ninth edition

CRIMINAL INVESTIGATION

The Art and the Science

MICHAEL D. LYMAN

CRIMINAL INVESTIGATION

Ninth Edition

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Dedication

This book is the direct result of over 40 years of my involvement with the field of criminal investigation, from my many years as a criminal investigator in the field, my time as a full-time, certified police academy instructor, to my 28 years as a college professor, teaching both under graduate and graduate students. Also contributing to this work is my 30-year publishing record and my experience reviewing over 400 cases involving police incidents and investigations throughout the nation where I have provided written analysis and/or sworn testimony in federal court as an expert in police procedures.

All of these learning experiences have led to the latest edition of this book. Of course, I must mention that without the love and support of my wife, Julie, and my daughter, Kelsey, I couldn't have endeavored to complete such a considerable project nor could I have done so without the continued support of the dedicated men and women working within our nation's law enforcement community. I sincerely hope you enjoy this new edition.

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PREFACE

Criminal investigation represents a timeless and dynamic field of scientific study. This book, now in its ninth edition, was written with the perception that crime detection is a field that relies heavily on the past experiences of investigators as well as recent practical, forensic, and technological innovations. The investigator's success in crime detection can be influenced by several external variables. For example, increased pressure by public interest groups and courts of law has caused police supervisors to place greater emphasis on case management and investigator accountability. In addition, because of increased social problems associated with the use of cellular and computer technology along with cloud storage of information and GPS technology, the public spotlight has focused more than ever before on methods of crime detection and the successful prosecution of offenders. Finally, due to the ongoing incidence of active shooter events and soaring violent crime rates, the public is now more insistent that criminal investigations are conducted quickly and with thoroughness.

NEW AND UPDATED INFORMATION

- Updated and enhanced case studies, photographs, charts and graphics
- New "closer look" vignettes
- Enhanced "history of policing" material
- Expanded information on crime scene walkthrough and neighborhood canvass
- New sections on social media and criminal investigations
- Enhanced information on identifying suspects
- New section on cross-racial witness identification
- Expanded discussion on the history of criminal investigation containing biographical vignettes on pioneers in criminal investigation
- New case studies of: The shooting of Michael Brown in Ferguson, Missouri; The shooting of Laquan McDonald in Chicago, Illinois; The shooting of Walter Scott in Charleston, South Carolina.
- Expanded section on "tunnel vision" and "anchoring" in the investigative thought process
- Updated samples of investigative forms including: Crime scene work sheet form; Victim information form; Crime scene checklist form and Crime scene security log form
- Updated section on "Cloud-based" searches for digital evidence and digital search warrants
- Updated section on investigative detentions and consensual encounters
- Expanded information on new intelligence gathering technology including police license plate readers and facial recognition technology
- Expanded discussion on tracking social media for investigative leads

NEW AND UPDATED GRAPHICS

Figures have been updated throughout the text, and more illustrations have been added to support key information, especially regarding the surveillance of criminal suspects in Chapter 7.

UPDATED CASE STUDIES

New case study examples have been added, The shooting of Michael Brown in Ferguson, Missouri; The shooting of Laquan McDonald in Chicago, Illinois; and The shooting of Walter Scott in Charleston, South Carolina.

NEW CHAPTER: INVESTIGATION OF OFFICER-INVOLVED SHOOTINGS (CHAPTER 18)

Refreshing overview of an ongoing investigative challenge—investigating officer-involved shootings. Timely introduction for students who wish to understand the importance of conducting one of the profession's most thought-provoking types of investigation. Topics include:

- The Extent of Officer-Involved Shootings
- Perspectives on the Investigative Process
- Case Studies
- Description of the Shooting Scene
- Evidence at the Shooting Scene
- DNA Evidence
- Evidence from the Medical Examiner
- Importance of Investigating Officer-Involved Shootings
- Involved Officer(s') Responsibilities
- Supervisor Responsibilities
- The Investigator's Responsibilities
- Officer Interviews and Perceptual Distortions
- Claims That the Suspect Was Armed
- The Force Review Board

LEARNING OBJECTIVES

The learning objectives at the beginning of each chapter ("This chapter will enable you to:") have been rewritten in streamlined language to provide a concise overview of what readers can expect to learn from each chapter.

This book is intended to meet the needs of students and others interested in criminal justice by presenting information in a logical flow, paralleling the steps and considerations observed in an actual criminal investigation. Additionally, it is designed to fulfill an ongoing need for a book that explains clearly and thoughtfully the fundamentals of criminal investigation as practiced by police investigators on the job in communities across the nation.

The book is written with several observations in mind. First, as its title indicates, it is designed to blend scientific theories of crime detection with a practical approach to criminal investigation. Its underlying assumption is that sound criminal investigations depend on an understanding of the science of crime detection procedures and the art of anticipating human behavior. There is yet another critical observation made in the book: It recognizes that both the uniformed officer and the criminal investigator play important roles in the field of criminal investigation. The duties of each are outlined throughout the book, recognizing that there is a fundamental need for both to work in tandem throughout many aspects of the criminal investigation process.

One underlying theme of the book is that, as with all police endeavors, criminal investigation is a law enforcement responsibility that must be conducted within the framework of the U.S. Constitution and the practices of a democratic society. Consequently, court decisions and case studies have been quoted extensively for clarifications of issues and general reader information.

INSTRUCTOR-FRIENDLY ORGANIZATION

For more efficient use, this book has been designed to follow closely to a standard curriculum format. The 18 Chapter organization is designed to make it easier for instructors to align their coverage of the text's material with the class schedule and academic term.

A CLOSER LOOK

In most chapters, this box addresses selected chapter topics in depth, such as technology, careers, tools and techniques, and issues in criminal investigation.

CASE IN POINT

Near the end of most chapters, this box presents case examples of the types of crime discussed in the chapters, and the procedures and techniques that were used to investigate each case. Most boxes conclude with one or more Thematic Questions that ask students to consider the ethical choices, legal implications, and other issues involved in the investigation.

SUMMARY CHECKLIST

At the end of each chapter, this checklist offers review questions followed by bulleted responses to test students' knowledge of the main Chapter concepts and serves as a study tool for review. A list of Key Terms and Discussion Questions are also included at the end of each chapter.

In summary, I am hopeful that this will prove to be an engaging textbook that is descriptive of the duties of modern-day crime detection and police professionalism. Accordingly, each chapter contains key terms and discussion questions that also aid in the instructional process. Finally, as a learning aid, this text is accompanied by a companion website that offers videos and test items as well as many other learning tools. I know this book will provide you with what you need to understand the art of criminal investigation as well as the many new forms of scientific innovations that modern investigators now use to catch perpetrators of some of the nation's most heinous crimes. Read and enjoy!

INSTRUCTOR SUPPLEMENTS

The following supplementary materials are available to support instructors' use of the main text:

- ***Instructor's Manual with Test Bank.*** Includes content outlines for classroom discussion, teaching suggestions, and answers to selected end-of-chapter questions from the text. This also contains a Word document version of the test bank.
- ***TestGen.*** This computerized test generation system gives you maximum flexibility in creating and administering tests on paper, electronically, or online. It provides state-of-the-art features for viewing and editing test bank questions, dragging a selected question into a test you are creating, and printing sleek, formatted tests in a variety of layouts. Select test items from test banks included with TestGen for quick test creation, or write your own questions from scratch. TestGen's random generator provides the option to display different text or calculated number values each time questions are used.
- ***PowerPoint Presentations.*** Our presentations offer clear, straightforward outlines and notes to use for class lectures or study materials. Photos, illustrations, charts, and tables from the book are included in the presentations when applicable.

To access supplementary materials online, instructors need to request an instructor access code. Go to **www.pearsonhighered.com/irc**, where you can register for an instructor access code. Within 48 hours after registering, you will receive a confirming email, including an instructor access code. Once you have received your code, go to the site and log on for full instructions on downloading the materials you wish to use.

ALTERNATE VERSIONS

eBooks This text is also available in multiple eBook formats. These are an exciting new choice for students looking to save money. As an alternative to purchasing the printed textbook, students can purchase an electronic version of the same content. With an eTextbook, students can search the text, make notes online, print out reading assignments that incorporate lecture notes, and bookmark important passages for later review. For more information, visit your favorite online eBook reseller or visit www.mypearsonstore.com.

REVEL *CRIMINAL INVESTIGATION: THE ART AND SCIENCE,* 9TH EDITION BY LYMAN

Designed for how you want to teach—and how your students want to learn

Revel is an interactive learning environment that engages students and helps them prepare for your class. Reimagining their content, our authors integrate media and assessment throughout the narrative so students can read, explore, and practice, all at the same time. Thanks to this dynamic reading experience, students come to class prepared to discuss, apply, and learn about criminal justice—from you and from each other.

