Journal of Criminal Law and Criminology

Volume 61 | Issue 3 Article 8

1971

Sherlock Holmes: Father of Scientific Crime and Detection

Stanton O. Berg

THE JOURNAL OF CRIMINAL LAW, CRIMINOLOGY AND POLICE SCIENCE
Vol. 61, No. 3

Printed in U.S.A.

SHERLOCK HOLMES: FATHER OF SCIENTIFIC CRIME DETECTION

STANTON O. BERG

The author is a consulting firearms expert in Minneapolis, Minn. He is a fellow in the American Academy of Forensic Sciences and a member of the International Association of Identification and several organizations interested in firearms. Mr. Berg has contributed to this Journal and other technical publications. He writes of his long interest in Sherlock Holmes, and this interesting presentation traces the interrelationship of the Sherlock Holmes stories and the growth of scientific crime detection.—EDITOR.

Reading has always been one of my most enjoyable pastimes. This interest resulted in my early introduction to Arthur Conan Doyle's *Sherlock Holmes*. I spent many enjoyable hours during my youth devouring the series of stories. A re-reading of the tales in later years has however been a continuing source of pleasure to me.

UNIVERSAL APPEAL

The Sherlock Holmes stories have presented a phenomenon of universal appeal. The master detective employing observation, deductive reasoning, and scientific knowledge has fascinated the young and the old, the rich and the poor. Somerset Maugham has written of the great admiration of Doyle and Holmes by the intelligentsia. Sherlock Holmes has appeared in 60 narratives (56 short stories and 4 full length novels) published between 1887 and 1927. The stories have enjoyed enormous international popularity down through the years. Scores of articles, essays, and books have been written analyzing the stories, their origin and the characters of both Holmes and Dr. Watson. A number of "Holmesian" clubs are in existence of which the "Baker Street Irregulars" is the most famous. President Franklin Roosevelt, a Holmes fan, is reported to have christened the Intelligence Department "Baker Street" during the Second World War. Even in the present space age there is little indication that the public affection for the "Holmesian" lore is about to die out. This current interest is evidenced by literature to be found in a diverse array of publications. The literature can be found in university publications, professional journals, newspaper feature articles, and even as full page color cartoons in *Playboy* magazine.

A GREATER SIGNIFICANCE

Because of the pleasure Mr. Holmes has given me, I suppose it is not unusual that I would seek to attach a significance to the literature that is greater then pure and simple entertainment. Aside from some admitted personal bias, I feel a strong case can be made that the famous sleuth had a decided stimulating influence on the development of modern scientific crime detection. I do not claim that this theory is original with me as other writers have briefly touched on the idea from time to time. I do not however find any in depth treatment of the concept that Holmes acted as a catalyst in the evolving of the modern investigative, identification and forensic sciences. I think it would be interesting at this point to review what others have had to say on this theory.

OTHER AUTHORS

The Criminologist Ashton-Wolfe writing in *The Illustrated London News* (27 February 1932) said:

> "Many of the methods *invented* by Conan Doyle are today in use in the scientific laboratories. Sherlock Holmes made the study of tobacco ashes his hobby. It was a *new* idea, but the police at once realised the importance of such specialised knowledge, and now every laboratory has a complete set of tables giving the appearance and composition of the various ashes . . . mud and soil from various districts are also classified much after the manner that Holmes described . . . poisons, hand-writing, stains, dust, footprints, traces of wheels, the shape and position of wounds . . . the theory of cryptograms, all these and many other excellent methods which germinated in Conan Doyle's fertile imagination are now part and parcel of every detective's scientific equipment."

