Before CSI: Making the Case for a Novel Portrayal of Forensic Science

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Abstract: Forensic science has been portrayed in television, journalism, and fiction for over a century. Since the launch of the flagship television show "CSI: Crime Scene Investigation" in 2000, much has been made of the so-called "CSI Effect". However, forensic science had been incorporated into many traditional media long before CSI. We used Ngaio Marsh's 1935 novel, "The Nursing Home Murder," to illustrate the influence of news media, literature, and drama on the author's decision to use hyoscine as a poison in the work. We examine the accurate portrayal of science in written crime fiction and its dissemination to the reader. The possible use of that information in copycat crime is also discussed. Content analysis demonstrates the possible influences of written media and personal connections on Marsh when choosing hyoscine as her murder weapon, and suggests she was aware of the potential for a criminal to get "the big idea" from her work.

Keywords: Science, Communication, Popular Media

Introduction

Forensic science has been thrust into the public view in recent years by the introduction of the *CSI: Crime Scene Investigation* franchise of television programmes and the resultant flood of similar television crime dramas. There has been much discussion of the effects of this highly visualised and hyper-realistic portrayal of forensic science, as well as what has been coined "the CSI Effect," on the criminal justice system by Cole and Dioso-Villa (2006). The literature has concentrated on three major elements of the CSI Effect: firstly, the impact on the expectations of jurors in criminal trials with respect to evidence (Schweitzer and Saks 2007); secondly, the increase in interest in forensic science as a career option (Ferguson 2013); and thirdly, the potential for criminals to learn how to avoid detection at crime scenes as a result of watching these programmes (Ferguson 2013).

CSI has broken new ground in the mass communication of forensic science and the effects that has had on society, but there are many other examples of earlier television programmes, fiction and print media that have had an impact on the public perception of science and its place in the criminal justice system (Kinsey 2011). These could be called proto-CSI.

> That public expectations of science are born of fictional portrayals of science, rather than scientific reality, has long been thought to be true of forensic science, where public beliefs have been shaped by fiction at least since Conan Doyle penned Sherlock Holmes. (Schweitzer and Saks 2007, 359)

We are exploring the hypothesis that scientific knowledge can be effectively communicated through popular print fiction. Forensic science, described in the delivery of entertainment, or infotainment, can have many flow-on effects, from educating and influencing the reader's perceptions of criminal justice (Kinsey 2011), to the potential for educating criminals and copycat crime (Surette 2013b).

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How does the CSI Effect relate to print media and to readers and writers of crime fiction? Ramsland explored the social cognition aspect of the CSI Effect and found that evidence presented as story influenced jurors more than evidence presented as a series of facts (Ramsland 2009). Appel conducted experiments on how information given from fictional sources influenced readers and found "it seems fictional information, even if blatantly false, alters our view of the world" (Appel and Richter 2007). Experiments like these suggest that information disseminated through fiction can have an impact on readers whether this informs or misinforms them. Where does reader expectation of the science presented in their crime fiction fit into this spectrum? If science can be effectively communicated through crime fiction, the reader must believe it is accurate, and it must be relevant to the plot. Does the writer feel a responsibility to provide accurate information when communicating science in their fiction?

Bryant describes the communication of science as "the process by which the culture and knowledge of science are absorbed into the culture of the wider community" (Bryant 2003). In the writing of crime fiction the extent of this may be dependent upon the accuracy of the science, which is contingent upon the influences and sources used by authors of fiction during their research, and the direct or indirect interactions they may have had with the scientific community. It may also depend upon the author's concerns to the flow on effects of providing scientific information. Copycat crime can also be inspired by media reporting of true crime (Surette 2007). The aim of this paper is to explore an example of the communication of science through crime fiction in a historical context through the analysis of the 1935 novel *The Nursing Home Murder*, by New Zealand writer Ngaio Marsh and co-written by gynaecologist Henry Jellett. As such it explores the idea in a confined and limited way but provides interesting context. It aims to identify the accurate use of science in a work of fiction, and therefore the CSI Effect of educating readers; and the influence of information gained through reading fiction and in the media reporting of true crime in inspiring copycat crime in one particular reader – the author, Ngaio Marsh. In future study it would be useful to survey both writers and readers of crime fiction to examine their perceptions and attitudes to the science in crime fiction to get a broader view.