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Author Explanatory Videos

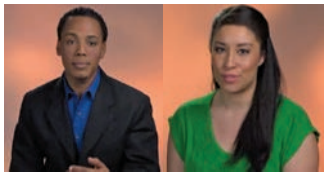
Short 2–3 minute Author Explanatory Videos, embedded in the narrative, provide students with a verbal explanation of an important topic or concept and illuminating the concept with additional examples.

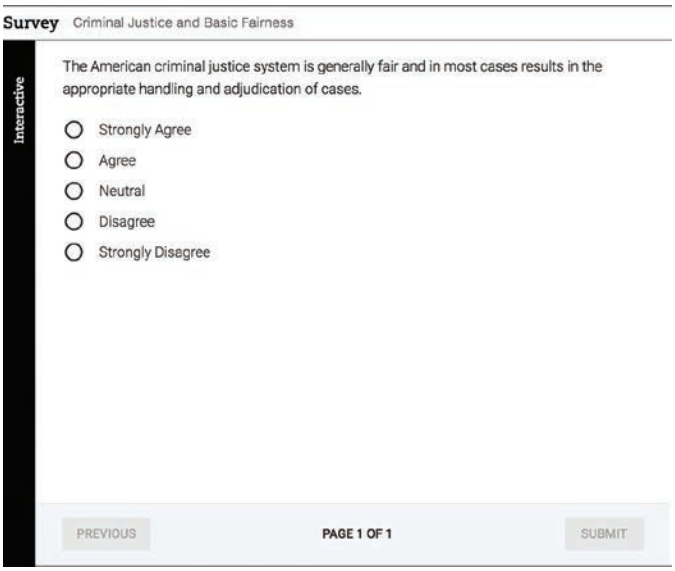
Author Explanatory Videos

Point/CounterPoint Videos

Instead of simply reading about criminal justice, students are empowered to think critically about key topics through Point/Counterpoint videos that explore different views on controversial issues such as the effectiveness of the fourth amendment, privacy, search and seizure, Miranda, prisoner rights, death penalty, and many other topics.

Point/CounterPoint Videos





New Student Survey Questions

Student Survey Questions appear within the narrative asking students to respond to questions about controversial topics and important concepts. Students then see their response versus the responses of all other students who have answered the question in the form of a bar chart. We provide the instructor with a PowerPoint deck with links to each survey and map, making it easy to pull these items up in class for discussion.

Track Time-on-Task throughout the Course

The Performance Dashboard allows you to see how much time the class or individual students have spent reading a section or doing an assignment, as well as points earned per assignment. This data helps correlate study time with performance and provides a window into where students may be having difficulty with the material.

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ACKNOWLEDGMENTS

No book can be written entirely as a solo effort, and this project is no exception. The preparation of this book represents hundreds of painstaking hours maintaining continuous contact with criminal justice agencies, federal information clearinghouses, police practitioners, and colleagues in the field of criminal justice. In addition, to offer the reader the most up-to-date and relevant information, it was important to consult libraries, police journals, periodicals, newspapers, government publications, and other sources of literature germane to the field of crime detection on an ongoing basis.

Many persons were helpful in the preparation of this book, including practitioners in the field as well as experts in academe. Among these, the contributions of certain persons deserve special recognition. Included are the men and women of the Columbia Police Department, the Missouri State Highway Patrol, agents from the Federal Bureau of Investigation and Drug Enforcement Administration, contributors from the Department of Homeland Security, and the International Association of Chiefs of Police.

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Without the support and assistance of all these people and many more, this book would not have become a reality. Thank you all.

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Michael D. Lyman is Professor of Criminal Justice at Columbia College of Missouri, located in Columbia, MO. In addition to being a teaching faculty member, he serves as the program coordinator for the Master of Science of Criminal Justice Program and the founder of the college's Bachelor of Science in Forensic Science Program. Before entering the field of college teaching, he was employed as a criminal investigator for state police organizations in Kansas and Oklahoma and has taught literally thousands of law enforcement officers the proper police techniques and methods of professional criminal investigation. Dr. Lyman has authored eight textbooks in criminal justice dealing with the areas of criminal investigation, policing, organized crime, drug enforcement, and drug trafficking. He received both his bachelor's and master's degrees from Wichita State University and his Ph.D. from the University of Missouri, Columbia. Over the last 20 years, as an expert witness, he has been called upon on an estimated 450 occasions by law enforcement and the legal community to review and evaluate criminal investigations and testify in federal court proceeding nationwide as to the results of his evaluations and his opinions.

Textbooks such as this are an ongoing work in progress, and the author welcomes communication and correspondence about his work. Dr. Lyman can be contacted at Columbia College, 1001 Rogers Street, Columbia, MO 65216 or at mlyman@cougars.ccis.edu. Thank you for using this textbook.

Federicofoto/123RF

CHAPTER ONE

FOUNDATIONS AND HISTORY OF CRIMINAL INVESTIGATION

Learning Objectives

This chapter will enable you to:

1. Distinguish between the romance and reality of crime solving.
2. Describe the historical context of criminal investigation.
3. Describe the role of criminal investigation research and its increasing contribution in crime detection.
4. State the objectives of a properly conducted criminal investigation.
5. List the modes and types of investigations.
6. Explain the role of the criminal investigator.

INTRODUCTION

IT WAS A STRING OF *sadistic rapes and murders that spread terror throughout California, long before the term was commonly used. A countless number of attacks in the 1970s and 1980s went unsolved for more than three decades but on April 25, 2018, law enforcement officials arrested 72-year-old Joseph James DeAngelo, the notorious Golden State Killer, in a suburb of Sacramento (Figures 1.1 and 1.2).*

DeAngelo was taken into custody outside his home on Tuesday and charged with six counts of murder. He had been living undisturbed a 30-minute drive from where the 12-year crime spree began. Disturbingly, DeAngelo was a former police officer in two small California cities: in Exeter, in the Central Valley, from 1973 to 1976, and in Auburn, north of Sacramento, from 1976 to 1979. His time in uniform partly overlapped with many of the crimes he was accused of committing.

DeAngelo became an infamous figure, sometimes known as the Golden State Killer and other times as the East Area Rapist and the Original Night Stalker. His planning was meticulous, and he seemed to know precise details about his victims' schedules. They described the gravelly, angry whisper that he used as he tormented them. He wore gloves and a mask and was a predator with quirks. For example, as his victims lay terrified, he would pause for a snack of crackers after raping them. He also placed a teacup and saucer on the bodies of some of his victims and threatened them with murder if he heard the ceramic rattle.

The case had a profound impact not just on the fear and public safety in California, but also on the way that rapes were investigated and how

FIGURE 1.1 ► Joseph James DeAngelo, 72, is shown in his booking photo April 25, 2018, in Sacramento, California. DeAngelo was booked on two counts of murder, and police say he may be responsible for at least 12 murders and 45 rapes in a series of attacks that began more than 40 years ago, ending abruptly in 1986. (Sacramento County Sheriff's Department/Handout/ Getty Images News/Getty Images)

FIGURE 1.2 ► A view of the home of accused rapist and killer Joseph James DeAngelo on April 24, 2018, in Citrus Heights, California. Sacramento District Attorney Anne Marie Schubert was joined by law enforcement officials from across California to announce the arrest of 72-year-old Joseph James DeAngelo, who is believed to be the East Area Rapist, also known as the Golden State Killer, who killed at least 12, raped over 45 people, and burglarized hundreds of homes throughout California in the 1970s and 1980s. (Photo by Justin Sullivan/Getty Images)

rape victims were treated. For example, rape victims were identified and necessary care was provided quickly; pubic hair, scratches, and other evidence were examined and preserved using standardized rape kits. Additionally, locks sold out at hardware stores and over 6,000 guns were sold. Community safety forums would be packed with literally hundreds of people.

In 2016, a Sacramento District Attorney, Marie Schubert, helped organize a task force that consisted of investigators from across the state as well as the FBI. DeAngelo was arrested when investigators identified him after matching his DNA with the murders of Lyman and Charlene Smith in Ventura County in 1980.

The Golden State Killer case is instructive because it illustrates the complexity of criminal investigations, crime scenes, and evidence. It also shows how criminal suspects are often transient and difficult to identify and how science can be a profoundly useful investigative resource (read more about this case at the end of the chapter in the section titled, "Criminal Investigation in Practice").

Every reader of this text knows that we live in a complicated and often dangerous world. Crimes are profit motivated, politically motivated, and motivated by other more obscure reasons such as revenge, anger, and personal gratification, and these permeate society at every level. Indeed, the spies, computer hackers, pedophiles, gang leaders, and serial killers located within our communities are all paramount concerns for a free and democratic society.

