DETECTION METHODS PIONEERED BY SHERLOCK HOLMES

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Abstract: This paper undertakes the idea of forensic methods developed after they were mentioned in Sherlock Holmes, hence Sir ACD, who was a doctor in a way providing an idea to the actual pioneers of the methods developed later in real life, therefore helping the real world in a real manner by the means of fiction which is interesting and thrilling.

Keywords: ACD, Sherlock Holmes, fingerprint, Alphonse BertillonMitali
Abbreviation: ACD-Arthur Conan Doyle, DNA- Deoxyribonucleic acid,

[1]If a crime happened today, the police have innumerable ways to investigate the crime. They could take the fingerprint, DNA sample, track the footprints, see the security footage, etc. But at the time of Sherlock Holmes creation, the most useful thing a police could do was go door to door and ask questions in hope that someone's answer will differ from someone else's answer and they can capture the person and interrogate him/her. But when Sherlock Holmes came in the market, it changed the thinking process of policemen and they had started to take criminals and their crimes more seriously and hence they had developed many new technologies to capture criminals since then.

At present, I am only going to take few of his (Sherlock Holmes) concept and their history to show that a simple medical man was aged forward where the science was considered. There are some methods which precede the age and were actually used by police and detectives in real life, in later stages of the period frequently and repeatedly to ensure the arrest they had made.

Two of those famous methods are:

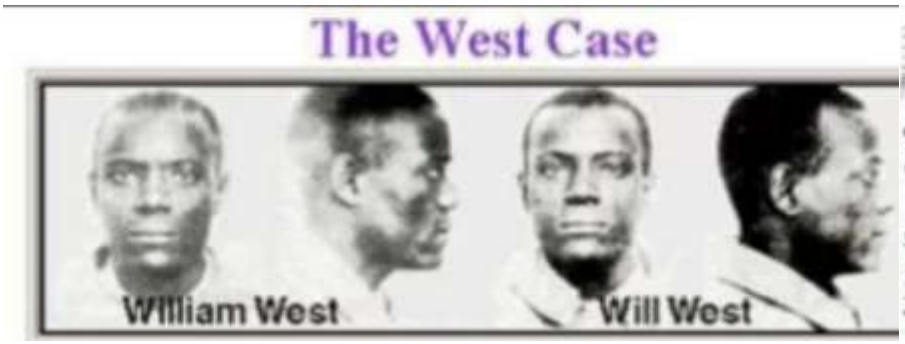
FINGERPRINT- [2] This method actually came into existence in Scotland in the year 1901, while our creator of Sherlock Holmes had bought this method in his novel in the year 1890.

[3]Let's understand what is fingerprint? Fingerprints are the traces of an impression from the friction ridges of any part of a human or other primate hand.

We cannot say that Arthur Conan Doyle had fully and correctly used this method but he had used a partial part of the technique related to this method in 'The Sign of Four' published in the year 1890, [4]" "There's the print of Wooden-leg's hand," he remarked as I mounted up beside him. "You see the slight smudge of blood upon the white plaster. What a lucky thing it is that we have had no very heavy rain since yesterday!" Here Sir Arthur Conan Doyle has used the partial concept of the fingerprint; here it was the print of hand of the antagonist.

Now let's talk about reality in the year 1901, [5] Sir Edward Henry, an Inspector General of Police in Bengal, India, develops the first system of classifying fingerprints. This system was first adopted by the official system in England and eventually spread throughout.

In the year 1908, there was a case (the West Case) which arouse the question of the reliability of *Bertillon measurement and it was decided that a more reliable source is required.



bertillon measurement test

*In 1882, Alphonse Bertillon, a French anthropologist devised a method of body measurements to produce a formula used to classify individuals

As a result, Bertillon system began to decline and use of fingerprints as the primary means of identification began to rise. [5]In the year 1908, the first official fingerprint card was developed.

[5]Before Arthur Conan Doyle has used this method in his fiction, a Scottish doctor in Tokyo, Japan had published an article in "Nature" regarding the concept in 1880. [6]But our originator (Sir ACD) was the first to use it for the purpose of a case and not in theory before the first case was ever recorded using fingerprint in Argentina in the year 1893.