Henry Morton Robinson in his book *Science Catches the Criminal* (1935) states:

> "When Sherlock Holmes whipped out his magnifying glass to examine a flake of Latakia tobacco found on the smyrna rug in the Boscombe Valley affair, he became not merely a very charming character in de-

tective fiction but an exponent of a whole new way of looking at life. The enormous popularity of Conan Doyle's hero and the downright affection in which he has been held for nearly fifty years can perhaps be best explained by identifying him with that elusive wraith known as the time spirit—the protean shadow that hovers over an age, compelling it to think, act, write its stories and catch its criminals in a highly particularized manner. For Sherlock Holmes dramatically typified the new spirit of investigative curiosity that broke over the world during the latter half of the nineteenth century; while he was endearing himself to us with his lenses and test tubes, other searchers and analysts—detectives all—were tracking down the constituent elements of matter, and delving into the atomic mystery of life itself... a new heaven and earth were unrolling before men's eyes, a heaven and earth that demanded to be explained in terms of the *new scientific method.*"

Sir Sydney Smith (Professor of Forensic Medicine, Edinburgh University and formerly Medico-Legal Expert to the Ministry of Justice, Egypt) in his autobiography *Mostly Murder* (1959) comments as follows:

"Therein lies the value of the Sherlock Holmes stories apart from their excellent entertainment. Today criminal investigation is a science, and the plodding policeman gaping admiringly at the gifted amateur is an anachronism. This was not always so and the change owes much to the influence of Sherlock Holmes. An author may feel satisfaction when his fiction is accepted as true to life. Conan Doyle had the rare, perhaps unique, distinction of seeing life become true to his fiction.... Full of significance and interest, however—especially to anyone concerned professionally with the detection of crime and criminals—is the anticipation of modern scientific methods of investigation. For instance, the use of the hand lens and the microscope; the measuring tape; the plaster cast of footprints; the extraction and examination of dust and the like from clothing; and the discrimination between bloodstains and other stains."

In the book *Conan Doyle—A Biography* by Pierre Nordon (1967) we find the following reference:

"The fact that the publication of Conan Doyle's first books coincided with progress in the science of criminology raised the question as to whether these could be cause and effect and if so to what degree. Conan Doyle's first novel was not exclusively concerned with detection, but he prepared the way by insisting on the value of observation and scientific methods. When Dr. Watson first meets Holmes, he finds him in the middle of a chemical experiment. Afterwards he gives proof of his skill by instantly recognising the origin of a mud stain."

Luke S. May (Criminologist, Director of the Scientific Detective Laboratories, President of the Institute of Scientific Criminology and President Emeritus of the Northwest Association of Sheriffs and Police) in his book *Crime's Nemesis* (1936) states the following:

"However, many of Bertillon's exploits in the scientific investigation of crime outrival those of Sherlock Holmes, the figment of Conan Doyle's imagination. Without disparaging progressive police officers of all nations, I believe that the writings of Conan Doyle have done more than any other one thing to stimulate active interest in the scientific and analytical investigation of crime. All of these men helped introduce a fundamentally new technique in crime detection."

Contemporaries of Holmes

Probably the greatest evidence of the value and influence of the Holmes stories can be found by looking to Holmes contemporaries in the fields of the police and forensic sciences. In this area we will examine some of the prominent pioneers who were responsible for developing our modern scientific crime investigation and identification methods. We will find that they were willing to give credit to Sherlock Holmes both as a teacher of scientific investigative methods as well as a germinator of the ideas they later fostered into being.

Bertillon is one of these. Alphonse Bertillon (1883–1914) a French criminologist is regarded by some as the creator of the forensic science. He encouraged the development of scientific methods in all areas of criminal investigation. He founded the Department of Judicial Identity in Paris and was its first chief. He is noted for devising the first scientific system for the identification of the person through a number of detailed anthropological measurements (Anthropometry). He also pioneered a standard system of criminal (Mugg) photography utilizing a full front and profile view. Bertillon, an early Sherlock Holmes fan, is quoted, as saying:

"I love detective stories. I would like to see Sherlock Holmes methods of reasoning adopted by all professional police."