The article begins with an investigation into the background of Ngaio Marsh to identify key relationships with scientists and medical professionals that may have influenced her understanding and use of the poison hyoscine as the murder weapon. It then examines how accurately the forensic and pharmacological sciences are portrayed in *The Nursing Home Murder*. Finally, it considers the historical context in which the novel was written and the influence of the 1910 Crippen murder case on the work of Marsh and her contemporaries, as well as the influence of Shakespeare's *Hamlet*, in the choice of hyoscine as the poison. The potential for copycat crime in the wake of a novel's publication is investigated and Ngaio Marsh's self-awareness of this potential, illustrated by her references to readers getting "the big idea" from her writing.

Ngaio Marsh: Crime Fiction Writer

Ngaio Marsh (1895-1982) is considered to be New Zealand's most successful crime fiction novelist. She was known as one of the Four Queens of Crime in the Golden Age of detective fiction in the 1930s along with English writers Agatha Christie, Dorothy Sayers and Marjorie Allingham (Lewis 1991). She wrote thirty-two Chief Detective-Inspector Roderick Alleyn novels and all but four of these novels were set in Britain. Marsh resided mostly in New Zealand, but spent extended periods of time in the United Kingdom (Drayton 2008).

In 1934 Marsh underwent gynaecological surgery (Marsh 1966) performed by Sir Hugh Ackland and Dr. Henry Jellett in Christchurch, New Zealand. It was this experience and association that lead to Marsh's collaboration with Jellett in writing *The Nursing Home Murder* (1935). The collaboration also extended to the production of a stage adaptation of the novel, *Exit Sir Derek*, performed by the Canterbury College Drama Society in 1935 (Lewis 1991). Henry

Jellett (1872-1948) was an Irish born gynaecologist who gained his qualifications at the University of Dublin, and authored several books on the practice of midwifery (Obituary 1949).

It appears Marsh and Jellett had an association beyond the medical, as illustrated in a reference in her autobiography: "It was during my convalescence that I engaged in the only piece of fiction that I have ever written in collaboration. This was *The Nursing Home Murder* and my partner in crime was the extremely distinguished Dr. Henry Jellett who was a member of the Lamprey group in the halcyon days and now lived in New Zealand" (Marsh 1966, 222). Despite Jellett's reputation for arrogance in medical circles, he appears to have had a cordial relationship with Marsh. She referred to him as 'Papa Jellett.' She also described him as a 'stickler for correct techniques" (Marsh 1966, 222). Encountering someone with such high standards of accuracy early in her career instilled in Marsh the importance of getting research right.

The Accurate Use of Hyoscine

The Nursing Home Murder was Marsh's third Chief Detective-Inspector Roderick Alleyn novel and the first to use poison as the murder weapon. Marsh professed to be fearful of it, relating her childhood experience of overhearing her thespian parents rehearsing lines for a play about a woman poisoning her husband. "I developed an absolute terror of poisons…to this day if I introduce a poison I get quite a sort of frisson just writing the words, still" (Clark 1977, 13 min 28 sec). Many of Marsh's peers were using poison as a murder weapon in their fiction, particularly Agatha Christie, and one would have to consider Marsh felt some pressure to do so too.

Hyoscine (scopolamine) is a tropane alkaloid derived from plants of the solanaceae family, which include datura and henbane (O'Neil 2006). Its pharmacologic actions include bradycardia, although tachycardia is sometimes seen at higher doses, pupil dilation, and suppression of saliva, bronchial secretions and sweat. It is also a central cortex depressant, leading to drowsiness and amnesia. Today hyoscine is used as a preoperative agent to induce sedation and amnesia and it is useful to reduce salivation and secretions in the respiratory tract. It is also used orally or transdermally in the treatment of motion sickness (Leikin and Paloucek 2008). John Emsley's *Molecules of Murder* talks of criminal circles in South America using hyoscine to render victims submissive. It also describes historic criminal use of hyoscine, including its being investigated as a truth serum by the Nazis and then the CIA (Emsley 2008).

