

Chapter 1.3: Crime Detection in Literature

“‘I’ve found it! I’ve found it,” he shouted to my companion, running towards us with a test-tube in his hand. ‘I have found a re-agent which is precipitated by haemoglobin, and by nothing else.’ Had he discovered a gold mine, greater delight could not have shone upon his features.” These were the first words uttered by probably the greatest literature detective of all times, Sherlock Holmes, in the first book in the series: *A Study in Scarlet*.

People have long been fascinated by the fictional accounts of the super-sleuths of criminal detection, especially those whose focus is on using scientific methods in seemingly miraculous ways for solving baffling crimes and catching the criminals. It may seem surprising to



Figure 1.3.1. C. Auguste Dupin, a fictional detective created by Edgar Allen Poe in the case of *The Purloined Letter* (<http://revelationawaitsanappointedtime.blogspot.com/2011/02/c-auguste-dupin.html>).



Figure 1.3.2. Poster from a recent Holmes-based movie (pinartarhan.com/blog/sherlock-holmes/).

discuss the accounts and methods of fictional detectives in a forensic science textbook, but the connection is both justified and important. Unlike many other fields, the techniques and methods of modern forensic science have often been foretold and even inspired by their first “use” in fictional settings. Fingerprints, chemical analyses for blood, logical deductive reasoning, and aspects of toxicology are just some of the techniques of detection that were employed in fictional literature long before they were widely accepted or even discovered for real-life situations. The criminal justice community has often been awakened to the possibility of using the methods of science to solve difficult problems through fictional accounts of brilliant detectives, usually to the thrilled delight of their readers.

One of the very first fictional “forensic” detectives was C. Auguste Dupin who first arose from the pen of Edgar Allen Poe in *The Murders in the Rue Morgue* (1841), *The Mystery of Marie Roget* (1842), and *The Purloined Letter* (1844). The fictional Dupin used a combination of deductive reasoning and insightful imagination to uncover the hidden causes and effects of baffling criminal mysteries – techniques that were not commonly employed by real investigators during the age when the stories were written. Poe’s work came about even before the term detective had

been put forward. The groundbreaking detective work of the fictional Dupin, a private citizen investigating crime for his own motivations rather than an official of the police force, proved to be both very popular with readers and led the way to new ways of thinking about solving crimes. Dupin also paved the way indirectly for the advent of probably the greatest of all fictional detectives, Sherlock Holmes. In fact, some of the “tricks” of mental reasoning and logic so closely attributed to the later Holmes actually first appeared with Dupin. For example, Dupin reads the mind of his friend (the story’s narrator) by deductively tracing his thoughts through fifteen minutes of silence to arrive, seemingly by magic, to the same mental place as his friend - just as Holmes did nearly forty years

The Mind Reading Holmes?

(excerpt from *The Adventure of the Cardboard Box* by Arthur C. Doyle, 1892)

“Finding that Holmes was too absorbed for conversation I had tossed aside the barren paper, and leaning back in my chair I fell into a brown study. Suddenly my companion’s voice broke in upon my thoughts.

“You are right, Watson,” said he. “It does seem a most preposterous way of settling a dispute.”

“Most preposterous!” I exclaimed, and then suddenly realizing how he had echoed the inmost thought of my soul, I sat up in my chair and stared at him in blank amazement.

“What is this, Holmes?” I cried. “This is beyond anything which I could have imagined.”

He laughed heartily at my perplexity.

“You remember,” said he, “that some little time ago when I read you the passage in one of Poe’s sketches in which a close reasoner follows the unspoken thoughts of his companion, you were inclined to treat the matter as a mere tour-de-force of the author. On my remarking that I was constantly in the habit of doing the same thing you expressed incredulity.”

“Oh, no!”

“Perhaps not with your tongue, my dear Watson, but certainly with your eyebrows. So when I saw you throw down your paper and enter upon a train of thought, I was very happy to have the opportunity of reading it off, and eventually of breaking into it, as a proof that I had been in rapport with you.”

But I was still far from satisfied. “In the example which you read to me,” said I, “the reasoner drew his conclusions from the actions of the man whom he observed. If I remember right, he stumbled over a heap of stones, looked up at the stars, and so on. But I have been seated quietly in my chair, and what clues can I have given you?”

“You do yourself an injustice. The features are given to man as the means by which he shall express his emotions, and yours are faithful servants.”

“Do you mean to say that you read my train of thoughts from my features?”