Accordingly, the study of criminal investigation involves probing several different fields at once, and is therefore a difficult task about which to write. For example, it is important for an

A CLOSER LOOK

The Chronology of Joseph DeAngelo's Crimes

At the time of his arrest, DeAngelo was connected with 12 murders, 51 rapes, and dozens of break-ins in a crime spree that spanned from 1974 to 1986 in 10 California counties. He was known by many names including the Golden State Killer, the East Area Rapist, and the Original Night Stalker. But he started as the Visalia Ransaker. The Ransaker was associated with nearly 100 burglaries in Visalia which caught the attention of the police in 1975. Criminal investigators conducted numerous investigations to identify and arrest the thief, but then, the burglaries became attacks.

His first known murder was on September 11, 1976, in Tulare County. He is believed to have killed Claude Snelling, a colleague of the Sequoias journalism professor. Snelling's daughter woke up in the middle of the night and saw the Ransaker, wearing a ski mask, hovering over her bed. Snelling pursued the attacker but was shot twice and died while being taken to the hospital. Investigators claim that the killer left Tulare County in 1976 and went to the Sacramento area where he became known as the East Area Rapist. In 1976, he was thought to have committed 10 rapes in the Sacramento area.

In 1977, he was connected to the attacks of 18 more women near Sacramento. In 1978, the attacks started to expand from the Sacramento area. The East Area Rapist was believed to have sexually assaulted over a dozen women that year as far south as San Jose and was thought to be responsible for the deaths of two people.

In 1979, attacks began in April, closer to the San Francisco area, where the rapist became known as the Original Night Stalker. His crimes spread farther south including a murder in Goleta. On March 12, 1980, the attacker was believed to have murdered Charlene and Lyman Smith in Ventura. Charlene and Lyman Smith were bound together with drapery cords and beaten to death with a log from their fireplace. Charlene had also been brutally raped.

On August 19, 1980, Keith and Patricia Harrington were murdered in Dana Point. Keith's brother Bruce Harrington helped finance the voter initiative Proposition 69 that expanded the state DNA database to include every convicted felon in California. The Golden State Killer continued his attacks in 1981.

Among his last known crimes was a 1986 murder. On May 4 that year, Janelle Cruz was raped and murdered in Irvine. The Visalia Ransaker's string of burglaries, rapes, and murders became "cold cases" until DNA evidence led to his arrest. On April 25, 2018, DNA evidence from the murders of Lyman and Charlene Smith led to the arrest of former police officer Joseph DeAngelo.

investigator to understand basic techniques of collection and preservation of evidence, but to do so, a fundamental understanding of criminalistics or forensic science is often required. In addition to technical competence, modern-day investigators must be well versed in the law. Legal skills include a working knowledge of criminal law, constitutional law, and rules of evidence, all of which are essential for successful prosecution of a criminal case. This chapter is designed to give the reader the underlying essentials of this aspect of policing, which is both rewarding and challenging.

THE ROMANCE AND REALITY OF CRIME SOLVING

Throughout modern history, people have harbored a fascination with cops and criminals—**crime** and crime fighting. Whenever there is a public crime scene, large groups of people gather to watch crime scene investigators in action. For the average citizen, police cars and emergency units with their screaming sirens and flashing lights spark an insatiable curiosity. Fueling people's interest and imagination are newspapers and periodicals that sensationalize criminal investigations, which often involve both heinous and interesting aspects.

Modern-day popular novelists continue the tradition of novels with an investigative twist. These include such novelists as John Grisham, James Patterson, and Sue Grafton, to name a few, who provide readers with mysteries, clues, and challenges to figure out the identity of the "bad guy."

Stories such as these become "up close and personal" with television dramas focusing on criminal investigation and the solving of crime through forensic techniques. For example, the time-tested *CSI* (crime scene investigation) series—*CSI: Crime Scene Investigation, CSI: Miami*, and *CSI: New York*—is so successful that it is thought to have created the so-called *CSI* effect, whereby jurors have been introduced to forensics through their exposure to television crime shows and expect forensic evidence in jury trials—trials in which no such evidence may even exist (discussed later in this chapter). Other popular television series showcasing forensics include *Law and Order: Special Victim's Unit*, a police crime drama set in New York City, and *Blindspot*, a popular television crime drama in 2018. Another popular investigative television series is *Chicago PD*, an American police procedural drama which has aired for six seasons. Each of these shows, along with many others, fuels the fires of public interest in solving crimes through forensics, sophisticated technology, and the investigative process.

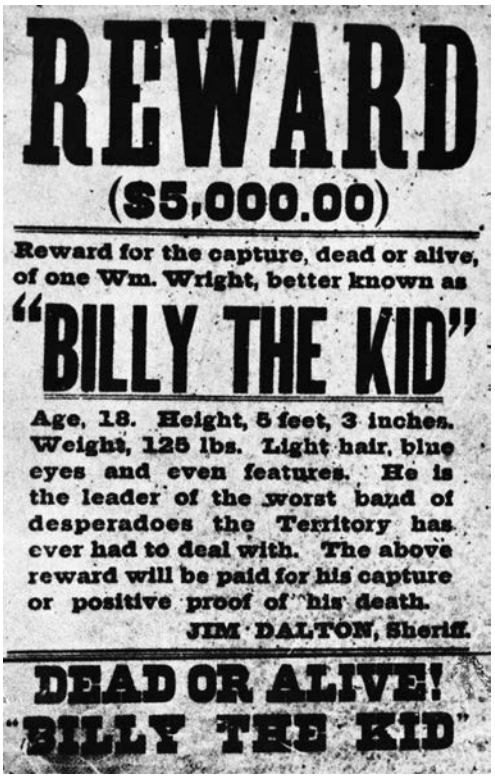


FIGURE 1.3 ► During the settlement of the western frontier, "wanted" posters were used to identify persons wanted by law enforcement. (Bettmann/Getty Images)

Adults aren't the only ones who show an interest in crime detection. For example, for the last 85 years the popular book series *Nancy Drew* has featured a fictional young girl who dabbles as an amateur detective in various mysteries. This series was brought to the silver screen in the 2007 movie by the same name featuring Emma Roberts. A companion series for boys is the historically popular *Hardy Boys* featuring Frank and Joe Hardy, fictional teenage brothers and amateur detectives who appear in various mystery series. Children too visualize the clashing forces of good and evil in vividly illustrated children's books, comic books, and early morning television cartoons. Examples are Hollywood movies *Marvel's Avengers: Infinity War* (2018) and *The Amazing Spiderman* (2014), all of which portray the clash between good and evil. Indeed, American pop culture typically portrays the conflict between the forces of good and evil in movies, novels, and even children's television cartoons.

Notorious outlaw gangs of the Old West have also interested people for decades. Gangs active on the western frontier, such as the Younger brothers and the Dalton gang, represent the colorful heritage of the antihero (Figure 1.3). Another outlaw, Jesse James, was one of the most famous of the American West. During his time, he acquired a Robin Hood reputation. With brother Frank and several other men, the James gang gained national notoriety by robbing banks, trains, and stagecoaches (Figure 1.4).

FIGURE 1.4 ► Jesse James (left), the elusive outlaw of the Wild West, helped to establish the mystique of the antihero. (Bettmann/Getty Images)

Detective magazines, books, and movies pitting the shrewd criminal against his or her persevering police counterpart have also perpetuated the detective mystique. For generations, fabled yarns featuring sleuths such as Sherlock Holmes and Hercule Poirot have presented readers with a menagerie of far-fetched tales filled with unlikely clues and colorful suspects. In fact, part of the allure of the classic detective novels of the early twentieth century was the introduction of the **private eye**. Mickey Spillane's Mike Hammer, for example, had a remorseless desire to punish wrongdoers who managed to escape an impotent criminal justice system while walking a fine legal line himself.

As with the private eye, the spy of the 1960s enlivened espionage stories featuring such heroes as James Bond, whose popularity rivaled even that of Sherlock Holmes. In reading the material, however, readers would gain little practical insight into the mind of the criminal, the nature of crime, the science of detection, the techniques of law enforcement officers, or courtroom procedures where one is found either guilty or innocent. Although entertaining, such stories bear little resemblance to the real world of criminal investigation.

THE "*CSI* EFFECT"

Sir Robert Peel is credited with creating the first modern police force in London in 1829. The transformation of law enforcement, and especially forensic science, into a professional discipline was, to a great extent, a process of trial and error. Scientists only occasionally took an interest in police work, and courts may or may not have accepted their testimony and conclusions.

