accompanying a box in which there was a jar closed with a bladder, containing a stomach with contents and two portions of intestines from a dog. This case required extensive and detailed work from Scattergood. As with his human cases he did a range of tests, all of which were time consuming to prepare and perform. He recorded that the stomach was of "unusual appearance" and was examined for traces of strychnine. In order to carry out his tests one third of the stomach was "cut small [and] mixed with water and acidulated with [acetic acid], boiled for 15 min[utes] and filtered" — an accident meant some of the liquid was lost. The rest was sent to a steam bath with alcohol: the extract, Scattergood reported, had a "bitter taste" but there was no conclusive result to prove the presence of strychnine. Another third of the liquid was heated with water and acetic acid, boiled and filtered. It was then mixed with animal charcoal, boiled and filtered again. Scattergood noted it tasted only of acid. The liquid was then dried with boiling alcohol and mixed with sulphuric acid and potassium dichromate and filtered after which the "usual reaction of strychnine was clearly and abundantly exhibited." To corroborate his results the final third of the liquid was tested for metallic poisons — which were found not to be

present. On 22 May Scattergood undertook physiological testing when a sample was found to be poisonous to a newt. He left the newt in the substance for 24 hours; compared to one in water, the newt was dead but not rigid. On 24 May a sample was made into pills and fed to a young rabbit which died 53 minutes later, its symptoms carefully documented. Following these extensive tests Scattergood concluded that strychnine was definitely the cause of the dog's death.<sup>23</sup>

This dog was by no means the only animal to appear in Scattergood's casebooks. Animals could be worth a great deal of money and intentional (or unintentional) poisonings had to be investigated. One such example was the poisoning of horses by arsenic at Goole in 1859, a case investigated by a senior police officer, Supt Green. Scattergood was sent a bottle of water, a bag (like a small pillowcase) containing chopped hay, oats and leaves and a hamper containing parts of two horses (1- stomach, small intestines, large intestines; 2- stomach no contents, part of rectum, left kidney, part oesophagus, tongue, bits of small intestines). He studied all body parts for appearance, weight and traces of arsenic.<sup>24</sup> On the strength of his evidence John Dodsworth and Thompson Bullas were charged with killing five horses with arsenic. Bullas was later released for lack of evidence and Dodsworth was eventually acquitted at the summer assizes; Scattergood was not mentioned at all in the trial report.<sup>25</sup>

It is interesting that the range of animal cases Scattergood dealt with was perhaps wider than the human cases. More research needs to be done on why this was the case and how his reputation spread to those who owned animals or investigated crimes relating to animals. At least two of the animal poisoning cases recorded in his casebooks came through a Mr Wilson, whom we have not yet managed to identify, and others from a company called Hirst, Brooke and Hirst, a Leeds-based chemical retail company which made a variety of products, including tonic wine that was advertised extensively in Yorkshire during the 1880s.<sup>26</sup> Still others came via the police, or directly from landowners and farmers. What is unclear is who was paying for this service, and why they felt it was necessary to go to such effort and expense, although the objective was presumably to obtain justice in court and/or an insurance claim. We should note that the casebooks do not include references to charges levied for Scattergood's services, but such work was not undertaken free of charge. Under the terms of the Medical Witnesses Act of 1836 coroners could pay doctors two guineas to perform a post-mortem examination and toxicological analysis, and magistrates could authorise additional fees for expert evidence — Alfred Swaine Taylor charged two guineas per sample in the 1840s,<sup>27</sup> but the statutory provision did not include animal victims and the coroner's fee of two guineas was unlikely to cover the cost of time and reagents.

One of the key changes to Victorian Britain that facilitated forensic practice was the expansion of the road and most importantly railway networks. It was these transport links which allowed Mr Allanson to send the samples to Scattergood. Katherine Watson's work on poisoning crimes has shown that it became fairly common for forensic samples taken by a local medical practitioner to be sent from the scene of a suspected murder to a toxicologist by post, or sometimes via a police officer who travelled by train.<sup>28</sup> By the time Scattergood became active as a toxicologist in the 1850s, the railway network was connecting towns and cities across the country, and it only continued to grow.<sup>29</sup> Leeds was particularly well placed at the centre of the country to form part of a wider network: the increasing size and wealth of the city made it an industrial hub and supported the need for the Medical School and later Yorkshire College.