In 1935, the year of publication of *The Nursing Home Murder*, hyoscine hydrobromide 1/200 to 1/64 of a grain (0.32mg to 1mg) was used as a preoperative medicant in combination with morphine 1/7 to ½ of a grain (9.25mg to 32.4mg) administered the evening before the operation and then a similar dose given on the morning of the operation (Martindale et al. 1932). Full anaesthesia was then achieved using ether or chloroform. Hyoscine had also been used for anaesthesia in obstetrics to create what was referred to as 'twilight sleep,' where $1/120^{th}$ of a grain of hyoscine was administered with 1/6 grain of morphine towards the end of the first stage of labour (Squire 1916). Jellett's knowledge of the drug as well as his experience in the operating theatre was reflected in the authentic and meticulous detail written of these aspects in *The Nursing Home Murder*. There are numerous discussions in the text about the dose as well as assertions of what a fatal dose would be:

> "What is the usual dose, sir?" asked Nurse Banks abruptly.
> "From a hundredth to a two-hundredth of a grain, Nurse."
> "As little as that!"
> "Oh, yes. I can't tell you the minimum lethal dose – varies with different cases. A quarter-grain would do anyone in."
> "A quarter of a grain," said Nurse Banks thoughtfully. "Fancy!" (Marsh 1983, 32)

Marsh also includes the use of a patent medicine containing hyoscine called Fulvitavolts in *The Nursing Home Murder*. Although no such product existed, Marsh still ensured authenticity of its sale in the novel by using the correct legislative controls for its use from the day. The 20th Edition of *The Extra Pharmacopoeia* lists hyoscine and any of its preparations as a class P1 poison requiring it to be sold by a registered chemist and the sale entered in the poisons register (Martindale et al. 1932).

Crippen and Crime Reporting in the Media

There has been much research into the effects of media reporting of high profile murder cases, and the influence these have on society (Surette 2013a). This has been particularly so in the case of mass murder/suicides in schools in the United States and resulting copycat crime (Bond 2007). The Crippen murder case was a high profile murder that influenced the decision of Ngaio Marsh to use hyoscine as the poison in *The Nursing Home Murder*. In 1910, in London, Dr Hawley Harvey Crippen, an American born homeopath, was found guilty and hanged for the murder of his wife Cora Crippen, also known as the actress Belle Elmore (Old Bailey Online 1910). Cora Crippen was found to have been poisoned with hyoscine, her body dismembered and some fleshy remains, including the torso carrying a previous gynaecological scar used to identify her, buried in the basement of the Crippen home in Hilldrop Crescent. Her other remains were never found. The case caused an international sensation at the time, when Crippen fled England with his lover Ethel le Neve, the two posing as father and son aboard the SS Montrose bound for Canada (Emsley 2008).

The case also piqued the public's interest because of the extensive use of forensic science in the trial by Bernard Spilsbury, who then went on to become a foremost pioneer in forensic science. Court transcripts from the Old Bailey indicate histological evidence was presented by Spilsbury, and forensic blood analysis on the hysocine presented by Dr William Henry Wilcox. Wilcox, when talking of the use of hyoscine in his testimony stated "I believe this is the first case where the question of murder by hyoscine has arisen" (Old Bailey Online 1910, 175).

The Crippen trial created a furore and attracted worldwide attention. *The Press* (Christchurch, New Zealand), carried almost daily coverage of the Crippen case in its "Cable News" section, from reports of the inquest in July 1910, the progress of the Montrose across the Atlantic Ocean and the arrest, to the trial, verdict of guilty and sentence of death in October (The Press 1910). Crippen was hanged at Pentonville Prison on 23 November 1910. Ngaio Marsh was fifteen years of age at this time and living at Marton Cottage with her parents. As an adult her personal library at Marton Cottage contained the 1929 book *Lord Darling and his Famous trials*, which gives an account of the Crippen Case (Graham 1929).

