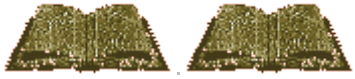
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A VISUAL FEAST

Hidden Evidence - The Story of Forensic Science and How it helped to solve 40 of the World's toughest crimes *by* David Owen. Senior Project Editor - Toria Leitch. Foreword by Thomas T. Noguchi,
First edition, 2000, Quintet Publishing Ltd, 6 Blundell Street, London N7 7BH. 240 Pages: ISBN 1-86155-278-5: Price $24.95
[also published by Firefly Books Ltd., 3680 Victoria Park Avenue, Willowdale, Ontario M2H 3K1, Canada. Firefly ISBN 1-55209-483-9 (paperback); 1-55209-492-8 (bound)]

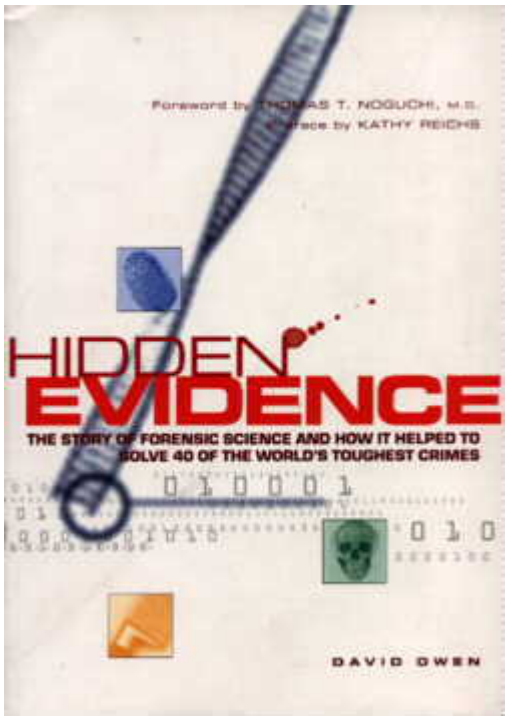
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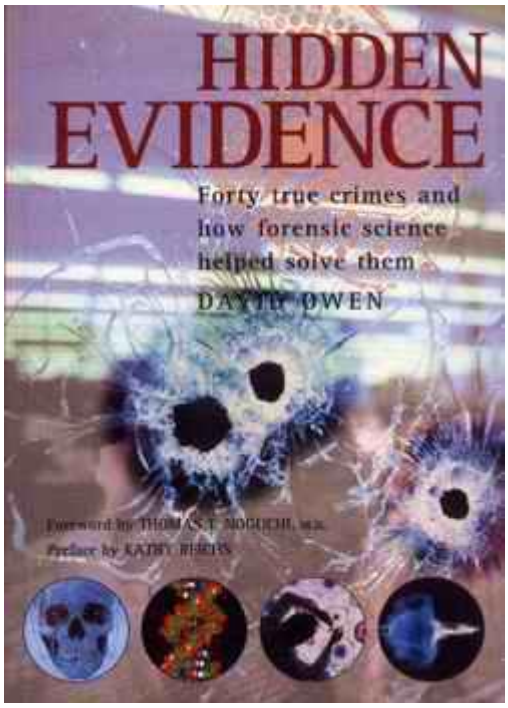
*(**Editor's Note:** This book has been published both by Quintet Publishing as well as Firefly books. Fortunately both publishers were kind enough to send a review copy to me. I am reproducing the cover of each below. Content of both books is exactly the same.)*

With the rise in crime in recent times, and associated sophistication of crime detection techniques, public awareness towards forensic science has also increased. Now many persons not only want to see the killer caught, but are curious to know how he was caught. What techniques did the police use to catch him? How did the police outsmart the criminal? Newspapers do give the story somewhat, but mostly lack the space to give the background. So a non-initiated is generally left wondering what a particular technique, say DNA profiling, which helped catch the criminal, is all about.

Quintet Cover. Click cover to buy from Amazon.



Firefly Cover. Click cover to buy from Amazon.