The number of cases that Scattergood recorded shows that his services were in demand; the level of detail demonstrates that he was aware of contemporary techniques and was thorough in his work. He needed his findings to be able to stand up in court. The range of places, from County Durham to Hertfordshire, Lincolnshire and Shropshire, as well as Yorkshire begs the question of how people became aware of his services, particularly as he published so little. It would also be interesting to know how much and why they paid for the travel and his expertise. More work needs to be done on the economy of this industry. Geographically, Scattergood was clearly a regional expert whose sphere of influence was extended by the power of the news media, one suspects, as well as his institutional, professional location in a major regional centre.

### **Multiple organs, multiple testing**

Scattergood theorised, researched, and worked on a wide range of causes of death, but the majority of his cases involved poisoning. There are examples of poisoning by strychnine, arsenic, lead, croton oil, opium and laudanum, cyanide, aconite, phosphorus, zinc sulphate, silver nitrate, oxalic acid, sulphuric acid, morphine, chloral and potassium bromide in his work. These poisonings were a combination of accidental and intentional; many formed parts of formal crime investigations. Cases involving strychnine and arsenic were the most common as these poisons were readily available in household products, particularly vermin-killers, via over-the-counter sales.<sup>30</sup> Both substances could be identified and isolated using careful chemical techniques. For arsenic there was the Marsh test, developed in 1836 and the Reinsch test of 1841. For strychnine toxicologists relied on colour reactions, microscopic examination of its crystalline form and physiological tests.<sup>31</sup> Scattergood's casebooks record a great deal of detail regarding his toxicological analysis and give some insight into his thought processes and use of cutting-edge techniques.

In cases which involved strychnine Scattergood on two occasions made sketches of the crystals he obtained. In 1862 he received samples of a human stomach, intestines and their contents via the police from Epworth, Lincolnshire. It was a suspected strychnine poisoning and Scattergood outlined a number of ways he tested the specimens. These included colour tests, observation under the microscope, a taste test (it was bitter), a physiological test, and a negative test for arsenic. With respect to the crystalline form obtained from reaction with bichloride of mercury, he noted that "crystals were formed resembling the accompanying sketch, which may be taken as like the figure given by Dr Guy (62 No.3), which he states to be very characteristic." This was a reference to William Guy's 1861 book *Principles of Forensic Medicine*. At the inquest he announced that the stomach contained Battle's Vermin Killer, and more than enough to kill the individual. Afterwards he noted the deceased was a middle-aged woman, wife of an innkeeper and that the couple did not get on, but there is no indication that a criminal case ensued; perhaps it was a suicide?<sup>32</sup>

In 1875 Elizabeth Pearson, of Gainford in County Durham, was accused of murdering her elderly uncle, apparently so she could gain possession of his furniture. She had reported that her uncle had been having fits before he died, but this was found to be suspicious. Scattergood was contacted by Thomas Dean, the deputy coroner of Bishop Auckland, and asked to take on the case and samples were then posted to him by the police: "a glass jar wrapped in brown paper which was gummed & tied up". He recorded that "The jar had a glass stopper with cork ring, & was secured by string & sealed with the seal of T. Homfray of Gainford." Homfray was the victim's doctor and the first to

suspect foul play. Careful notes were made about the chain of custody of the samples. The jar contained the stomach, liver, bowel and stomach contents of the deceased, received eight days after the man's death. Scattergood then set to work preparing the samples for testing. He wrote: "On March 24<sup>th</sup> morning I opened the jar. Contents had no particular odour. They consisted of 8½ oz (nearly) of liver, apparently healthy, which I washed with HO distilled, & put in a separate clean jar." There was also a human stomach with about a foot of colon attached: "...I cut off the latter, wash the outside of it & put it in a separate jar. It was full of solid faeces. Washings of liver & bowel were put together."<sup>33</sup> He went on to describe the condition and preparation of the stomach and stomach contents. Having undertaken this lengthy and probably unpleasant task of preparing his samples he was ready to start his tests.