Marsh makes direct reference to the Crippen case in *The Nursing Home Murder:*

> Her hands trembled and the knitting needles chattered together. Her eyes were wide open and the pupils dilated.
> "Why, she's demented," thought Angela in alarm.
> "Hyoscine," murmured Nigel. "Wasn't it the drug Crippen used?"
> "I believe it was," said Angela. "Isn't that the same as Twilight Sleep?" (Marsh 1983, 125)

Marsh also makes reference to the Crippen case in a later novel, *Vintage Murder* (1937), with Chief Detective-Inspector Alleyn stating: "Psychologically he might be classed with Crippen, a drab everyday little man; but he's not got the excuse of a crime passionel" (Marsh 1977, 219).

The Crippen case made an impact in many arenas. The 1925 Eighteenth Edition of *The Extra Pharmacopoeia* by Martindale and Westcott contained an account of the Crippen poisoning case

including a summary of the analysis undertaken on the flesh samples to establish the identity of the poison. They also undertook controlled experiments on the effects of time and putrefaction on the ability to extract hyoscine from animal remains (Martindale and Westcott 1925).

The high profile and hysteria created by the Crippen trial was reflected in the media reporting of any incident, no matter how small, involving the drug. This example was reported from The Press Association in London in 1912, and taken up by newspapers in New Zealand: "London 22 July; A case containing hyoscine and other poisons, a syringe and needles, has been found in a square" (Poverty Bay Herald 1912, 5).

Hyoscine and the Crippen case also found its way into popular culture with mystery novelist Agatha Christie making reference to it in her 1926 novel *The Murder of Roger Ackroyd* (Christie 1950), and also her 1930 novel *The Murder at the Vicarage* (Christie 1963). S. S. Van Dine also mentions the drug in his 1928 novel *The Green Murder Case* (Van Dine 1928).

Poisoning by hyoscine occurred in modern day theatre at the hand of Agatha Christie in 1930 with the play *Black Coffee*, performed in London at the Embassy theatre and then St Martin's theatre. A film adaptation was released in 1931. This was a period in time when Marsh was living in London and it is possible she went to see the play. There is no specific mention of it in her autobiography, but she did read Christie's work, and Marsh was an avid lover of theatre. She says of the time: "We were bewilderingly gay: a self-contained quartette driving up to London several times a week for dinner and a play" (Marsh 1966, 200).

Shakespeare and Other Influences

Hamlet was a major influence in the choice of hyoscine as a poison in *The Nursing Home Murder*. The first Shakespeare Marsh saw in London's West End was "John Gielgud as a very young, petulant and smoldering Hamlet…" (Marsh 1966, 202). *Hamlet* figured highly in Marsh's life. She studied it at St Margaret's College and was entranced by it when she saw it performed while at art school. "The Wilkie Company gave me my first real joy in Shakespearian acting. The opening night of *Hamlet* was the most enchanted I was ever to spend in the theatre" (Marsh 1966, 123). King Hamlet of Denmark is murdered by his brother, Claudius, by having liquid henbane poured into his ear as he sleeps. The active substance in henbane is hyoscine. Marsh makes reference to the play twice in the novel by having Chief Detective-Inspector Alleyn reading the play as his personal entertainment over the course of the novel. *Hamlet* not only influenced the choice of hyoscine as the murder weapon; its underlying themes of madness or insanity are mirrored in the themes of eugenics and heredity insanity that feature in *The Nursing Home Murder* (Marsh 1983).

In New Zealand, death by hyoscine was not limited to the realm of fiction. In Dunedin in 1927, Captain Angus McPhee Marshall was found by the coroner to have committed suicide by an overdose of hyoscine (Coroner 1927). Marshall was an anaesthetist for pioneering plastic surgeon Henry Pickerill at Queen's Hospital, Sidcup, England from 1918-1919, and then at Dunedin Hospital, New Zealand from 1921. Pickerill was world renowned for his work on reconstructing the faces of soldiers seriously wounded in the First World War (Meikle 2013). One can speculate whether or not it was coincidental that Ngaio Marsh portrayed Roberts the anaesthetist as the murderer and the one who forwarded the idea of suicide as the cause of death rather than homicide (Marsh 1983). In *The Nursing Home Murder* Roberts includes New Zealand on the list of places he has worked.