As of the writing of this book, things have changed in the forensic sciences. Today, people are fascinated by the idea that science can solve crimes. Moreover, because of television crime dramas, jurors today expect more categorical **proof** than forensic science is capable of delivering. As a result, a new phrase has entered the criminological lexicon: the "***CSI* effect**," after shows such as *CSI: Crime Scene Investigation*. In 2008, Monica Robbers, an American criminologist, defined it as "the phenomenon in which jurors hold unrealistic expectations of forensic evidence and investigation techniques, and have an increased interest in the discipline of forensic science."[1]

In an article published in *Forensic Science International*, Evan Durnal concluded that the *CSI* effect is indeed real.[2] In his study, Durnal collected evidence from a number of studies to show that exposure to television drama series that focus on forensic science has altered the American legal system in complex and far-reaching ways. The most obvious symptom of the *CSI* effect is that jurors think they have a thorough understanding of science they have seen presented on television, when they do not.

Durnal cites one case of jurors in a murder trial who, having noticed that a bloody coat introduced as evidence had not been tested for DNA, brought this fact to the judge's attention. Since the defendant had admitted being present at the murder scene, such tests would have thrown no light on the identity of the true culprit. The judge observed that, thanks to television, jurors knew what DNA tests could do, but not when it was appropriate to use them.[3]

CSI: Crime Scene Investigation, the CBS television series, and its two spin-offs—*CSI: Miami* and *CSI: New York*—routinely appear near the top of the Nielsen ratings. (An international survey, based on ratings from 2005, concluded that *CSI: Miami* was the most popular program in the world.) In large part because of the series' success, the field of forensic science has acquired an air of glamour, and its practitioners an aura of infallibility.[4]

In the pilot for the *CSI* series, which was broadcast in 2000, Gil Grissom, the star criminalist, who is played by William Petersen, solved a murder by comparing toenail clippings. "If I can match the nail in the sneaker to the suspect's clipping…" Grissom mused, then he did just that. In the next episode, the Las Vegas investigators solved a crime by comparing striation marks on bullets. "We got a match," one said. Later in the same show, Nick Stokes (George Eads) informs Grissom, his boss, "I just finished the carpet-swatch comparisons. Got a match."[5]

The fictional criminalists speak with a certainty that their real-life counterparts do not. For example, in their written findings and in courtroom testimony, criminalists avoid the word "match." Instead, the preferred terminology is "consistent with," or "similar," or "is associated with."

Virtually all the forensic science tests depicted on *CSI*—including analyses of bite marks, blood spatter, handwriting, firearm and tool marks as well as of hair and fibers—rely on the judgments of individual experts and are difficult to verify with statistical analysis. Many of these tests were developed by police departments over a hundred years ago, and for decades they have been admitted as evidence in criminal trials to help bring about convictions. In the mid-1990s, nuclear-DNA analysis—which can link suspects to crime scene evidence with mathematical certainty—became widely available, prompting some legal

FIGURE 1.5 ▶ The cast of *CSI: Crime Scene Investigation* with Greg (Eric Szmanda, left), Nick (George Eads, center), and Sara (Jorja Fox, right) after the *CSI* team finds a dead body under piles of trash inside a house. (Photo by Monty Brinton/CBS via Getty Images)

scholars to argue that older, less reliable tests, such as hair and fiber analysis, should no longer be allowed in court (Figure 1.5).

In his research, Durnal does not blame the makers of the television shows for the phenomenon, because they have never claimed their shows are completely accurate. For example, forensic scientists do not typically carry guns or arrest suspects, and tests that take only minutes on television may take weeks to process in reality. He argues that the *CSI* effect is born out of a longing to believe that desirable, clever, and morally unimpeachable individuals are fighting to clear the names of the innocent and put the bad guys behind bars. In that respect, unfortunately, the romance of forensic science does not always mirror its reality.[6]

THE HISTORICAL CONTEXT OF CRIMINAL INVESTIGATION

The history of criminal investigation is vast, and over the years many writers have attempted to engage the topic. In this section, we focus on the roots of our criminal justice heritage in Great Britain as it pertains to the field of criminal investigation.

Criminal Investigation and Our English Heritage

We begin our story during the era of Europe's Industrial Revolution, which attracted the peasant class from the countryside into the towns and cities. The ensuing crime wave forced law enforcement officials to take drastic measures. As a result, **thief catchers** were recruited from the riffraff of the streets to aid law enforcement officials in locating criminals. Two classes of thief catchers were identified: (1) hirelings, whose motivations were mercenary in nature, and (2) social climbers, who would implicate their accomplices in order to move up the social ladder.

One hireling, Jonathan Wild, gained fame in eighteenth-century England for operating a London brothel that also served as headquarters for thieves and thugs, with whom he was well acquainted. Coining the phrase "set a thief to catch a thief," Wild operated simultaneously as an undercover operative for London's authorities and as a criminal in London's underworld. It soon became clear, however, that he could profit more from arranging the return of stolen goods to the police than from selling the goods at outrageous discounts to the local fence. So while he acted as the receiver of stolen goods masquerading as the "recoverer" of lost property, he also served as the middleman, taking his cut for finding stolen goods while hiding and protecting thieves in his employ.

In England, the first police worked only at night and were originally called the Watch of London. They soon developed into the Old Charleys, who were paid by the residents they served. These parish **constables** originated in London in 1253 and lasted until 1829. Soon after the hanging of Jonathan Wild, Henry Fielding was appointed magistrate in Westminster, a city adjacent to central London. Fielding, a writer known for his novel *Tom Jones*, located himself in a house on Bow Street that served as both home and office and soon began what is credited as England's first police force.

THE BOW STREET RUNNERS

During the 1750s, crimes such as burglary and street robbery were rampant in England. Fielding took on the challenge of reducing the profits realized by criminals. Working relationships were established with local business owners, in particular pawnbrokers, who were provided with lists of stolen property. Fielding encouraged them to contact him if any stolen property

A CLOSER LOOK

Sherlock Holmes—An Investigative Icon

Sherlock Holmes is a fictional detective created by Sir Arthur Conan Doyle, a Scottish author and physician who graduated from the University of Edinburgh Medical School (Figure 1.6). Sherlock Holmes was developed as a London-based detective whose abilities border on the unconceivable. Holmes is famous for his *astute logical reasoning* which is his ability to assume almost any disguise and make use of forensic science to solve cases that seem unsolvable.

Holmes first appeared in print in 1887 and was featured in four novels and 56 short stories. *A Study in Scarlet* was the first novel that appeared in *Beeton's Christmas Annual* in 1887. The second novel, *The Sign of the Four*, appeared in *Lippincott's Monthly Magazine* in 1890. Holmes' character grew in popularity with the first series of short stories in *The Strand Magazine*, beginning with "A Scandal in Bohemia" in 1891; additional short-story series and two novels (published in serial form) appeared from then to 1927. The events in the stories take place from about 1880 to 1914.

According to Doyle, Holmes was inspired by a surgeon at the Royal Infirmary of Edinburgh named Joseph Bell. Doyle worked for Bell as a clerk. Like Holmes, Bell was noted for drawing broad conclusions from minute observations. However, he later wrote to Conan Doyle, "You are yourself Sherlock Holmes and well you know it." Sir Henry Littlejohn, Chair of Medical Jurisprudence at the University of Edinburgh Medical School, is also cited as an inspiration for Holmes. Littlejohn, who was also Police Surgeon and Medical Officer of Health in Edinburgh, provided Doyle with a link between medical investigation and the detection of crime.

FIGURE 1.6 ► Arthur Conan Doyle is best known for his fictional detective Sherlock Holmes. (Imagno/Austrian Archives/The Image Works)

Sources: Doyle, A. C. (1893). *The original illustrated "strand" Sherlock Holmes*, 1989 ed. Ware, England: Wordsworth, pp. 354–355; Riggs, R. (2009). *The Sherlock Holmes Handbook. The methods and mysteries of the world's greatest detective*. Philadelphia: Quirk Books, pp. 115–118.

came to their attention. Fielding took seriously his new duty as crime fighter and promptly employed new crime-fighting methods. One such method was the appointment of a handful of parish constables acclimated to night watchman duties. These trackers soon began performing criminal investigation functions and became well known as successful thief takers by using their ties with London's criminal underworld. Originally called "Mr. Fielding's People," they soon became known as the **Bow Street Runners**, the first well-known investigative body in England (Figure 1.7). Fielding's runners were not paid as police officers but rather, in terms of thief-taker rewards, a percentage of all fines resulting from successful prosecution of thieves. Shortly after his appointment as magistrate, Fielding's health deteriorated, and he started to use a wheelchair. As a result, his half-brother, John Fielding, was appointed to share his magistracy. Because of his blindness, John Fielding was soon dubbed the "blind beak" (*beak* meaning magistrate) to the criminal underworld in London.

The Bow Street Runners were forerunners of a trend in policing for specialization within the police force. In fact, by 1800, the Bow Street Police Office was considered by many to be the leading law enforcement organization in the area. Johnson adds, "Even if the evils of the justice/constable system had been eliminated from Bow Street Office operations, no local jurisdiction could combat the rising crime wave throughout London."[7] Between 1760 and 1800, Fielding was given authority to organize a horse patrol, which was later followed by a permanent foot patrol. The patrol officers, smartly outfitted in red vests and blue jackets and trousers, became the pioneers of England's uniformed police.