The book under review serves as an excellent material to give the general reader a good background into all techniques forensic scientists employ to catch criminals. Sample some questions. What is meant by rigor mortis, and how do forensic scientists use it to determine time since death? How can maggots tell you the time of a person's death? How can tattoos help to identify a person. How can scientists tell the distance from which a person was shot dead? How can they tell which gun was used? How do they tell if the person was first killed and then thrown in water, or he died accidentally while taking a bath? How do they tell which poison was administered to kill a person? How can scientists discover forged documents, wills and banknotes? These and thousands of other similar questions are dealt with in this book.

The book is divided in fifteen chapters divided in three sections. The first section is introductory in nature and contains just three chapters. The second section titled "Weapons of the criminal" contains six chapters (from Chapter 4 to 9). This section details the methods which criminals generally employ to achieve their means. Topics which are dealt with in this section are poisons, knives and blunt instruments, strangulation and suffocation, drowning, burning, guns, fire and explosives. Section 3 entitled "Unmasking the criminal" contains another six chapters (from Chapters 10 to 15). This gives the various methods forensic scientists use to catch the criminals. This section could actually have been named "Weapons of the forensic scientists" which would have rhymed well with the name of the second section. This is actually what this section deals with. How do scientists deal with frauds and forgeries? How do they use fingerprints and footprints to their advantage? How is trace evidence recovered and how do scientists derive information from it? How is identity established from blood and DNA? And finally the section tells us what the future holds for forensic science.

View this book on Amazon

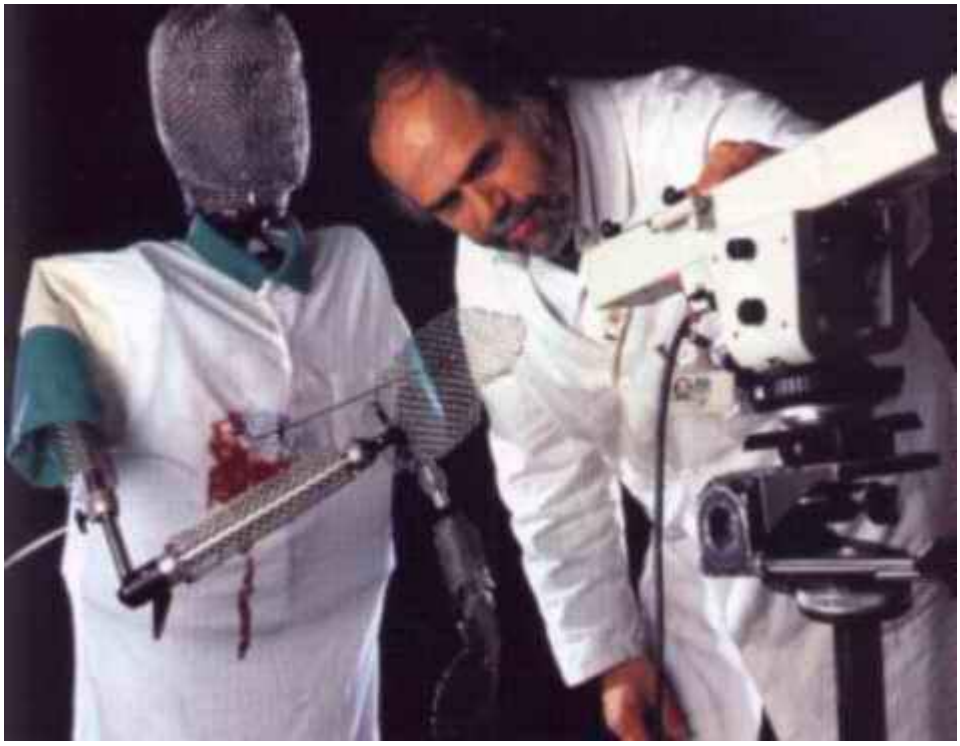
A sample page from this book(Click to enlarge in a new window)