Not exactly but in a way, we can say that not fully but partially Arthur Conan Doyle in his Sherlock Holmes had pioneered a method which is used by officials after many years, he did.

SPECTROSCOPIC METHOD- This is a method used to identify dried blood stain after some-time, or some years later. It is fore-mostly used by Sir Arthur Conan Doyle in the year 1887, while in reality, this method comes in forensic science in 1901, thirteen years later to that of what Sir Arthur had written. He had used this concept in his first novel, 'A Study in Scarlet' published in the year 1887. [7]In 'A Study in Scarlet', Holmes said "There's the scarlet thread of murder running through the colourless skein of life, and our duty is to unravel it, and isolate it, and expose every inch of it." Holmes's eyes fairly glittered as he spoke, and he put his hand over his heart and bowed as if to some applauding crowd conjured up by his imagination." [8]"Criminal cases are continually hinging upon that one point. A man is suspected of crime-months perhaps after stains discovered upon them. Are they blood stains, or mud 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."

What Holmes wants to say here was that he had found a test to identify that the particular stain is blood stain or something else, here Holmes said, [9]"I have found a reagent which precipitated by hemoglobin, and by nothing else."

[9]Here what Holmes wants to say that he has had found a chemical that precipitated only in presence of hemoglobin. If the stain is blood, it must have hemoglobin and it would precipitate and they (Holmes and others) would know that the stain is blood or something else. But there is no reagent on Earth which forms a precipitate with hemoglobin. So, here we can say that Sir Doyle had found something good and new for his reader at the time, he was not fully right in the method but he had stirred something because [10] it was in later years found that there are some chemicals that react with an enzyme called 'catalase', in blood and breaks down the hydrogen peroxide into water and oxygen gas and can be made sure that the stain is blood. $2H_2O_2 \xrightarrow{\text{catalase}} 2H_2O + O_2$

When this reaction occurs, the oxygen gas is released as bubbles.

[11]But later it was found out that other organism including plants and some bacteria, also make catalase. So now the criminal investigators do not practically use the catalase test at crime scenes. There is some other simple test, better at detecting very dilute concentration of blood like Benzidine, Takayama test, Tetra-methyl benzidine, Luminol, etc.

In 'A Study in Scarlet', Sherlock has used The Guiacum test, which was discovered in 1861-62, as Sherlock puts it: [12] "The old Guiacum test was very clumsy and uncertain." Just like other presumptive tests, it involved a colour change in the presence of hemoglobin. If the colour of the solution changes it has hemoglobin in it. But in the year 1901, [12] a guy named Paul Uhlenhuth discovered a mind-blowing

test that not just guaranteed the presence of blood but guaranteed presence of human-blood, with this it also involves precipitate and is called the 'precipitin test'. Actually, in this test, there is no reaction with hemoglobin here. In fact, in this test, the antigens present in the human blood reacts with human antibodies that are added to them to form a white precipitate.

precipitate test created by ACD

This test was closest to Holmes test, as it also creates precipitant of antigens the concept at the time unknown to Sir Doyle.

So not exactly Sir Arthur Conan Doyle's Sherlock Holmes pioneered the identification of blood stain but, being a doctor Sir ACD actually had helped the founder, Paul Uhlenhuth.

Work Citation

Primary Source

[4]Doyle, Sir Arthur Conan, Bantam Classic Sherlock Holmes The complete novels and short stories volume I, with an introduction by Loren D.Estleman, The Sign of Four, Chapter 7, page 172

[7]Doyle, Sir Arthur Conan, Bantam Classic Sherlock Holmes The complete novels and short stories volume I, with an introduction by Loren D.Estleman, A Study in Scarlet, Chapter-1, page 8

[8]Doyle, Sir Arthur Conan, Bantam Classic Sherlock Holmes The complete novels and short stories volume I, with an introduction by Loren D.Estleman, A Study in Scarlet, page 7 and 8 of Chapter-1 respectively

Secondary Source

[1]http://www.theguardian.com/how-sherlock-holmes-solved-crimes/Andrew-Lane/30-07-2011 Retrieved 30-05-2016

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