EUGÈNE-FRANÇOIS VIDOCQ—THE FATHER OF CRIMINAL INVESTIGATION

Eugène-François Vidocq has been called the father of criminal investigation. He was one of the most intriguing characters of the Napoleonic era. Largely forgotten today, Vidocq was an

FIGURE 1.7 ► Photo of Henry Fielding who was the founder of the Bow Street Runners. (Mary Evans Picture Library/The Image Works)

outlaw-turned-law officer and was one of the founders of the French detective police, and of modern criminology. Born in July 1775 in Arras, the capital of Artois, as a boy, Vidocq led a life of delinquency. For almost 20 years, he was in and out of prison for numerous crimes.[8]

In 1809, realizing he was wanted by the police, Vidocq surrendered. As an experienced criminal, he offered to serve as an informer in exchange for his freedom. Police accepted his offer and he was first placed in the Bicêtre prison working as a spy where he sounded out other inmates and forwarded information about forged identities and unsolved crimes to the Paris police chief, Jean Henry. After almost two years of spying, in 1811, Vidocq was released from jail and began to work as a secret agent for the Paris police.[9] He disguised himself as an escaped convict and used his contacts and reputation in the criminal underworld to gain trust and learn about planned and committed crimes. He even participated in some crimes in order to gain trust and then turn on his partners.

Impressed with his success, the prefecture created a new unit, the Brigade de Sûreté, specifically to assist Vidocq, who became its leader, in his work; in December 1813, Emperor Napoleon signed a decree, which made the brigade a state security police known as Sûreté Nationale. Initially, Vidocq had only four agents but, as the return of unemployed soldiers at the end of the Napoleonic Wars produced a serious crime wave, the Sûreté Nationale expanded and, by 1827, it had 28 agents.[10] The French Sûreté Nationale proved quite successful in keeping tabs on crime; in less than seven years, Vidocq estimated, the brigade had arrested more than four thousand lawbreakers and had nearly eliminated whole categories of crime.[11]

By the mid-1820s, the brigade was keeping 1,200 ex-convicts under surveillance and executing 400 to 500 warrants annually. He pioneered many new investigative methods and is often considered as one of the founders of modern criminology. He pioneered undercover work, anthropometrics, ballistics, and careful crime scene investigation. A man of remarkable photographic memory, he developed a unique record-keeping system, creating a special record card for each arrested person that listed the person's name, description, aliases, previous convictions, modus operandi, and other information. The Parisian police utilized his system for decades before Alphonse Bertillon's new anthropometric system was introduced in the 1880s.[12] As the visionary he proved to be, Vidocq maintained a small laboratory where he applied forensic methods to solve crimes.

In 1827, Vidocq resigned from Sûreté. He was initially involved in a small business, but lost money and returned to Sûreté in 1830. After two years of service, including involvement in the Revolution of 1830, he resigned in November 1832. The following year, Vidocq established Le bureau des renseignements (Office of Information), a private detective agency that employed ex-cons to solve and deter crimes. His business venture proved to be quite successful but led to repeated frictions with the official police. In 1842, Vidocq was tried for extorting money and spent almost a year in the infamous Conciergerie before being freed. By then, his reputation was so undermined that his private agency went bankrupt.[13]

In 1848, after witnessing the February Revolution, Vidocq ran as a deputy for the 2nd Arrondissement of Paris but lost. Instead, later that year he was charged with fraud and jailed, although charges were then dropped and he was freed. The last years of his life were full of hardship and difficulties. On May 11, 1857, the 82-year-old Vidocq died in his home in Paris.

THE LONDON METROPOLITAN POLICE

The watershed in British police development occurred in 1829 with the establishment of the London Metropolitan Police Department. Officers of the department were dubbed **bobbies** after the department's founder, Home Secretary **Sir Robert Peel** (Figure 1.8). The "new" police were England's first paid, full-time police force, consisting of about 1,000 uniformed officers. In addition, they replaced the old constables, such as the Bow Street Runners, who had ultimately gained a reputation of incompetency and inefficiency. Indeed, the bobbies were required to meet rigid standards of professionalism. Minimum standards included minimum weight and height requirements and standards of literacy and character. A detective bureau was created in the police force in 1842 but was not publicly acknowledged until some 35 years later, for fear that the specter of French-style repression would be remembered.

Technology in crime detection began to flourish during the nineteenth century with the creation of a personal identification

FIGURE 1.8 ► Photo of modern-day bobbies with London's Metropolitan Police Department standing guard at the Victoria Memorial in London. (Photo by Waring Abbott/Getty Images)

system by Alphonse Bertillon, the director of the criminal identification section of the Paris Police Department. The **Bertillon system** was based on the idea that certain aspects of the human body, such as skeletal size, ear shaping, and eye color, remained the same after a person had reached full physical maturity (Figure 1.9). It used a combination of photographs with standardized physical measurements. In the mid-1840s, the study of fingerprint patterns became a popular means to identify suspects in crime. Although the use of fingerprints is commonplace today, it wasn't until the late nineteenth century that it was learned that a person's fingerprints could act as a unique, unchangeable method of personal identification. Such discoveries have been credited to the Englishmen **William J. Herschel** and Henry Faulds, who were working in Asia at the time. The use of fingerprints was refined by Sir Francis Galton and was adopted by **Scotland Yard** in 1901.

FIGURE 1.9 ► Bertillon system photographs taken of similar-looking men who established their different identities by differences in their ears, noses, and Adam's apples. (Everett Historical/Shutterstock)

THE CREATION OF SCOTLAND YARD

The name "Scotland Yard" invokes the image of a foggy London street being guarded by a detective in a trench coat puffing smoke from his pipe. But Scotland Yard has an easily confused history, full of misunderstandings and controversy. Neither in Scotland, nor in a yard, it is the name of the headquarters of London's Metropolitan Police and, by association, has become synonymous with the force. The Yard doesn't serve the city either, but instead the Greater London area.

Making the Force

The London police force was created in 1829 by an act introduced in parliament by Home Secretary (similar to the U.S. Secretary of the Interior) Sir Robert Peel. By 1839, these men had replaced the Bow Street Patrols, who enforced the decisions of magistrates, and the River Police, who worked to prevent crime along the Thames.

In 1829, the responsibility of organizing the new Metropolitan Police Department was placed on Colonel Charles Rowan and Richard Mayne, who occupied a private house at 4 Whitehall Place, the back of which opened onto a courtyard: the Great Scotland Yard. The Yard's name was inspired by its site, a medieval palace which housed Scottish royalty on their visits to London.

The staff of Scotland Yard was responsible for the protection of important persons, community patrols, public affairs, and recruitment and management of personnel. When the Yard sent out its first plainclothes police agents in 1842, the public felt uncomfortable with these "spies" on the streets. But the force's role in several important cases, and the charisma of many of its detectives, helped it win over the trust of the people.

One such personality, Inspector Charles Frederick Field, joined the force upon its establishment in 1829. He became good friends with Charles Dickens, who occasionally accompanied constables on their nightly rounds. Dickens wrote a short essay about Field, "On Duty with Inspector Field," and used him as a model for the all-knowing, charming Inspector Bucket in his novel *Bleak House*. Field retired as a chief of the detective branch in 1852.

In 1877, four out of the five heads of the detective branch were brought to trial for conspiring with criminals in a betting scheme. In an effort to repair the force's tarnished reputation, Howard Vincent submitted a restructuring proposal to the force. Soon Vincent was appointed director of criminal investigations and he reorganized Scotland Yard, strengthening its central unit. And with that, the Criminal Investigation Department (CID), a respected unit of plainclothes police detectives, was born (Figure 1.10).

FIGURE 1.10 ▶ Scotland Yard was one of the first professional police investigative units housed within the London Metropolitan Police Department. (Stefan Kiefer/imageBROKER/Alamy Stock Photo)

The turn of the century saw many monumental events at Scotland Yard. Britain's "Bloody Sunday" occurred on November 13, 1887, when 2,000 police officers disrupted a meeting in Trafalgar Square organized by the Social Democratic Federation, resulting in more than 100 casualties. A few years later, the force moved to its new building on the Victoria Embankment. The premises became known as New Scotland Yard.

Since its inception, Scotland Yard has always held a place in popular culture. The officers have appeared frequently as characters in the backdrop of mysteries, including Sir Arthur Conan Doyle's Sherlock Holmes stories. On television and in magazines today, Scotland Yard "bobbies" can be found standing stoically behind the royal family and other dignitaries that they are assigned to protect.