Dr. Edmond Locard (described below) advises that a medico-legal study of the Sherlock Holmes stories was made by the faculty of medi-

cine at Lyons at the suggestion and request of Bertillon. (Even in the present day, the Sherlock Holmes stories are used as model investigative examples as evidenced by an article in the March 1964 *Journal of Criminal Law, Criminology and Police Science* entitled "The Manly Art of Observation and Deduction" by Hogan and Schwartz).

Dr. Edmond Locard was also willing to credit Sherlock Holmes with having considerable influence upon the development of scientific crime detection methods. Dr. Edmond Locard (1877–1966) was a French criminologist of great renown. His formal education was both in medicine and law. He sought the application of all kinds of scientific and laboratory methods to criminal investigation. He was director of the Laboratory of Technical Police of the Prefecture of the Rhone. This laboratory became an international center for study and research for students world wide. He was founder and director of the Institute of Criminalistics. He was the author of a number of books and papers on the subject of forensic science. He is noted for development of the identification technique known as Poroscopy. He also did considerable work in the area of dust analysis and authored papers on the results. He developed laboratory methods to facilitate questioned document examination. This consisted of microchemical methods of ink examination and a metrical analysis of handwriting. Irving Wallace in *The Sunday Gentlemen* (1965) quotes Locard:

> "Sherlock Holmes was the first to realize the importance of dust. I merely copied his methods."

In the novel *A Study in Scarlet* published in 1887, Holmes makes reference to a monograph he had written upon the subject of cigar ashes, their differences and distinctions. Dr. Locard turned this literary fiction into fact by subsequently writing a paper on the identification of tobaccos by a study of the ashes found at the scene of a crime.

Dr. Locard published a paper in 1922 (Paris) under the title of "Policiers de Romains et Policiers de Laboratoire," which attaches considerable importance to the influence of the Holmes stories on modern scientific crime detection. Locard also points out that the specialists in the field found considerable interest in the Sherlock Holmes tales. In 1929 a paper was published in the *Revue Internationale de Criminalistique* titled "The Analysis of Dust Traces," in which Locard states:

> "I hold that a police expert, or an examining magistrate, would not find it a waste of his time to read Doyle's novels. For, in the adventures of Sherlock Holmes, the detective is repeatedly asked to diagnose the origin of a speck of mud, which is nothing but moist dust. The presence of a spot on a shoe or pair of trousers immediately made known to Holmes the particular quarter of London from which his visitor had come, or the road he had traveled in the suburbs. A spot of clay and chalk originated in Horsham, a peculiar reddish bit of mud could be found nowhere but at the entrance to the post office in Wigmore street."

Further on in the paper, Locard indicates that the interest of his laboratory in the study of dust resulted from absorbing the ideas put forth by Holmes.

There has been the suggestion that perhaps Hans Gross, an Austrian, is really the one to be credited with the application of scientific methods to the fields of criminal investigation and identification. There is also the suggestion that Doyle may have actually gotten the ideas used in the Sherlock Holmes stories from reading Gross. Hans Gross was an examining magistrate in Graz, Austria and authored an early textbook on criminal investigation, *Handbuch für Untersuchungsrichter* (*Manual for Examining Magistrates*). The book many times changed and revised is still printed today under the title *Criminal Investigation*. In this book, Gross strongly advocated the application of scientific methods. Historical chronology would however tend to show that if anything, Gross received his ideas from Doyle and Holmes. The book by Gross was first published in 1893. The first Sherlock Holmes story was published in December 1887. (*A Study in Scarlet*) In fact by the time the Gross book came out Doyle had tired of his hero and arranged for the literary death of Holmes in the gorge of Reichenbach Falls. (*The Final Problem*, December 1893) The series of stories were later rejuvenated. There is of course no way of knowing whether Gross ever read the Sherlock Holmes stories, but history has established that the Holmes methods were the first in print.