Ngaio Marsh drew elements of real life and fictional crimes into her work. In choosing hyoscine as the murder weapon in *The Nursing Home Murder* she in effect committed a literary form of copycat crime.

Copycat Crime

What impact does a work of fiction have in greater society after publication? Is scientific knowledge communicated in the course of the text utilised by the reader, and specifically in the case of crime fiction, is that knowledge then sometimes used to plan or perpetrate a similar crime? Current research, when addressing the effects of fiction on the occurrence of crime concentrates on the effects of visual media, namely television, film, video games and the Internet (Surette and Gardiner-Bess 2013). It talks frequently of the CSI Effect. It also highlights the effect of crime reporting by the media, particularly in the case of mass murder/suicides in schools inspiring copycat crimes. In this article we are interested in the effects of print media, specifically crime fiction.

Loren Coleman's book *The Copycat Effect* gives examples of novels that directly affected a killer's decision to commit murder. Coleman cites the case of Barry Loukatis, a fourteen year-old who in 1996 shot dead his teacher and two students at the Frontier Middle School in Washington, USA. During the siege Loukatis made reference to Stephen King's 1977 novel *Rage*, which describes a teenager killing teachers and holding his class hostage. Loukatis quoted the character in the novel when committing the murders "This sure beats algebra, doesn't it?" (Coleman 2004). After the 2012 Sandy Hook Elementary School mass killing, King pulled the book *Rage* from sale, stating "My book did not break [these teenagers] or turn them into killers; they found something in my book that spoke to them, because they were already broken," he said. "Yet I did see *Rage* as a possible accelerant, which is why I pulled it from sale. You don't leave a can of gasoline where a boy with firebug tendencies can lay hands on it" (Stone 2013).

Detective fiction has inspired copycat crime from the beginnings of the genre. Sir Arthur Conan Doyle's first Sherlock Holmes novel, *A Study in Scarlet*, would seem to have inspired a similar crime. Carlyle Harris, a medical student, was convicted of the 1891 murder of his secret wife Helen Potts in New York. The complex method of murder involving tampering with prescribed medicine was very similar to that used in the novel, published a year before (Wagner 2006). Wagner surmises that one of the investigators may have read the novel, which enabled them to deduce the method, in an effect similar to the CSI Effect.

Did the publication of *The Nursing Home Murder* result in any copycat crime? It would appear not. Records of murders committed using hyoscine are limited to the Crippen case and its use in South American crime. Perhaps that is in part due to the amount of publicity the Crippen case received, and thus the realisation that comprehensive methods of detection existed to identify hyoscine in the human body. Availability of pharmaceutical hyoscine was also controlled by legislation. When searching the literature for records of poisoning with hyoscine, those found were of plant origin. Poisoning of any kind with hyoscine was rare. John Emsley rates arsenic as the most common poison used in murders (Emsley 2008). Arsenic was readily available and used in rat poison. In fact, the brother-in-law of the victim in *The Nursing Home Murder* has the nickname of Ratsbane, otherwise known as arsenic. Emsley asserts that murders by poisoning have reduced due to the ease with which modern science can detect them.

Ngaio Marsh had contemplated, however, the possibility that someone of a suggestive mind could read her novel and be inspired to perform a murder based upon it. She addresses this issue directly in *The Nursing Home Murder* by using the device of a play within a play, having the characters discuss a stage drama at The Palladium, which mirrors their situation:

> "Curious coincidence, that little play, didn't you think?" asked Alleyn.
> "Very rum," agreed Nigel. "When did you hear about it?"
> "Thoms told me that he and Phillips had discussed it before the operation."…
> "I say," said Nigel. "Do you think that could have given Phillips the big idea?" (Marsh 1983, 115)

Marsh also discusses the copycat effect in other novels, including her 1939 novel *Overture to Death*:

> "It's like one of those affairs in books," said Bailey disgustedly. "Someone trying to think up a new way to murder. Silly, I call it."
> "What do you say, Roper?" said Alleyn.
> "To my way of thinking, sir," said Roper, "these thrillers are ruining our criminal classes."… "What I mean to say, Mr Fox," said Roper. "It puts ideas in their foolish heads. And the talkies too. Especially young chaps. They get around the pace talking down their noses and making believe they're gangsters. Look at this affair! I bet the chap that did this got the idea of it out of print." (Marsh 1989, 112)