In 1967, the force moved once again to its present location, a modern 20-story building near the Houses of Parliament. The CID has become well-known for its investigative methods, primarily its fingerprinting techniques, which have been borrowed by the **Federal Bureau of Investigation (FBI)**. Today, Scotland Yard has roughly 30,000 officers patrolling 620 square miles occupied by 7.2 million citizens.

Criminal Investigation in America

As the American frontier moved westward during the nineteenth century, outlaws posed serious problems in newly settled areas. Mining camps and cattle towns seemed to experience more violence than other areas. The movement west had moved men and women far from the institutions that had served them previously. Law enforcement agencies and criminal courts, if present at all, made only minor strides in protecting the vast areas under their jurisdictions. Indeed, it was in these areas that criminals could easily hide and witnesses would often move away, making detection and apprehension of criminals a discouraging task.

Following the lead of London's police force, the first professional police forces were established in the United States at Boston in 1837, New York in 1844, and Philadelphia in 1854. By the 1870s, almost all major U.S. cities had municipal police departments. As in England, criminal investigation by public law enforcement was viewed as politically hazardous because it favored only those who could pay. But the rapid growth of cities produced violence, crime, and **vice** activities that demonstrated a breakdown of social order in small communities. Growing incidents of mob violence between Protestants and Catholics, immigrants and Native Americans, and abolitionists and pro-slavery groups were probably the most crucial catalysts for expanded police functions. During the middle of the nineteenth century, three significant elements emerged that had an impact on criminal investigation:

1. Municipal police were supplemented by the county sheriff in rural areas.
2. The **Texas Rangers** were established (before Texas became a state).
3. Police functions expanded with the establishment of the U.S. Marshal's Service and the Secret Service, formed during the Civil War to investigate counterfeiters.

In the 1890s, criminal investigators became an important part of the U.S. Post Office and the Bureau of Immigration and Naturalization. Because of the lack of effective law enforcement in rural areas, however, people banded together on their own to investigate crimes and apprehend perpetrators. Vigilantes in the mining camps would conduct trials and even execute some of the most dangerous offenders. Cattle ranchers would often hire range detectives to capture rustlers. As a result, some business firms emerged, such as the famed Pinkerton's Detective Agency, which offered to protect property and pursue offenders for a fee.

THE TEXAS RANGERS

The Texas Rangers are the oldest state law enforcement body in the United States. The Texas Ranger Division is a major division within the Texas Department of Public Safety with lead criminal investigative responsibility for the following: major incident crime investigations, unsolved crime/serial crime investigations, public corruption investigations, officer involved shooting investigations, and border security operations.

The Texas Rangers were unofficially created by Stephen F. Austin in a call-to-arms written in 1823 and were first headed by Captain Morris. In 1833, 10 years later, Daniel Parker introduced a resolution to the Permanent Council that created a body of rangers to protect the border. The unit was dissolved by the federal authorities during the post–Civil War Reconstruction Era, but was soon recreated upon the reinstitution of home government (Figure 1.11).

Numerous books have been written about the Rangers, from well-researched works of nonfiction to pulp novels and other such fiction, making the Rangers significant participants

FIGURE 1.11 ► Badge worn by frontier lawmen with the Texas Rangers. (SE73/E+/Getty Images)

in the mythology of the Wild West. Today, the Texas Ranger Division is comprised of 213 full-time employees; including 150 commissioned Rangers and 63 support personnel; including administrative staff, Border Security Operations Center, Joint Operations and Intelligence Centers, and the Special Weapons and Tactics team. In 2013, a total of 3,445 investigations resulted in 1,781 felony arrests and 177 misdemeanor arrests.[14]

THE PINKERTON NATIONAL DETECTIVE AGENCY

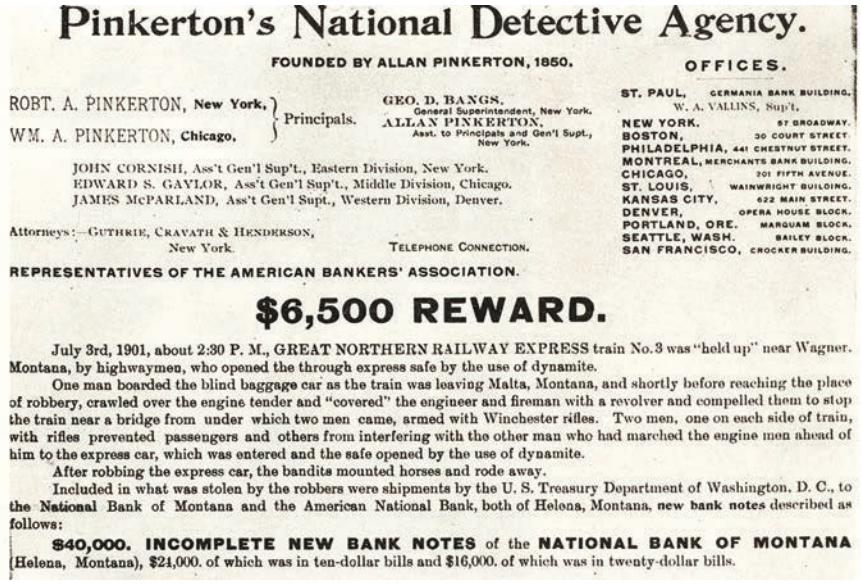
Pinkerton's National Detective Agency, founded in 1850 by Scottish immigrant **Allan Pinkerton** (Figure 1.12), was the first organization of its type in the United States. In fact, its organizational structure was later adopted by the FBI. The Pinkerton Agency was called on by communities to handle cases that local law enforcement officers were unable to investigate due to incompetency or limited resources. Pinkerton offered the field of criminal investigation several innovations in crime detection. For example, he was the first to devise a **rogues' gallery**, which was a compilation of descriptions, methods of operation, hiding places, and names of associates of known criminals.

FIGURE 1.12 ► Photo of Allen Pinkerton, Circa 1865. (Bettmann/Getty Images)

Pinkerton gained national fame when he uncovered a plot to kill Abraham Lincoln during the 1860s. The plot was designed to kill Lincoln on a train while en route to give his first inaugural speech in Washington. Pinkerton outwitted the assassins by putting Lincoln on an earlier train. Soon after, Pinkerton was placed in charge of the secret service operations during the Civil War. After Pinkerton's death in 1884, agency detectives gained a reputation for the use of violence to undermine unions as well as to frame and convict their leaders. Among the more notable Pinkerton cases were those in which dozens of union spies were used by the infamous Jay Gould to break a strike against the Texas and Pacific Railroads and when Pinkerton detectives were used in 1905 to involve labor leaders in the murder of ex-Governor Frank Steunenberg of Idaho. After Congress declared labor spying unconstitutional in 1937, the industrial division of the Pinkerton agency was officially dissolved (Figures 1.13 and 1.14).

PROHIBITION

Prohibition (1920–1933) represented another significant period in which criminal investigation underwent change. Unlike the drug trade of later years, the Volstead Act of the Prohibition period failed to criminalize the purchase or consumption of alcohol—only its manufacture, transportation, and sale. Because liquor was legal in other countries, smuggling



Pinkerton's National Detective Agency.

FOUNDED BY ALLAN PINKERTON, 1850.

ROBT. A. PINKERTON, New York,
WM. A. PINKERTON, Chicago,
} Principals.

GEO. D. BANGS, General Superintendent, New York.
ALLAN PINKERTON, Asst. to Principals and Gen'l Supt., New York.

JOHN CORNISH, Ass't Gen'l Sup't., Eastern Division, New York.
EDWARD S. GAYLOR, Ass't Gen'l Sup't., Middle Division, Chicago.
JAMES McPARLAND, Ass't Gen'l Supt., Western Division, Denver.

Attorneys:—GUTHRIE, CRAVATH & HENDERSON, New York.

TELEPHONE CONNECTION.

OFFICES.

ST. PAUL, GERMANIA BANK BUILDING. W. A. VALLINS, Sup't.
NEW YORK, 57 BROADWAY.
BOSTON, 30 COURT STREET.
PHILADELPHIA, 441 CHESTNUT STREET.
MONTREAL, MERCHANTS BANK BUILDING.
CHICAGO, 201 FIFTH AVENUE.
ST. LOUIS, WAINWRIGHT BUILDING.
KANSAS CITY, 622 MAIN STREET.
DENVER, OPERA HOUSE BLOCK.
PORTLAND, ORE. MARQUAM BLOCK.
SEATTLE, WASH. BAILEY BLOCK.
SAN FRANCISCO, CROCKER BUILDING.

REPRESENTATIVES OF THE AMERICAN BANKERS' ASSOCIATION.

$6,500 REWARD.

July 3rd, 1901, about 2:30 P. M., GREAT NORTHERN RAILWAY EXPRESS train No. 3 was "held up" near Wagner, Montana, by highwaymen, who opened the through express safe by the use of dynamite.