In total Scattergood undertook 27 tests, most of which resulted in a chemical analysis. Each was time consuming. He first recorded: "The contents of washings [from the stomach] were allowed to stand, then poured off & by repeated washings & decantations, a sediment was obtained." He then summarised the results of his tests as "There was no appearance of Calomel or of Arsenic, but a blue powder and some quantity of granules of starch were taken." The blue powder "carefully separated & washed weighed 18/1000 of a grain (=1/55 grain about)". For each test he recorded the stages he deemed to be relevant to the investigation and presumably any potential court appearance.

The unsuccessful results were recorded much more briefly. He found no arsenic in his samples and summarised this in one sentence: "The residues on filters from above process were all treated by Reinsch's process: the result was entirely negative."<sup>34</sup> One interesting element of Scattergood's work is his commitment to tasting his samples: after many of the tests during the Gainford investigation he recorded that he found the taste to be bitter.

As an example of the level of detail he recorded when he felt it was relevant, consider this extract from the notes he made and some of his observations: "The piece of bowel (about 8 inches) which had been attached to stomach... was detached... It seemed small & thin (as was also the stomach it may be observed) & contained faeces of solid consistence. It was well washed, cut small & digested with S.V.R. & A on water bath, then strained (the liquid had a strong faecal smell). The solid was well pressed, more spirit added & again pressed & then strained mixed liquids evap[orate]d to dryness. Dissolved in water filtered & again evap[orate]d to dryness: redissolved in acidulated water & filtered: alkalinized with NH<sub>3</sub> and shaken with chloroform: then liquids separated & more chloroform used. The mixed chloroformic magmas were evapd to dryness over water bath. The residue was considerable. It was redissolved in acidulated water filtered alkalinized, shaken with chloroform which came off nearly colourless & evap[orate]d to dryness."<sup>35</sup> This was just part of the process. After all this work he concluded: "The chloroform residue was not all crystalline – it was bitter – but it gave no reaction with sulphuric acid + MnO<sub>2</sub> & sulphuric acid + KO<sub>2</sub>CrO<sub>3</sub>. A portion was dissolved in weakly acid<sup>d</sup> water brought to a small drop & a little sol<sup>n</sup> of bichromatic potash added, when dry a few tufts of yellow crystals were found in it: excess of bichromate was dissolved out leaving tufts unchanged: on allowing HSO<sub>4</sub> to flow over them the distinct strychnine reaction appeared (1in objective)."<sup>36</sup> Scattergood had got his result. This case note ends with a comment: "The woman Pearson was convicted of murder at Durham summer assizes, & executed".<sup>37</sup>

This case is an example of the cross-referencing and multiple types of tests that Scattergood conducted that were hinted at in some of the previous case studies. Together they show the breadth



of information required to make a claim about someone's death. This multi-test approach, combined with any relevant circumstantial evidence or observations from other parties, such as the deceased's usual doctor, were adopted as part of his routine forensic practice.

Scattergood also dealt with other types of murder and physical traumas in both theoretical and practical ways. As noted earlier his casebooks and lecture notes allude to all sorts of ways a person might die, and how a medical man might interpret their death. One of Scattergood's interests was the science of blood. When blood was found he needed to find a way to answer the question: Whose blood was it? He noted that if it was on a victim it was usually theirs — but on a suspect it was much harder to tell. Scattergood was able to tell if the substance he was looking at was blood using a microscope, however it was difficult to know if it was bird, mammal or reptile. His techniques improved and it was possible to tell it was mammal, but it was not always clear if it was human or a four-legged creature. In September 1869 Scattergood was asked to examine a pair of corduroy trousers by Inspector Murray of the West Riding police for suspected blood stains on the left knee and cuff. He "examined this stain [knee] by the microscope and chemically and found it consisted of blood." But: "The other mark was dark coloured soil. I am of the opinion that the blood is not that of a bird or a fish. There are no means of positively distinguishing between human blood and that of any English quadruped. The appearances of it are consistent with it being human blood." The inquest returned a verdict that the victim, Richard Kellett, had been murdered by person or persons unknown.<sup>38</sup> As noted above, it was not possible to distinguish human blood from that of other mammals until just after Scattergood's death.