Credit is also given to Sherlock Holmes by the German cipher expert Sittig, another of his contemporaries. Ernst Sittig (1887–) was a German linguist and cipher expert born in Berlin. He was professor at Konigsberg in 1926 and Tubingen in 1929. His special field was comparative Indo-European linguistics particularly Cyprian and Etruscan epigraphy, Germanistics and Lithuanian.

He published the *Cypriote* and the Etruscan inscriptions for the Prussian Academy of Science. He also authored several important works. Sittig gives Holmes credit for a description of the technique that he (Sittig) later used to decipher Cretan inscriptions. In the connection with this credit by Sittig it is interesting to note the following passages from *The Adventure of the Dancing Men* (December 1903):

> "I am fairly familiar with all forms of secret writings, and am myself the author of a trifling monograph upon the subject, in which I analyze one hundred and sixty separate ciphers, but I confess that this is entirely new to me. The object of those who invented the system has apparently been to conceal that these characters convey a message, and to give the idea that they are the mere random sketches of children."

Holmes then goes on to later describe in detail just how he was able to decipher the coded characters.

Evidence in the Stories

A review of the Sherlock Holmes stories and novels will quickly reveal the wide spectrum of scientific methods and interests utilized by Holmes in his many cases. Almost every one of the forensic sciences as we know them today is touched upon in some manner or the other. While the application of the many forensic sciences is standard procedure today, they were not so in Holmes' day. In the first Sherlock Holmes novel (*A Study in Scarlet*, 1887) Dr. Watson first meets Holmes in a chemical laboratory just as he made an important discovery:

> "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." ... "Why, man it is the most practical medico-legal discovery for years. Don't you see that it gives us an infallible test for blood stains?" ... "The old guaiacum test was very clumsy and uncertain. So is the microscopic examination for blood corpuscles. The latter is valueless if the stains are a few hours old. Now, this appears to act as well whether the blood is old or new. Had this test been invented, there are hundreds of men now walking the earth who would long ago have paid the penalty of their crimes." ... "Criminal cases are continually hinging upon that one point. A man is suspected of a crime months perhaps after it has been committed. His linen or clothes are examined and brownish stains discovered upon them. Are they blood stains, or rust stains, or fruit stains, or what are they? That is a question which has puzzled many an expert, and why? Because there was no reliable test. Now we have the Sherlock Holmes test, and there will no longer be any difficulty."

The importance of an accurate, sensitive and dependable test for blood was not over rated by Holmes. At the time this novel was published (1887) considerable work was being done in the area of blood or serology. It was near the end of the 19th century that a 100% reliable technique for the identification of bloodstains was discovered. This is the spectroscopic method. It was found that hemoglobin has a characteristic absorption spectrum. Spectroanalysis was found to also be an effective means of identification for very minute quantities of blood. It was in 1901 that Paul Uhlenhuth, a German professor, developed a method of distinguishing between animal and human blood. Thereafter methods for blood grouping and other serological discoveries quickly followed. There are numerous references throughout the series of stories concerning Holmes interest in chemical analysis and its application to the investigation of criminal matters. A typical example can be found in *The Naval Treaty* (October 1893):

> "Holmes was seated at his side table clad in his dressing gown and working hard over a chemical investigation. A large curved retort was boiling furiously in the bluish flame of a Bunsen burner, and the distilled drops were condensing into a two-litre measure. My friend hardly glanced up as I entered, and I, seeing that his investigation must be of importance, seated myself in an armchair and waited. He dipped into this bottle or that, drawing out a few drops of each with his glass pipette and finally brought a test tube containing a solution over to the table. In his right hand he held a slip of litmus paper. You come at a crisis, Watson, said he. If this paper remains blue, all is well. If it turns red, it means a man's life. He dipped into the test-tube and it flushed at once into a dull, dirty crimson. Hum! I thought as much! he cried."