One man boarded the blind baggage car as the train was leaving Malta, Montana, and shortly before reaching the place of robbery, crawled over the engine tender and "covered" the engineer and fireman with a revolver and compelled them to stop the train near a bridge from under which two men came, armed with Winchester rifles. Two men, one on each side of train, with rifles prevented passengers and others from interfering with the other man who had marched the engine men ahead of him to the express car, which was entered and the safe opened by the use of dynamite.

After robbing the express car, the bandits mounted horses and rode away.

Included in what was stolen by the robbers were shipments by the U. S. Treasury Department of Washington, D. C., to the National Bank of Montana and the American National Bank, both of Helena, Montana, new bank notes described as follows:

$40,000. INCOMPLETE NEW BANK NOTES of the NATIONAL BANK OF MONTANA (Helena, Montana), $24,000. of which was in ten-dollar bills and $16,000. of which was in twenty-dollar bills.

FIGURE 1.13 ▶ Photo of $6,500 reward notice published by Pinkerton's National Detective Agency in 1901 in respect of a train robbery on the Great Northern Railway Express. (Universal History Archive/Universal Images Group/Getty Images)

(**bootlegging**) was a major criminal enterprise. Prohibition criminals avoided the federal law against alcohol by creating a cottage industry manufacturing beer and wine at home. By 1924, rival gangs organized themselves for control of "speakeasy" operations, prostitution rings, and virtually any other source of illegal income. Police corruption flourished as many law enforcement officers accepted bribes from mobsters. During this time, the FBI had no jurisdiction in enforcing the Volstead Act. Instead, enforcement responsibility was given to the Treasury Department.

THE CREATION OF THE FBI

Probably the single most significant development in criminal investigation in the United States was the establishment of the FBI in 1924. Originating as the Justice Department's Bureau of Investigation in 1907, the FBI originally had very few responsibilities. When new federal laws governing interstate transportation of stolen automobiles were passed, however, the bureau gained much notoriety. **John Edgar Hoover**, the bureau's newly named director, announced in 1924 that he would strive to eliminate corruption and get the agency out of politics (Figure 1.15). In doing so, he raised the qualifications of agent personnel, reduced the number of agents nationwide, and closed some field offices. It was only after Hoover's death in 1972 that many of his abuses of power surfaced. For example, it became widely known that the FBI kept files on certain persons, such as politicians and adversaries of the FBI. Today, the FBI is one of many federal investigative agencies that have made great strides in professionalizing the field of criminal investigation.

FIGURE 1.14 ▶ The famous Pinkerton "private eye" became the logo of Allan Pinkerton's National Detective Agency. (Bride Lane Library/Popperfoto/Getty Images)

FIGURE 1.15 ► J. Edgar Hoover (1895–1972), the first director of the FBI. (Harris & Ewing/Archive Pics/Alamy Stock Photo)

CRIMINAL INVESTIGATION RESEARCH

As with other aspects of criminal justice, research plays an important role in helping us to understand how criminal investigations can be more effective. Early studies by both the RAND Corporation and the Police Executive Research Forum challenged long-held opinions about criminal investigation and made some practical recommendations.

The RAND Corporation Study

One of the principal problems in evaluating investigative units lies in determining how their effectiveness is to be measured.

In the late 1970s, the National Institute of Law Enforcement and Criminal Justice awarded a grant to the RAND Corporation to undertake a nationwide study of criminal investigations by police agencies in major U.S. cities. The goals of the study were to determine how police investigations were organized and managed, as well as to assess various activities as they relate to the effectiveness of overall police functioning. Until this study, police investigators had not been placed under as much scrutiny as those in patrol functions or other areas of policing.

DESIGN OF THE STUDY

The focus of the RAND study was the investigation of "index" offenses: serious crimes such as murder, robbery, and rape. Other less serious crimes, such as drug violations, **gambling**, and prostitution, were not considered in the study. A national survey was conducted that assessed investigative practices of all municipal and county police agencies employing more than 150 sworn personnel or serving a jurisdiction with a population over 100,000. Observations and interviews were conducted in more than 25 departments, which were chosen to represent various investigative methods.

The RAND study looked at a number of important variables as they relate to successful criminal investigations, criminal investigators, and the units in which they work. The study compartmentalizes these topics in terms of the following: how an investigator's time is spent; the collection and processing of physical evidence; preparing a case for prosecution as well as other findings.

How an Investigator's Time Is Spent

The RAND study revealed that most property offenses receive only cursory attention. Even though an investigator may carry a backlog of several hundred cases, only a small percentage is realistically considered "active." According to the study, an investigator's time on casework is primarily consumed in reviewing reports, documenting files, and attempting to locate and interview victims. In cases that are eventually solved, the investigator spends more time in post-arrest processing than he does in apprehending the suspect.[15] The study also concluded that there is not much attention devoted to investigator training for management. In fact, most departments do not offer any special training when an officer is promoted from patrol to investigations. Investigative skills are expected to be acquired on the job and supervisors of investigative units do not ordinarily review or even remain aware of the day-to-day performance of their investigators.

The Collection and Processing of Physical Evidence

According to the RAND study, many departments have begun using special technicians to collect physical evidence—primarily fingerprints and photographs from crime scenes. The study established that the amount and quality of evidence obtained were positively related to the amount of effort devoted to crime scene search and the speed with which crime scene technicians were dispatched.[16]

Preparing a Case for Prosecution

The RAND study found that police investigators were more oriented toward clearing cases than toward the problems of successful prosecution following arrest. The inability to convict

a defendant was looked upon as a problem for the prosecutor and the courts rather than a matter over which the police could exercise much control. Subsequent to the RAND study, a number of researchers have shown that less than half of all felony arrests result in successful prosecution. The predominant reason for this high case dropout rate appears to be witness cooperation. Research has also established that efforts by the police to obtain corroborating physical evidence or testimony of more than one witness result in higher conviction rates.

RECOMMENDATIONS OF THE STUDY

A number of policy recommendations were made as a result of the study. First, it was recommended that post-arrest activities be coordinated more closely with the prosecutor's office. This could be accomplished by assigning an investigator to the prosecutor's office or by permitting a prosecutor's discretionary guidance over the practices of investigators, thus increasing the number of prosecutable cases. The second recommendation was that patrol officers be afforded greater responsibilities in conducting preliminary investigations, providing greater case-screening capabilities for investigators while eliminating redundancy. The study suggests that many cases can be closed at the preliminary investigation stage. Therefore, patrol officers should be trained to perform such duties. The third recommendation was to increase forensic resources for processing latent prints and to develop a system to organize and search fingerprint files more effectively. Finally, the study recommended that with regard to investigations of cases that the agency chose to pursue, a distinction should be made between cases that require routine clerical skills and those that require special investigative abilities. Investigations falling into the second category should be handled through a specialized investigation section.

In addition to the RAND Corporation's study, several others have offered support for its findings. Block and Weidman's study of the New York Police Department and Greenberg et al.'s decision-making model for felony investigations both support the idea that patrol officers make the majority of arrests during preliminary investigations and can provide excellent case-screening benefits for investigations.[17]

The PERF Study

In another important study, the Police Executive Research Forum (PERF) considered the roles played by detectives and patrol officers in the course of burglary and robbery investigations. The study examined three areas: DeKalb County, Georgia; St. Petersburg, Florida; and Wichita, Kansas. Of the major findings of the study, several observations were made.[18] For example, PERF concluded that detectives and patrol officers contributed equally to the resolution of burglary and robbery cases. However, it was determined that in most cases, a period of four hours (stretched over several days) was sufficient to close cases and that 75 percent of burglary and robbery cases were suspended in less than two days due to a lack of leads. In the remainder of cases, detectives played a major role in follow-up work conducted to identify and arrest suspects. It was determined, however, that both detectives and patrol personnel are too reliant on victim information for identification purposes, as opposed to checking leads from sources such as informants, witnesses, and other information sources in the police department.

The implications of the PERF study suggest that there is not as much waste or mismanagement in investigations as earlier thought as a result of similar studies. The value of follow-up investigations by detectives in identifying and arresting suspects is also thought to be much greater than indicated by earlier studies.

OTHER RECOMMENDATIONS

The PERF study also recommended that greater emphasis be placed on the collection and use of physical evidence when applicable. Although physical evidence is seldom used in identifying suspects, it can be effective in corroborating other evidence of suspect identification, indicating that although not all police departments use extensive training of evidence technicians, many have established policies regulating situations in which they should be used. In the past, many departments overused the services of evidence technicians in cases in which physical evidence was minimal, resulting in the collection of more evidence than required. As a result, another recommendation by the PERF study is that police departments develop policies and guidelines regulating the use of evidence technicians in routine cases such as burglary and robbery when there has been no physical injury to victims. This policy should be based on the assumption that if the suspects can be found through other means of identification, physical evidence is not likely to be useful.

