

Sherlock Holmes: Pioneer in Forensic Science

WRITTEN BY: James O'Brien

Between Edgar Allan Poe's invention of the detective story with "The Murders in the Rue Morgue" in 1841 and Arthur Conan Doyle's first Sherlock Holmes story *A Study in Scarlet* in 1887, chance and coincidence played a large part in crime fiction. Wilkie Collins's story "Who Killed Zebedee?" (1881) is just one of many such examples. But Conan Doyle resolved that his detective would solve his cases using reason. Getting plot ideas from Poe, he modeled Holmes partly on Poe's detective C. Auguste Dupin. Conan Doyle made Holmes a man of science and an innovator of forensic methods. Holmes is so much at the forefront of detection that he has authored several monographs on crime-solving techniques. In several instances the extremely well-read Conan Doyle depicted Holmes using methods years before they were adopted by official police forces in both Britain and America. The result was 60 stories in which logic, deduction, and science dominate detection methods.

Fingerprints, Typewriters, And Footprints

Holmes was quick to realize the value of fingerprint evidence. The first case in which fingerprints are mentioned is *The Sign of the Four* (1890); Scotland Yard did not begin to use fingerprints until 1901. Thirty-six years later in the 55th story, "The Adventure of the Three Gables" (1926), fingerprints still figure in detection. In "The Adventure of the Norwood Builder" (1903), the appearance of a fingerprint is the key piece of evidence in the solution of the crime. It is interesting to note that Conan Doyle chose to have Holmes use fingerprints but not Bertillonage (also called anthropometry), the system of identification invented by Alphonse Bertillon in Paris that pivoted on measuring 12 characteristics of the body. The two methods competed for forensic ascendancy for many years. By having Holmes use fingerprints rather than Bertillonage, the astute Conan Doyle picked the method with the soundest scientific future.

Holmes was also an innovator in the analysis of typewritten documents. In the one case involving a typewriter, "A Case of Identity" (1891), only Holmes concentrates on the fact that all the letters received by Mary Sutherland from Hosmer Angel are typewritten. He points out to Dr. Watson that absolutely nothing is handwritten in Angel's letters; even his name is typed and no signature is applied. This observation leads Holmes to the culprit. By obtaining a typewritten note from his suspect, Holmes brilliantly analyzes the idiosyncrasies of the man's typewriter. In the United States the Federal Bureau of Investigation (FBI) started its document analysis section in 1932. So, once again, Holmes was at the forefront of detection. (Holmes even mentions that he is thinking of writing a monograph on the typewriter and its relation to crime.)

Handwritten documents figure in nine stories. In fact, from handwriting Holmes is able to detect gender and to make deductions about the character of the writer. He can compare two samples of writing and deduce whether the persons are related. His expertise is such that Holmes has written a monograph on the dating of documents. His handwriting analysis in "The Adventure of the Reigate Squire" (1893) is particularly effective. Holmes observes that the incriminating note was jointly written by two related people. This allows him to quickly deduce that the Cunninghams, father and son, are the guilty parties. In "The Adventure of the Norwood Builder," Holmes can tell that Jonas Oldacre has written his will while riding on a train. Reasoning that no one would write such an important document on a train, Holmes is persuaded that the will is fraudulent. Thus, from the beginning of the case, Holmes is hot on the trail of the true culprit.

Another forensic tool used by Holmes is footprint analysis. His first use of footprints occurs in the first story (1887), and he is still using such prints as late as the 57th story, “The Adventure of the Lion’s Mane” (1926). “The Boscombe Valley Mystery” (1891) is solved almost totally by footprint analysis. Holmes can analyze footprints on a wide variety of surfaces: clay soil, snow, carpet, dust, mud, blood, ashes, and even a curtain. Once again, Holmes is such an expert that he has published a monograph on the tracing of footsteps, with some remarks upon the uses of plaster of Paris as a preserver of impressions.

Ciphers And Dogs

Holmes also solves a variety of ciphers. In “The Adventure of the Gloria Scott” (1893), he deduces that only every third word in the message that frightens old Trevor conveys the message to be read. A similar system was used in the American Civil War and was how young listeners of the Captain Midnight radio show in the 1940s used their decoders to get information about upcoming programs. In *The Valley of Fear* (1914–15), Holmes has a man planted inside the organization led by his nemesis, Professor James Moriarty. When Holmes receives an encoded message, he must first realize that the cipher uses a book. After deducing which book, he is able to retrieve the message. This is exactly how Benedict Arnold sent information to the British about General George Washington’s troop movements. But Holmes’s most successful use of cryptology occurs in “The Adventure of the Dancing Men” (1903). His analysis of the stick figure men left as messages is done by frequency analysis, starting with e as the most common letter. Conan Doyle was again following Poe, who earlier had used the same idea in “The Gold Bug” (1843). Holmes’s monograph on cryptology analyzes 160 separate ciphers.

Holmes was also an early user of dogs to solve crimes. In fact, Conan Doyle provides us with an interesting array of dog stories. The most famous line in all 60 stories, spoken by Inspector Gregory in “The Adventure of Silver Blaze” (1892)—“The dog did nothing in the night-time”—was directly in response to Sherlock’s reference to “the curious incident of the dog.” Gregory is puzzled by this enigmatic clue. Only Holmes seems to realize that the dog’s inaction is the clue; the dog should have done something. In “The Adventure of Shoscombe Old Place” (1927), Lady Beatrice Falder’s dog exhibits the exact opposite behaviour: he snarls when he should not have. This time the dog’s actions are the key to the solution. In two other cases Holmes employs dogs to follow the movements of people. In *The Sign of the Four*, the dog (Toby) fails to follow the odor of creosote to find Tonga, the Pygmy from the Andaman Islands. In “The Adventure of the Missing Three-Quarter” (1904), the dog (Pompey) successfully tracks Godfrey Staunton by the smell of aniseed. Elsewhere Holmes mentions yet another monograph he is thinking of writing—one on the use of dogs in detective work.

The canon of Holmes tales have been rated numerous times by various groups, and nearly every time the early stories receive the highest ratings. While it is true that Conan Doyle wanted to be done with Holmes in general—he was forced by the public to revive the character after having killed him off at Reichenbach Falls in “The Adventure of the Final Problem” (1893)—more than likely it is also no coincidence that the early stories contain the most forensic science, fascinatingly laid out by the compelling Holmes.

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