“Your features and especially your eyes. Perhaps you cannot yourself recall how your reverie commenced?”

“No, I cannot.”

“Then I will tell you. After throwing down your paper, which was the action which drew my attention to you, you sat for half a minute with a vacant expression. Then your eyes fixed themselves upon your newly framed picture of General Gordon, and I saw by the alteration in your face that a train of thought had been started. But it did not lead very far. Your eyes flashed across to the unframed portrait of Henry Ward Beecher which stands upon the top of your books. Then you glanced up at the wall, and of course your meaning was obvious. You were thinking that if the portrait were framed it would just cover that bare space and correspond with Gordon’s picture there.”

“You have followed me wonderfully!” I exclaimed.

“So far I could hardly have gone astray. But now your thoughts went back to Beecher, and you looked hard across as if you were studying the character in his features. Then your eyes ceased to pucker, but you continued to look across, and your face was thoughtful. You were recalling the incidents of Beecher’s career. I was well aware that you could not do this without thinking of the mission which he undertook on behalf of the North at the time of the Civil War, for I remember you expressing your passionate indignation at the way in which he was received by the more turbulent of our people. You felt so strongly about it that I knew you could not think of Beecher without thinking of that also. When a moment later I saw your eyes wander away from the picture, I suspected that your mind had now turned to the Civil War, and when I observed that your lips set, your eyes sparkled, and your hands clenched I was positive that you were indeed thinking of the gallantry which was shown by both sides in that desperate struggle. But then, again, your face grew sadder, you shook your head. You were dwelling upon the sadness and horror and useless waste of life. Your hand stole towards your own old wound and a smile quivered on your lips, which showed me that the ridiculous side of this method of settling international questions had forced itself upon your mind. At this point I agreed with you that it was preposterous and was glad to find that all my deductions had been correct.”

“Absolutely!” said I. “And now that you have explained it, I confess that I am as amazed as before.”

later to the incredulous Watson (see The “Mind Reading Holmes” inset box). One of Dupin’s methods was to imagine himself as the criminal – to “put himself into the criminal’s mind”, a technique now employed in some areas of forensic psychology, such as in a forensic “psychological autopsy” and criminal profiling. Poe’s Dupin established detective fiction as distinct from mystery fiction and focused upon analytical reasoning and logical deduction based upon careful observation. In essence, it encouraged a growing popular fascination with the scientific analysis of legal evidence in criminal cases that was just beginning to happen in real life.

While Dupin was the first, Holmes is certainly the most famous of all fictional detectives, whose technique grew from close observation, detailed measurement, and sharp scientific reasoning – the basis of modern forensic science. Holmes was the 1887 creation of Sir Arthur Conan Doyle, a Scottish physician who turned to writing to help fill the empty hours of a relatively unsuccessful medical practice. The fictional Holmes was loosely based upon Doyle’s medical school professor, Dr. Joseph Bell,



Figure 1.3.3. The “Many Faces of Sherlock Holmes” (<http://denverlibrary.org/content/sherlock-holmes-game-afoot-again-and-again>).

A Model for Holmes: Dr. Joe Bell

Dr. Joseph Bell, a professor of Arthur Conan Doyle’s, was an amazing observer who taught his students the power of observation and deductive reason. One classic example of Bell in instructing his students provides a glimpse into his methods:

"This, gentlemen" announced Professor Bell, "contains a very potent drug. To the taste it is intensely bitter. It is most offensive to the sense of smell. But I want you to test it by smell and taste; and, as I don’t ask anything of my students which I wouldn’t be willing to do myself, I will taste it before passing it round"

Here he dipped his finger in the liquid, and placed it in his mouth. The tumbler was passed round. With wry and sour faces the students followed the Professor’s lead. One after another tasted the liquid; varied and amusing were the grimaces made. The tumbler, having gone the round, was returned to the Professor.