Holmes' interest in tobacco ashes and their importance to criminal investigations was briefly mentioned above. The first reference to tobacco ashes can be found in *A Study in Scarlet* (1887):

> "I gathered up some scattered ashes from the floor. It was dark in colour and flaky—such an ash as is only made by a Trichinopoly. I have made a special study of cigar ashes—in fact, I have written a monograph upon the subject. I flatter myself that I

can distinguish at a glance the ash of any known brand either of cigar or of tobacco."

Further comment can be found in *The Sign of Four* (February 1890):

"Oh, didn't you know?" he cried, laughing. "Yes, I have been guilty of several monographs. They are all upon technical subjects. Here, for example, is one Upon the Distinction Between the Ashes of the Various Tobaccos. In it I enumerate a hundred and forty forms of cigar, cigarette, and pipe tobacco, with coloured plates illustrating the difference in the ash. It is a point which is continually turning up in criminal trials, and which is sometimes of supreme importance as a clue. If you can say definitely, for example, that some murder had been done by a man who was smoking an Indian Lunkah, it obviously narrows your field of search. To the trained eye there is as much difference between the black ash of a Trichinopoly and the white fluff of birds-eye as there is between a cabbage and a potato."

One can find other similar comments and illustrations in *The Boscombe Valley Mystery* (October 1891):

"He had stood behind that tree during the interview between the father and son. He had even smoked there. I found the ash of a cigar, which my special knowledge of tobacco ashes enables me to pronounce as an Indian cigar. I have, as you know, devoted some attention to this... Having found the ash, I then looked round and discovered the stump among the moss where he had tossed it. It was an Indian cigar, of the variety which are rolled in Rotterdam." "And the cigar-holder?" "I could see that the end had not been in his mouth. Therefore he used a holder. The tip had been cut off, not bitten off, but the cut was not a clean one, so I deduced a blunt pen-knife."

As a last example of Holmes' use of tobacco ashes is the one found in *The Resident Patient* (August 1893):

"Here are four cigar-ends that I picked out of the fireplace." "Hum!" said Holmes, "have you got his cigar-holder?" "No, I have seen none." "His cigar-case, then?" "Yes it was in his coat-pocket." Holmes opened it and smelled the single cigar which it contained. "Oh, this is a Havana, and these others are cigars of the peculiar sort which are imported by the Dutch from their East Indian colonies. They are usually wrapped in straw, you know, and are thinner for their length than any other brand." He picked up the four ends and examined them with his pocket-lens. "Two of these have been smoked from a holder and two without," said he. "Two have been cut by a not very sharp knife, and two have had the ends bitten off by a set of excellent teeth. This is no suicide, Mr. Lanner. It is a very deeply planned and cold blooded murder."

Mention was made earlier of Holmes' interest in the value of clues consisting of dust and dirt particles. An example is found in *The Five Orange Pips* (November 1891):

"You have come up from the south-west, I see." "Yes, from Horsham." "That clay and chalk mixture which I see upon your toe caps is quite distinctive."

Other examples are found through out the stories and such references can be found in *A Study in Scarlet* and *The Sign of the Four*.

The science of fingerprinting also receives some treatment in the Sherlock Holmes stories. One case briefly touches on fingerprints as a means of identification with an attempt at forgery of a thumb impression. The *Adventure of the Norwood Builder* published in October 1903, contains the following account:

"As he held the match nearer, I saw that it was more than a stain. It was the well marked print of a thumb. "Look at that with your magnifying glass, Mr. Holmes." "Yes, I am doing so." "Your are aware that no two thumb marks are alike?" "I have heard something of the kind." "Well then, will you please compare that print with this wax impression of young McFarlane's right thumb taken by my orders this morning?" As he held the waxen print close to the bloodstain, it did not take a magnifying glass to see that the two were undoubtedly from the same thumb. It was evident to me that our unfortunate client was lost... Very simply when those packets were sealed up, Jones Oldacre got McFarlane to secure one of the seals by putting his thumb upon the soft wax. It would be done so quickly and so naturally, that I daresay the young man himself has no recollection of it. Very likely it just so happened, and Oldacre had himself no notion of the use he would put it to. Brooding over the case in that den of his, it suddenly struck him what absolutely damming evidence he could make against McFarlane by using that thumb-mark. It was the simplest thing in the world for him to take a wax impression from the seal, to moisten it in as much blood as he could get from a pin-prick, and to put the mark upon the wall during the night, either with his own hand or with that of his house-keeper. If you examine among those documents which he took with him into his retreat, I will lay you a wager that you find the seal with the thumb-mark upon it."

Obviously much work had already been done in the broad area of fingerprints prior to the above Sherlock Holmes adventure appearing in print in October 1903. There had been the work of Herschel, Faulds, Purkinje, Galton, Vucetich, and Henry. Their work was however largely in the area of the anatomy, recording and classification of fingerprints. The results were almost entirely in the personal identification area of the field. Very little was being accomplished by way of latent print or crime scene identification of criminals. [Only Faulds had suggested it in his early publication. Ed.] It appears that the first recorded case of a crime scene fingerprint resulting in a conviction was a case in Argentina in 1892. A woman was convicted of murdering her two sons based on the discovery of several of her bloody fingerprints on the door of the children's room. The next case arose in India in 1897 where a conviction was obtained on a theft charge based on "two brown smudges" obtained at the scene. The third reported case occurred in Paris in 1902. This was a murder case in which several latent prints were discovered on a section of glass from a cabinet door. Bertillon (an old Sherlock Holmes fan) was credited with the identification which resulted in a conviction in 1903, the same year as the above Holmes story appeared. It is alleged that this is the *first* case where a criminal was identified solely by fingerprints from a record file at a time when he was not yet a suspect and his identity was still unknown. The first case in the United States was in New York in 1906. While the idea of crime scene fingerprint evidence was not entirely new when the Holmes story came out, it was still almost unheard of. I am sure that it served to focus some much needed attention on a very important area of criminal investigation and identification.

There is considerable material to be found in the Sherlock Holmes stories in the area of questioned documents. Many of the stories would be delightful reading for our document examiners. An interesting example is found in *A Case of Identity* (September 1891):

> "It is a curious thing," remarked Holmes, "that a typewriter has really quite as much individuality as a man's handwriting. Unless they are quite new, no two of them write exactly alike. Some letters get more worn than others and some wear only on one side... I think of writing another little monograph some of these days on the typewriter and it's relation to crime. It is a subject to which I have devoted some little attention."

In the matter of the identification of typewriters, it appears that Holmes was the first to recognize this potential. In the March 1967 issue of the *Journal of Criminal Law, Criminology and Police Science*, there is an interesting article by David A. Crown entitled "Landmarks in Typewriting Identification." The following is quoted from this article:

> "The earliest known reference to the identification potential of typewriting, curiously enough, appears in "A Case of Identity", a Sherlock Holmes story by Sir Arthur Conan Doyle... It has been established that Doyle recorded in his diary that he finished writing "A Case of Identity" on April 10, 1891. The source of Doyle's data has not been ascertained, but it is of interest that his approach to typewriting identification is sound and that his terminology is precise. The earliest comment in writing by a document examiner on typewriting identification was by Hagan in 1894."

In the *Hound of the Baskervilles* (August 1901) numerous suggestions are made concerning questioned document examinations. Holmes was involved in the examination of a threatening note made up of words cut out of a newspaper and attached to a sheet of paper to make up the message. The message read:

> "As you value your life or your reason keep away from the moor."