In addition to this, the book gives a comprehensive glossary in the end, and forty interesting cases which forensic science solved using the various means described in the book. These cases are not lumped together, but are scattered at appropriate chapters and places. For instance, the case in which one Thomas Jennings was caught with the help of his fingerprints (he, by the way, was the first felon in the US to have been convicted on fingerprint evidence), is given in eleventh chapter entitled "Fingerprints and Footprints". This is an interesting way to impart information. The reader is first told how fingerprints are lifted, the science behind it, latest developments, the latest techniques and so on. And then some historically important cases in which these techniques were used and how they were used. In this particular case (Case study number 25), which occurred in 1910, Thomas Jennings broke house and killed its owner Clarence Hiller during an attempted burglary. He succeeded in escaping from the house, but was arrested less than a mile from the place of murder. Quite ironically Hiller had painted some railings next to his window only a day before. While crossing those railings, Hiller's fingerprints got imprinted on the wet paint (which

later dried), and thus a perfect set of fingerprints was preserved. Jennings was convicted on this evidence and was hanged! Almost 75 years later, another criminal Richard Ramirez was sentenced to death, on similar evidence - fingerprints (Case study number 37). This case is given in the last chapter 15 entitled "The future of forensic science". One might wonder why the case related to fingerprints appears here. The reason is that fingerprints were searched in a very innovative way in this case - by computers. This might be one of the powerful future techniques of forensic science. In this particular case, Richard Ramirez started a series of violent murders in June 1984. Twelve murders were committed before a victim managed to escape. He even noted the number of the car in which Ramirez was traveling. The car turned out to be a stolen one, but what was important was that the scientists were able to recover a single fingerprint from it, which was fed into the large database maintained by the police. A computer searched the vast database and zeroed in on Richard Ramirez, who was later arrested. He was charged with murders and was eventually sentenced to death on November 7, 1989.

How a laser beam can be used by forensic scientists to determine the precise path taken by a bullet



The book gives forty such important and illustrative cases - some relatively unknown, others very well known. Take the case of Kennedy's assassination for instance (Case study number 6). There is a widespread belief that besides the convicted killer Lee Harvey Oswald, there was some other killer involved too, which the police never could get hold of. The rumors were so wide, persistent and intense that in November 1977, fourteen years after the assassination, the Government was forced to reexamine the case. The bullet fragments recovered from the scene and from Governor Connolly's wrist were put to a special technique Neutron Activation Analysis (or NAA in short). It was discovered from the tests that both the bullets were fired from the same gun. Thus the theory of a second killer did not seem to hold water.

How can dentures help in identifying criminals and victims? Read it in Case study number 1. This interesting case occurred in 1775. A coppersmith by the name of Paul Revere made a set of dentures for his friend, Dr. Joseph Warren. The teeth, held together with silver wire, were

supported by a bridge made from the tusk of a hippopotamus. This interesting peculiarity ultimately helped to track his body. Warren was killed at the Battle of Bunker Hill and buried in a mass grave. His family wished that he should be brought back to England. He was exhumed along with others, and was properly identified by Paul Revere by the dentures.

You would find interesting case studies like Pan Am Flight 103, World Trade Center and the Oklahoma Bombing and how the forensic scientists tracked down the criminals. These studies are given in the chapter on fire and explosions. Take Pan Am Flight 103 for instance which crashed near the Scottish town of Lockerbie on December 21, 1988 (Case study number 20). All 259 people aboard perished, as well as eleven more who were on the ground. Twenty one local houses were destroyed and the impact caused an earthquake of sorts, registering as much as 1.6 on the Richter scale.

This is what was left at the Alfred P. Murrah Federal Building in Oklahoma city after the Bombing



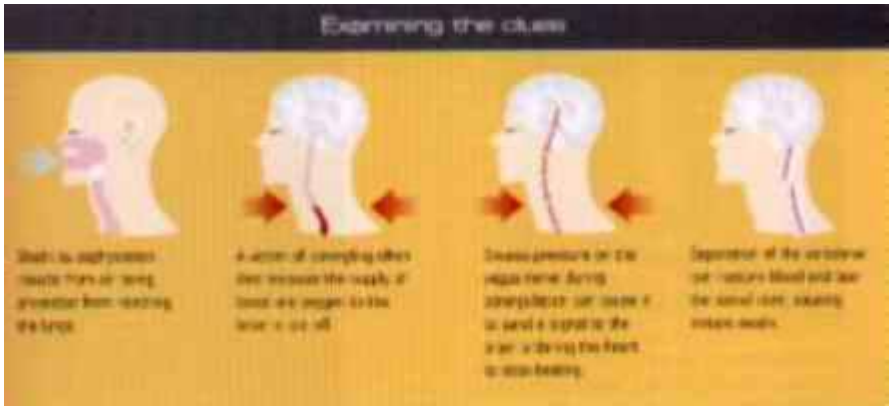
...One of the remarkable features of this book is the innumerable number of photographs present on every page. Open the book anywhere, and you are likely to see not less than 6-8 photographs. Apparently the team has collected so many photographs, that they have had to give many of them as backgrounds...