"Gentlemen", said he, with a laugh, " I am deeply grieved to find that not one of you has developed this power of perception, which I so often speak about; for if you watched me closely, you would have found that, while I placed my forefinger in the medicine, it was the middle finger which found its way into my mouth" (from "The Original of Sherlock Holmes" by Dr. Harold Emery Jones).

from the University of Edinburgh Medical School. As his assistant at Edinburgh, Doyle had the chance to see Bell’s remarkable style and brilliance at work close up. Doyle wrote that Dr. Bell would often just sit in his receiving room and “diagnose the people as they came in, before they even opened their mouths. He would tell them details of their past life; and hardly would he ever make a mistake." When later creating the character of Sherlock Holmes, Doyle “thought of my old teacher Joe Bell, of his eagle face, of his curious ways, of his eerie trick of spotting details. If he were a detective he would surely reduce this fascinating but unorganized business to something nearer an exact science (Arthur Conan Doyle, from his autobiography)." Doyle once wrote

to Bell saying that “I do not think that [Holmes’] analytical work is in the least an exaggeration of some effects which I have seen you produce in the out-patient ward.”

The works of Doyle clearly captured the public imagination by solving fictional crimes that had baffled and bewildered the official police force. People would line up for days outside of news shops and booksellers awaiting the latest release of the serialized Holmes stories in *The Strand* magazine. The Holmes saga remains as popular today as it was when it was first released around the turn of the 20th century, with strong book sales, movies, new Holmes-based books by current authors, and worldwide Holmesian Societies celebrating the life and times of the great fictional detective (Figures 1.3.2 and 1.3.3).

While Holmes was purely fictional, essentially an artifact of Arthur Conan Doyle’s mind, his methods presaged and inspired many areas of criminal detection, making a lasting and significant contribution to modern forensic science. Sherlock Holmes’ use of keen observational skills coupled with his detached scientific approach shed light on seemingly intractable criminal problems. Holmes used

fingerprints before they were employed in real life investigations. And he certainly employed forensic chemistry in many of his “cases” long before the actual chemical analyses existed. Holmes, apart from what some modern detractors might say, was a consummate chemist and scientist. He saw



Figure 1.3.4. Agatha Christie’s brilliant detective Hercule Poirot (<http://onelondonone.blogspot.com/2010/09/miss-marple-and-hercule-poirot.html>).

Member’s Oath *The Detection Club*

Do you promise that your detectives shall well and truly detect the crimes presented to them using those wits which it may please you to bestow upon them and not placing reliance on nor making use of Divine Revelation, Feminine Intuition, Mumbo Jumbo, Jiggery-Pokery, Coincidence, or Act of God?

[Members of the club have included E.C. Bentley, G.K. Chesterton, Agatha Christie, Freeman Wills Crofts, Arthur Morrison, Baroness Emma Orczy, and Dorothy L. Sayers]

the need for detailed comparative analysis when he described his manuscript on a method for distinguishing “140 types of tobacco by their ashes” and the “anatomy of the human ear”. At the time when the Holmes saga began, police agencies were typically rather slow in adopting new methods into their investigations – often taking decades to accept new practices. Holmes’ use of fingerprints, chemical analyses, ballistics, handwriting analyses, cryptology, microscopic examinations of trace evidence, and many others methods certainly helped move police agencies to consider these techniques long before they would have under other circumstances.

The exploits of Holmes have served to inspire generations of detectives, both real and imaginary, to employ logical reasoning in their case work, including Edmund Locard. In fact, Sherlock Holmes (and not Arthur Conan Doyle) was inducted in 2002 into the UK’s Royal Society of Chemistry as a Fellow, a very prestigious honor, for his “pioneering work in forensic science.” Holmes’ famous words from *The Adventure of the Blanched Soldier* (1926) well encapsulates his reliance upon careful deduction and analytical reasoning based in the scientific method: “*The*

process” I said “starts upon the supposition that when you have eliminated all which is impossible, then whatever remains, however improbable, must be the truth.”

While Holmes occupies a central place in the development of modern forensic science, Doyle clearly is not the only author whose work has contributed to the development of modern forensic science. Characters such as Dorothy L. Sayers’ Lord Peter Wimsey and Agatha Christie’s Hercule Poirot (Figure 1.3.4) and Miss Jane Marple have helped lead the way for the use of deductive reasoning and application of the tenants of the scientific method into actual criminal investigations. These and other authors formed *The Detection Club* in 1930 to help each other with technical and

scientific aspects of their crime fiction and debated new directions for real science to follow in criminal detection. Their stories helped to cement in the public opinion the centrality of science in providing vital information in criminal cases. The works of these authors, in a way, have continued the Holmesian tradition, often through startlingly clear analyses based upon knowledge and observation, and with no less interest and devotion to their exploits by their readers.

Today, modern authors are continuing this long-standing tradition of science-based fictional super-sleuths. Laboratory-based forensic scientists and Holmesian detectives have made their way into our homes and theaters through television and movies.