Holmes identified the words as having been cut out of the *Times* due to the difference in printers type. The words were determined to have been cut out with a very short bladed scissors, "since the cutter had to take two snips over 'keep away'." The words had been attached with "gum rather then paste." Holmes further concluded that the message was composed by a well educated man because the *Times* is "seldom found in the hands of any but the highly educated." Because the words were not gummed to the paper in an accurate line, he concluded that the composer of the message was careless or agitated and in a hurry. He also examined the "Foolscap" upon which the words were pasted to determine if there was a water-mark to be found. In the *Adventure of the Norwood Builder* (October 1903) Holmes is involved in the analysis of a will:

> "Holmes had picked up the pages which formed the

rough draft of the will and was looking at them with keene'st interest upon his face. "There are some points about that document, Lestrade are there not?" said he pushing them over. The official looked at them with a puzzled expression. "I can read the first few lines, and these in the middle of the second page, and one or two at the end. Those are as clear as print," said he, "but the writing in between is very bad, and there are three places where I cannot read it at all." "What do you make of that" said Holmes. "Well, what do you make of it?" "That it was written in a train. The good writing represents stations, the bad writing movement, and the very bad writing passing over points. A scientific expert would pronounce at once that this was drawn up on a suburban line, since nowhere save in the immediate vicinity of a great city could there be so quick a succession of points. Granting that his whole journey was occupied in drawing up the will, then the train was an express, only stopping once between Norwood and London Bridge."

Holmes does not over look the importance of the preservation of evidence by the techniques of casting. In *The Sign of Four* (February 1890) we find the following:

"You have an extraordinary genius for minutiae," I remarked. "I appreciate their importance. Here is my monograph upon the tracing of footsteps, with some remarks upon the uses of plaster of paris as a preserver of impresses."

Also in the same story is the following comments on the identity of bodies:

"Here too is a curious little work upon the influence of a trade upon the form of the hand, with lithotypes of the hands of slaters, sailors, cork cutters, compositors, weavers, and diamond polishers. That is a matter of great practical interest to the scientific detective—especially in cases of unclaimed bodies, or in discovering the antecedents of criminals."

The firearms examiner will also find many Holmes stories that involve the use of firearms. A particularly interesting story is that of the *Adventure of the Empty House* (September 1903). This story deals with the use of an early type and powerful air gun. Although the science of firearms identification or forensic ballistics as we know it today receives little attention, the importance of powder stains and markings on the clothing of the victim is clearly brought out. In the *Reigate Squires* (June 1893) we find the following account:

"The wounds upon the deadman was, as I was able to determine with absolute confidence, fired from a revolver at the distance of something over four yards. There was no powder-blackening on the clothes. Evidently, therefore, Alec Cunningham had lied when he said that the two men were struggling when the shot was fired."

Again in *The Adventure of the Dancing Men* (December 1903) we find mention of the importance of powder marks or stains:

"There was no powder marking either upon his dressing gown or upon his hands. According to the country surgeon, the lady had stains upon her face, but none upon her hand. The absence of the latter means nothing, though it's presence may mean everything" said Holmes."

It should be noted that apparently the first technical literature produced on the subject of powder markings was in the year 1898, some five years after the first Sherlock Holmes story covered its importance. The literature was published in France and was entitled "La Determination de La Distance a Laguelle un Coup de Deu a e'te Tire." by Corin. (Determination of the distance at which a shot has been discharged from a firearm.)

Whether or not you accept the case I have presented in behalf of Sherlock Holmes as the father of modern scientific crime detection, for sheer relaxation and vicarious reading entertainment, let me recommend the following: On the next evening of inclement weather, when the wind howls around your home and a cold rain or snow is falling, light a fire in the fire-place, put some soft classical music on the stereo, have a glass of dry wine at your elbow, select a volume of Sherlock Holmes and relax in your easy chair—

"It was on a bitterly cold and frosty morning, towards the end of the winter of '97, that I was awakened by a tugging at my shoulder. It was Holmes. The candle in his hand shone upon his eager, stooping face, and told me at a glance that something was amiss. "Come, Watson, come!" he cried. "The game is afoot"...