Conclusion

The purpose of this article was to explore the idea that accurate scientific knowledge can be effectively communicated through popular crime fiction, and how much this succeeds depends upon the influences and sources of information used by authors in their research. It aimed to demonstrate that this occurred in print fiction well before the proliferation of television crime dramas that lead to concern over their effects on the public and the criminal justice system and the coining of the phrase "The CSI Effect." It demonstrated the CSI Effect of fiction educating readers, and the potential to use that knowledge to perpetrate crime, in this instance that of reader and author Ngaio Marsh perpetrating a literary copycat crime in her own fictional creation. The exploration, using the specific example of *The Nursing Home Murder* (1935) by Ngaio Marsh and Henry Jellett, uncovered the influences that directed Marsh to choose hyoscine as the poison in the novel, and the high level of scientific accuracy the author achieved. Jellett's expertise as a gynaecologist and surgeon would have influenced the choice of hyoscine and he would have provided the authentic medical and pharmaceutical detail required. Marsh brought her personal and popular culture experiences into the choice, from her love of Shakespeare's *Hamlet*, to the works of her contemporary writers, such as Agatha Christie. She was also influenced by the media reports of the high profile 1910 Crippen murder case.

When addressing the question of how science is communicated to the wider public, one has to ask how much media, both fictional and non-fiction, assert an influence on the choices criminals may make on the perpetration of a crime, and the possibility of copycat crime. The paradox in asking how such knowledge spreads is that Marsh herself fell victim to the influence of the media, real and fictional. Her choice in murdering her victim with hyoscine reflected her exposure to these influences. She was concerned about the potential for copycat crime as a result of her work, although there is no evidence of this occurring after inspiration from *The Nursing Home Murder*. By using the literary device of a play within a play, and having a character ask the loaded question: "Do you think that can have given Phillips the big idea?" Marsh indicated she appreciated the irony of what she was doing, and her role in greater society as a writer of crime fiction.

REFERENCES

Appel, M, and T Richter. 2007. "Persuasive effects of fictional narratives increase over time." *Media Psychology* 10 (1):113-134. doi: 10.108/15213260701301194.

Bond, Michael. 2007. "The media make a killing." *New Scientist* 194 (2603):22.

Bryant, Chris. 2003. "Does Australia need a more effective policy of science communication?" *International Journal for Parasitology* 33 (4):357-361. doi: http://dx.doi.org/10.1016/S0020-7519(03)00004-3.