Similarly, when two-and-a-half-year-old Marsh Roebuck was found with his throat slit in Holmfirth in June 1877 Scattergood identified blood splatters on the clothes of the accused, eleven-year-old James Henry Stephenson. Using a spectroscope he concluded that "their appearance is consistent with human blood stains. It is not the blood of a bird, reptile or fish, but I cannot say that it is not the blood of a four-footed mammal."<sup>39</sup> Scattergood might not have been able to work out for certain where blood came from with his microscope but that did not mean that it was not a question worth asking. He advised his students to ask what the blood was on and how it could have got there. In cases where a murder or accident had been concealed blood would normally be found on clothes. This could then be examined, as in Stephenson's case.<sup>40</sup>

The other key clue for the forensic doctor was to identify weapons; could the weapon have produced the injuries or blood patterns found? One interesting case, which Scattergood illustrated with small drawings in his casebook, occurred in December 1882. Three men in Leeds had had a fight and one of them had died of a fractured skull following a blow to the head. It was ascertained that the other two men had walking sticks and one of them caused the fatal blow. Unfortunately in this case Scattergood could not provide sufficient evidence to lay the blame on either one.<sup>41</sup>

In other instances clues had to be found in the environment or circumstances. Scattergood titled one of his cases "Remarkable fracture of skull apparently from a fall." On 26 December 1876 Scattergood noted that Jessie M. Fitzakerly had been found dead 32 hours previously. She had been intoxicated over Christmas and then visited friends and drank more, walked home around 4 or 5am but was unable to walk steadily; she fell on the doorstep when she got home. At 9 or 9.30am a neighbour called and the husband answered sleepily, then about 11am the husband called for the neighbours as he could not find his wife. They found her dead at the bottom of the steps with her head on the

bottom step and limbs pointing up the stairs. When Scattergood saw the body it was “perfectly fresh”. There was blood at the bottom of the cellar steps, a bloody footprint two steps up caused by a woman’s boot, two steps higher another boot mark, nine in all. The boots matched that of the friend who had accompanied the Fitzakerly couple home. Some blood marks looked like they had come off a petticoat. The body when examined had a number of scuffs and bruises, but of note were four puncture marks on the right hand, abrasions and black bruises on the left, and marks on the face including something that was not mud or blood. The back of the hair was soaked in blood. The internal organs were examined and found healthy (except the stomach which was thrown away without further examination). Scattergood and his collaborators in this investigation concluded that a violent fall backwards down the stairs would cause the injuries and probably caused her death but a weapon might have produced the same result. An open verdict was returned.<sup>42</sup>

### **Becoming an expert witness**

Scattergood wrote that “The question before the court really is, was the death the result of natural causes...” If, as is usually the case, the answer is that the patient died from natural causes the inquiry into death can stop. Expertise was to be called when “the court is not satisfied without knowing what those causes were.” This included “Sudden, violent, [and] premature deaths...”<sup>43</sup> These were the cases Scattergood’s knowledge was needed for and what he was preparing his student to deal with. He estimated there were “something like 25,000 inquests annually in Eng[land] and Wales”.<sup>44</sup> There was a demand for medico-legal expertise and an increasing need for expert witnesses in the courts.<sup>45</sup>

In the North East of England Mary Ann Cotton (1832–1873) remains one of history’s most notorious murderers and Scattergood’s most famous case. She is believed to have murdered between twelve and twenty-one people, potentially including three husbands, her mother, a lover, her best friend, and at least some of her children and step-children. Her motive was money and she carefully claimed life insurance on those around her. Cotton’s fourth husband, former lover, and two children passed away in quick succession. She had predicted the death of her last surviving step-son, seven-year-old Charles Edward Cotton to the parish overseer after she had tried unsuccessfully to give the child to his uncle and then the workhouse. When he heard of the child’s death the overseer went to the police and reported his suspicions, persuaded the doctor not to certify the death and the case was passed to a coroner. A local doctor examined the body but did not have time to conduct the necessary chemical analysis until after the inquest, at which point the strong suspicions that Mary Ann Cotton was a poisoner led to the exhumation of the body. Samples taken from it were sent to Scattergood in the care of Sgt Hutchinson, who travelled to Leeds from County Durham by train on the instruction of Supt Henderson of Bishop Auckland, where the killing took place. The network of investigators for this case expanded to include Scattergood, and his network of contacts expanded in a corresponding fashion. The way in which the samples were obtained and transported is important too, as it is indicative of the growing concern for maintaining a careful chain of custody for human remains in murder trials.