Figure 1.3.5. Cast of CSI: New York Crime Scene Investigation (<http://watchesiny.info/season-6/>).

Detective, true crime, and forensic practitioners are perennially among the most popular of television shows. *CSI: Crime Scene Investigation*, *NCIS: Naval Criminal Investigative Services*, *Bones*, *Monk*, *Cold-Case Files*, and *House* are just a few of the popular programs that rely heavily upon scientific evidence to solving baffling cases, often with unlikely and intriguing twists and turns of the plot.

Recently, six of the top ten television shows were, not surprisingly, detective shows. These shows have spun off into a multitude of other fictional programs and movies that follow forensic pathologists, toxicologists, anthropologists, chemists, trace analysts, and many other forensic specialty professions as they go about their work. The general public is now not only comfortable with forensic evidence as never before, they actually seek out opportunities to test their “forensic skills” with whodunits.

But television shows and movies, such as *CSI* and *House*, have also had a much broader impact upon the criminal justice and medical examiner’s world in ways far more



Figure 1.3.6. Cast from the hit TV show *House* (www.entertainmentwallpaper.com/download/20017496/).

important to real life than just providing interesting entertainment and education. They raise both the expectation and the demand by the general public regarding the information that forensic science can provide, often by exaggerating to impossible levels the role that forensic science plays in cases.

These programs are believed by many legal professionals to inspire an unrealistic need and reliance upon “high tech” methods for all cases, both in police work and in legal prosecutions. Cases are considered “weak” unless all possible forms of forensic evidence are exhaustively presented during a trial, even if they are irrelevant. For example, in a recent case, the jury asked the judge why a DNA analysis of a blood sample from the crime scene had not been performed to show it came from the defendant – the reason it had not was that the defendant admitted that he had been at the crime scene and that the blood was his. In this case, the DNA analysis would have provided no additional information

CSI Effect

Definition of CSI Effect (*Nolo's Plain English Law Dictionary*): “A phenomenon reported by prosecutors who claim that television shows based on scientific crime solving have made actual jurors reluctant to vote to convict when, as is typically true, forensic evidence is neither necessary nor available.”

In a recent CSI Effect study (N.J. Schweitzer and M.J. Saks *Jurimetrics* Vol. 47, p. 357, 2007) “Compared to non-CSI viewers, CSI viewers were more critical of the forensic evidence presented at the trial, finding it less believable. Regarding their verdicts, 29% of non-CSI viewers said they would convict, compared to 18% of CSI viewers.”

(www.aboveaverageart.com/2010/09/)



evidence in criminal trials, even when unnecessary. This not only raises the prosecution’s burden of proof for a conviction to levels that just cannot be delivered by current science, the defense is also burdened by the jury’s exaggerated faith in the reliability of forensic evidence. This demand for more and more forensic analysis has placed increasing workloads upon existing forensic laboratories, with associated sky-rocketing costs for analytical equipment, specialized analyst training, and court appearances as experts that take scientists away from the lab to explain the complex and potentially useless evidence to lay juries. Some prosecutors are even now going to the lengths of bringing in experts to inform juries that they *don't*

that the court didn’t have already have and was, therefore, completely superfluous and certainly not needed – and, as we’ll see, therefore, not even admissible. The term “CSI Effect” has been coined to describe the observation that juries now demand and require forensic



Sherlock Holmes from the case of The Man with the Twisted Lip

(www.life.com/image/50670138).

need certain types of forensic evidence to render a verdict and that the absence of this evidence does not weaken a case. The CSI Effect has certainly engendered the public image that forensic science is fast, infallible, and always successful in catching the criminal – things that in reality are not always true. Not all crime scenes deliver testable DNA or other evidence – and evidence can degrade from environmental factors before it even reaches the lab.

Maybe part of the appeal of Holmes and other fictional detectives is that they personify all that we hope to see from forensic science – analytic reasoning, brilliant deduction, careful observation, detailed measurements, and supportable conclusions - all this while maintaining the highest ethical standards. But the successful characters also retain some of their clearly human traits and quirks that we can personally relate to and which endear them to us – they are, after all, human, and they create a connection between the impersonal and logical realm of forensic science and the real human world. Real-life forensic science also certainly has it's human side, crimes are not solved by science – it still takes a human intellect and creativity to bring it all together. But, despite all this, fiction has certainly been in the vanguard of the application of science to law that is so central to criminal justice today.