Christie, Agatha. 1950. *The Murder of Roger Ackroyd*. London: Penguin. Original edition, 1926.
———. 1963. *The Murder at the Vicarage*. Glasgow: Fontana. Original edition, 1930.
Clark, Bruce. 1977. Three New Zealanders: Ngaio Marsh 1977. Endeavour Films.
Cole, Simon A, and Rachel Dioso-Villa. 2006. "CSI and its Effects: Media, Juries, and the Burden of Proof." *New England Law Review*. 41:435.
Coleman, Loren. 2004. *The copycat effect: how the media and popular culture trigger the mayhem in tomorrow's headlines*. 1st Paraview Pocket Books trade paperback edition. New York: Paraview Pocket Books.
Coroner. 1927. Marshall, Angus McPhee Coroner's report J 46 1927/926. New Zealand: Coroner.
Drayton, Joanne. 2008. *Ngaio Marsh: her life in crime*. Auckland: HarperCollins.
Emsley, John. 2008. *Molecules of Murder: criminal molecules and classic cases*. Cambridge: RSC Publishing.
Ferguson, Christopher J. 2013. "The CSI Effect." In *Adolescents, Crime, and the Media*, 69-80. New York: Springer.
Graham, Evelyn. 1929. *Lord Darling and his famous trials: an authentic biography, prepared (for publication) under the personal supervision of Lord Darling*. London: Hutchinson & Co Ltd.
Kinsey, Caroline L. 2011. "CSI: From the Television to the Courtroom." *Virginia Sports and Entertainment Law Journal* 11:313.
Leikin, Jerrold B., and Frank P. Paloucek. 2008. *Poisoning and Toxicology Handbook*. 4th edition. Boca Raton: CRC Press/Taylor & Francis Group.
Lewis, Margaret. 1991. *Ngaio Marsh: A Life*. Wellington: Bridget Williams Books Ltd.
Marsh, Ngaio. 1966. *Black Beech and Honeydew*. London: Collins. Autobiography. Original edition, 1965.
———. 1977. *Vintage Murder*. London: Fontana. Original edition, 1937.
———. 1983. *The Nursing Home Murder*. Glasgow: Fontana. Original edition, 1935.
———. 1989. *Overture to Death*. Glasgow: Fontana. Original edition, 1939.
Martindale and Westcott. 1925. *The Extra Pharmacopoeia*. 18th edition. 2 volumes. Volume II. London: H.K.Lewis & Co Ltd.
Martindale, William, W. Wynn Westcott, W. Harrison Martindale, and Pharmaceutical Society of Great Britain. 1932. *The Extra Pharmacopoeia of Martindale and Westcott*. 20th edition. 2 volumes. Volume I. London: H. K. Lewis & Co Ltd.
Meikle, Murray Clyde. 2013. *Reconstructing Faces: The Art and Wartime Surgery of Gillies, Pickerill, McIndoe and Mowlem*. Dunedin: University of Otago Press.
O'Neil, Maryadele J. 2006. *The Merck Index: an encyclopedia of chemicals, drugs, and biologicals*. 14th edition. Whitehouse Station: Merck.
Obituary. 1949. "Henry Jellett." *British Medical Journal* (June 26):1262, 1263.
Old Bailey Online. 1910. "Hawley Harvey Crippen." In *Old Bailey Proceedings Online*. http://www.oldbaileyonline.org/browse.jsp?ref=t19101011-74 (accessed 15 May 2012).
Poverty Bay Herald. 1912. "British & Foreign." *Poverty Bay Herald*, 23 July 1912, 5.
Ramsland, Katherine. 2009. "The Facts about Fiction: What Grissom Could Learn about Forensic Psychology." *Journal of Psychiatry and Law*. 37:37.
Schweitzer, Nicholas J. and Michael J. Saks. 2007. "The CSI Effect: Popular fiction about forensic science affects the public's expectations about real forensic science." *Jurimetrics*:357-364.
Squire, Peter Wyatt. 1916. *Squire's Companion to the latest edition of the British Pharmacopoeia: comparing the strength of its various preparations with those of the United States and other foreign pharmacopoeias to which are added not official preparations and practical hints on prescribing*. 19th edition. London: J. & A. Churchill.
Stone, Jeff. 2013. "Stephen King Pulls 'Rage' From Bookshelves Citing 'Possible Accelerant' For School Shooters." *International Business Times*. Accessed 21/03/2014.

http://www.ibtimes.com/stephen-king-pulls-rage-bookshelves-citing-possible-accelerant-school-shooters-1039912.

Surette, Ray. 2007. *Media, Crime, and Criminal Justice: Images and Realities*. 3rd edition. Belmont: Thomson/Wadsworth.

———. 2013a. "Cause or Catalyst: The Interaction of Real World and Media Crime Models." *American Journal of Criminal Justice* 38 (3):392-409.

———. 2013b. "Estimating The Prevalence of Copycat Crime: A Research Note." *Criminal Justice Policy Review*:0887403413499579.

Surette, Ray, and Rebecca Gardiner-Bess. 2013. "Media, entertainment, and crime." In *The Routledge Handbook of International Crime and Justice Studies*, edited by Bruce Arrigo and Heather Bersot, 373. Abingdon: Routledge.

The Press. 1910. "The Crippen Trial: Verdict of Guilty." *The Press*, 24 October 1910.

Van Dine, SS. 1928. "The Greene Murder Case." In. http://www.gutenberg.net.au/ebooks06/0606351.txt (accessed 15 May 2012).

Wagner, EJ. 2006. *The science of Sherlock Holmes: from Baskerville Hall to the Valley of Fear, the real forensics behind the great detective's greatest cases*. Hoboken: John Wiley & Sons.

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