Forensic science was successful in unraveling much of the mystery around this crash. The investigation started with the postmortem of the victims. Their lungs were damaged, which indicated that they had undergone violent decompression. This in turn meant that the aircraft had disintegrated in the air. Ninety percent of the plane's debris was collected and used to reconstruct the plane. Flight data recorder did not reveal any abnormalities. There was no sign of fatigue or corrosion in the engine or the bodywork. Traces of a plastic explosive were found and investigators discovered that this explosive was in a radio cassette player which in turn was hidden in a brown suitcase. By clever deductions - too detailed to be mentioned in this short review - investigators were even able to establish that this fatal cargo was uploaded in Frankfurt, that the suitcase contained clothes that were bought in Malta, that it was a Libyan who bought these clothes, and that he had failed to board this flight! From this clever piece of deduction, airline companies discovered many new things. Foremost was that it was very easy for someone to upload a fatal

cargo, and not take the flight himself. So the companies changed their policy. Now if a passenger fails to board a flight, his cargo is also rejected.

Readers must be aware of two most devastating explosions which occurred in recent times - both in the USA, and both within a span of two years. Both these crimes were also cleverly solved with the help of forensic science, as this book tells us. The first case was that of an explosion in the World Trade Center in 1993. By a clever train of deductions, forensic scientists were able to nab six conspirators all of whom were sentenced to life imprisoned. The case of Oklahoma bombing, in which Timothy McVeigh was sentenced to death, was solved in a similar way.

Explanation of of various modes of death in asphyxia(Click to enlarge in a new window)



Read more of these cases, and you would continue turning for more. You would find how the Hitler Diaries were forged and how scientists discovered those forgeries and how Michael Barrett was caught who apparently forged diaries of none less a character than Jack the Ripper! You would read how scientists discovered that Robert Maxwell, the famous British publisher and newspaper tycoon was not killed by Israel's Mossad (as many rumors would have us believe), but drowned accidentally, how they discovered the remains of Tsar Nicholas II and those of Dr. Josef Mengele and how they found out using DNA evidence that it was Colin Pitchfork who had raped and murdered two young girls Lynda Mann and Dawn Ashworth.

The book explains the mode of death and the science behind most of the forensic techniques using good quality diagrams and charts. For instance in the chapter on "Strangulation and Suffocation" the author talks about four different kinds of deaths - death by asphyxiation, strangling, excess pressure on vagus nerve and separation of vertebrae. Without appropriate diagrams, these terms could have been merely meaningless words in the mind of the general reader, but the author goes on to give simple illustrative diagrams, which are quite simple to follow and understand. This is a very good way to impart information.

The Tollund man, who was killed by hanging



One of the remarkable features of this book is the innumerable number of photographs present on every page. Open the book anywhere, and you are likely to see not less than 6-8 photographs. Apparently the team has collected so many photographs, that they have had to give many of them as backgrounds. Not only this, many of the photographs are quite rare and historical in nature which are hard to see otherwise. The editorial team has done commendable work collecting these photographs. I will give you an example. I have several dedicated books on Jack the Ripper in my possession, but in none of the books photographs of prostitutes who were murdered are given. This book gives photographs of Mary Jane Kelly and Anne Chapman - both victims of the Ripper (on page 10), as also photographs of some of the contemporary papers giving news about the "unidentified killer". It is almost like a time travel back in history.

Similarly in the chapter on Hanging and strangulation, the author goes on to give a very interesting photograph of the Tollund man. He dates from about 240-20 B.C. This very well preserved body of a male ranging in age between 30-40 was found in Jutland, Denmark. The mark on his neck shows that he was hanged with a braided leather noose in either a murder or a religious sacrifice. I have seen this photograph before only in one book ("The Essentials of Forensic Medicine, 4th edition by Polson, Gee and Knight). This book thus brings rare photographs within the reach of general readers. Many of these were till now available only in technical books.

The book is high recommended for persons who not only want to read true crime stories but want to know the science behind them.

Order *Hidden Evidence* by Clicking here

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