Scattergood confirmed the presence of arsenic and recorded his work in careful detail. Later the bodies of Cotton’s lover and two more children were also examined and found to contain arsenic.<sup>46</sup> At her trial Cotton was found guilty and sentenced to death; the judge noted that poison always left

“complete and incontestable traces of guilt”.<sup>47</sup> About a week after her trial Scattergood followed up a point that had been made by Cotton’s defence counsel, Mr Campbell Foster, that the arsenic might have accidentally entered the body accidentally via arsenical wallpaper or soap mixed with arsenic to keep pests at bay. Scattergood was extremely sceptical and dismissed the suggestion because wallpaper “would not account for the presence of solid  $\text{AsO}_3$  in the stomach” and the soap “could not possibly have been powdered any more than butter could have been powdered.”<sup>48</sup> There was an attempt to secure a reprieve on the grounds that she could not afford an expert witness to challenge Scattergood but this was unsuccessful and Mary Ann Cotton was hanged.<sup>49</sup> The Cotton murders were Scattergood’s most famous investigation and show the ultimate power of a forensic expert working within the criminal justice system. The impact of forensic testimony on the processes of criminal justice could be immense: it might help to convict a killer or to undermine the case against an accused person.

The Cotton and Pearson cases also raise an important contextual point. Scattergood was drawn into forensic work apparently because of the prevalence of poisoning crimes in mid-Victorian England. This automatically opened up what we can think of as a market for his scientific and medical abilities, but that market was clearly regional, not national or purely local. His training as a chemist and as a surgeon gave him the necessary skills to conduct both post-mortem examinations and toxicological analyses, uniting two key elements of forensic expertise in one individual. In addition, Scattergood began practicing as a forensic expert in the mid-1850s, precisely the time when policing became truly national and subject to the same standards set by central government. County Durham set up a police force in 1840, Leeds in 1836, but the West Riding force was established late in 1856, following government legislation that required all counties to establish an efficient police force.<sup>50</sup> Part of what Scattergood’s practice opens to historical research is his links to the various local and regional police forces.

Finally, the investigations discussed in this chapter, and the casebooks in which they were recorded, speak loudly to Scattergood’s role as an expert witness in precisely the period, the second half of the nineteenth century, when this special type of witness was gaining public recognition. Scattergood’s work helps add to our knowledge of the development of medico-legal practice, the impact of the expert witness in the criminal courts, and the professional links that fostered both.

## **Conclusion**

Thomas Scattergood’s casebooks provide us with a wealth of medico-scientific content from the second half of the nineteenth century. Covering almost forty years of forensic practice, Scattergood was called upon to offer his expertise on a wide range of cases involving both humans and animals. His expertise lay primarily in the science of toxicology and poisoning deaths but he had much to say on other means of death. Every case covered in his casebooks hints at the volume of work which underpinned each conclusion Scattergood reached. The level of work required matched the available tests, and multiple tests were required to ensure the results were accurate and would meet the demands of the courts or his clients. All the evidence to hand suggests that his findings were scrupulously objective, as befit his personality, and there is little evidence that his clients had any expectations other than that they would be given accurate information.

We are at the start of our research into the work of Thomas Scattergood. We are particularly interested in who sought out Scattergood's expertise and how this changed over the course of the late nineteenth century. Changes in travel and communication brought together a wide variety of individuals, many of whom have not yet been acknowledged by historians of crime or forensic medicine and science. We are interested in where, why, how and at what cost forensic expertise could be sought, and wish to know more about the individuals involved; the casebooks bring a wide variety of people fore. But many of the questions raised by Scattergood's casebooks cannot be answered until they have been fully transcribed and studied in detail. The geography of his forensic practice and the networks that connected Scattergood, the police, coroners, the courts, insurance companies, the media, patients and clients need to be fully mapped. In doing so, we will be able to situate this regional expert more securely within the history of forensic medicine.

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<sup>9</sup> *BMJ*, 3 March 1900, p. 547.

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<sup>12</sup> MS 534/1, Index, placed after p. 268.

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