Yet another recommendation of the PERF study is that officers dedicate greater effort to locating witnesses through the use of a neighborhood canvass. This was not found to be common practice by patrol officers in the cities studied because initial information was commonly learned via interviews with witnesses and victims. It was suggested that to expand the scope of their investigations, patrol officers seek additional witnesses and victims through a neighborhood canvass. Finally, PERF recommended that patrol officers make more extensive use of department records and informants to develop and identify suspects. Although checking department records would be a relatively easy task, the skills needed to develop and interview informants are not common among patrol officers. Supervisors in the patrol area could make a greater effort to provide such training to street officers to help them develop informants.

The National Institute of Justice: New Perspectives in Policing Study

In addition to the RAND and PERF studies discussed earlier, The National Institute of Justice published a similar study in 2011 examining the role of the investigator.

Recommendations of the RAND Study

- ☑ Coordinate police investigations more closely with prosecutors.
- ☑ Expand the investigative role of patrol officers.
- ☑ Provide additional resources to process, organize, and search for latent prints.
- ☑ Distinguish between cases that can be handled clerically and those that require specially trained investigators.

Relative to other police department staff, criminal investigators have special expertise in the following areas:

- Interviewing skills (for interviewing victims, witnesses, and offenders).
- Developing and managing of informants.
- Conducting covert surveillance, including the use of advanced surveillance technologies.
- Identifying and locating potential witnesses and sources of intelligence.
- Preserving and developing evidence.
- Preparing cases for prosecution and liaising with prosecutors in the lead-up to, and conduct of, a trial.
- Protecting, managing, and preparing witnesses for trial.
- Sequencing of investigative steps in an inquiry, so as to optimize chances of success.
- Maintaining knowledge of, and in some cases relationships with, criminals and criminal groups.

Apart from the last one, all these skills are generally much more concentrated among investigators than uniformed patrol officers. For the last one, the investigators' crime "knowledge" tends to be more offender-centric, whereas patrol officers' knowledge is more naturally place-centric, victim-centric, and crime-type-centric.

The Increase of Research and Science in Crime Detection

The seeds of modern forensic science were sown in the last quarter of the nineteenth century. Progress from that time has been slow but steady. The American Academy of Forensic Sciences (AAFS), a professional organization of forensic scientists in America, was established in 1948. Specific areas of expertise of AAFS members include pathology and biology, toxicology, criminalistics, questioned documents, and forensic odontology and anthropology.

In addition to the development of fingerprinting as an aid to criminal detection, several other forensic advances were either being developed or had already been placed into service by the late nineteenth century. Historic strides in criminal investigation included study in serology, **forensic dentistry**, and ballistics. For example, research into human blood was vastly expanded during the early twentieth century by Paul Uhlenhuth, a German physician. Uhlenhuth's work created serums that enabled one to distinguish one species of animal blood from another. Consequently, **serology** was a procedure that was established to study human blood stains and distinguish them from the blood of most other animals.

Today, increases in the demand for scientific techniques by investigators have created special financial burdens on law enforcement agencies. Techniques such as these call for people with a high degree of formal education in areas such as chemistry, forensic science, and physiology.

THE OBJECTIVES OF CRIMINAL INVESTIGATION

Because of the changing nature of criminal activity and the role of the investigator, the objectives of the criminal investigation may be more complex than people imagine. The following are the objectives of criminal investigations:

- Detect crimes
- Locate and identify suspects in crimes
- Locate, document, and preserve evidence in crimes
- Arrest suspects in crimes
- Recover stolen property
- Prepare sound criminal cases for prosecution

The premise behind the criminal investigation field is that people make mistakes while committing crimes. For example, a burglar may leave behind broken glass or clothing fibers; a rapist may leave fingerprints, skin tissue, semen, or blood. As a result of these oversights, evidence of who they are is also left behind. It is the job of the criminal investigator to know how, when, and where to look for such evidence. In doing so, he or she must be able to draw on various resources, such as the following:

- Witnesses and informants, for firsthand information about the crime
- Technological advances in evidence collection and preservation
- Their own training and experience in investigative techniques

In summary, almost all crimes require some degree of investigation. The extent to which any particular violation is investigated depends largely on resources available to the department and how the department prioritizes it.

Inductive and Deductive Reasoning

After an initial evaluation of evidence in a case, the criminal investigator draws conclusions through a process of reasoning. This process is typically achieved through inductive or deductive reasoning. The distinctions are as follows:

DEDUCTIVE REASONING

Deductive reasoning, sometimes referred to as "top-down logic," is a thought process in which a conclusion is based on the concordance of multiple premises that are generally assumed to be true. Deductive reasoning moves from the general to the particular.

In the process of deduction, the investigator begins with some statements, called "premises," that are assumed to be true. You then determine what else would have to be true if the premises are true. For example, "All drug users are impaired. This is a drug user. Therefore this drug user is impaired." The premise may not be "true" but the form of the argument is nevertheless "valid." If all drugs users are impaired, and if this is a drug user, then this drug user must necessarily be impaired.

An "invalid" deductive argument will contain something in the conclusion wholly new and independent from those things mentioned in the premise of the argument. If all drug users are impaired, then this particular drug user must be physically addicted. But physical addition is not mentioned in the premise.

INDUCTIVE REASONING

Inductive reasoning, sometimes referred to as "bottom-up logic," moves from the particular to the general. It gathers together particular observations in the form of premises, and then it reasons from these particular premises to a general conclusion. The most common form of inductive reasoning is when we collect evidence of some observed phenomena (e.g., examining 1,000 drug users for impairment), and then we draw a general conclusion about all such phenomena based on our collected evidence (e.g., whether all drug users are impaired). In an inductive argument, the conclusion goes beyond what the premises actually say. For example, if I observe 10,000 drug users, and every drug user is impaired, I may conclude, "All drug users must be impaired." The conclusion is a conjecture or a prediction. Further evidence may support or deny this conclusion.

CHALLENGING INDUCTIVE AND DEDUCTIVE REASONING

In 2002, Jon J. Nordby questioned the processes of inductive and deductive reasoning in his book *Dead Reckoning: The Art of Forensic Detection*. Nordby suggested that it's not enough to just collect and analyze evidence; investigators also need a guiding theory that's flexible enough to accommodate new information and sufficiently logical to show a clear pattern of cause and effect.[19]

For example, Nordby states that a homicide investigation could show that the killer did not need to break in to a residence because he had a key. This theory would significantly narrow the possibilities. It is important for investigators to not only have a theory that guides the investigation but also that any theory that is contradicted be discarded. In other words, it is important for investigators to understand how logic and science work together.

Abduction is the process, therefore, of proposing a likely explanation for an event that must then be tested. For example, the killer had a key to the victim's home. Nordby suggests:

> Induction is the wrong way of looking at science…because the classic problem of induction is the contrary instance [something that contradicts the claim].
>
> Let us consider the notion that once a crime scene investigator observes a hair or piece of fiber, he or she now has their evidence. The reality is that many, if not most, crime scenes exist in dirty, debris-filled rooms. Such places are abundant with hair and fibers. So what is the investigator actually looking for? Which of all of those hairs and fibers is actually evidence? Unless the criminal investigator has an idea or theory that will make one object relevant and another irrelevant, the evidence-collection process will be overwhelming. In order to have purpose in what is being done, the investigator must have something in mind. That comes from abduction.

Developing an explanation that can be tested moves the investigation forward and guides the accumulation of knowledge, giving way only when contradicted. Abduction helps to make links among events, and the development of the overall theory of a crime depends on adding new links. Nordby suggests that abduction keeps guessing to a minimum.

Investigative Dangers: Bias and Intuition

Failures in the investigative process can have serious consequences. Unsolved crimes, unsuccessful prosecutions, unpunished offenders, and wrongful convictions bring into question the integrity of the investigative process in particular and law enforcement in general.

COGNITIVE BIASES: PERCEPTION AND MEMORY LIMITATIONS

People have difficulty surveying their worlds. Instead of doing so objectively, their experiences and expectations influence the decoding of sensory input which often results in imperfect conclusions.[20] This simply means that people view things differently through different lenses and doing so creates mind-sets. Mind-sets aren't necessarily good or bad, but for many people, they are quick to form and difficult to change and this can be problematic. This is because conclusions can be premature and communication can be subjective in that what the speaker says and means could be interpreted in different ways by the person doing the listening. For example, subjective words such as "tall," "young," "likely," and "dangerous" have different meanings to different people. Because the brain does not record data, what people remember depends largely on what they believe.[21] Plus, people tend to remember positives and forget negatives. This is especially so when investigators become consumed in **belief perseverance** when they place more weight on evidence that supports their hypothesis rather than on clues or evidence that weakens it. The best way to accurately assess new information is to remain impartial and open-minded, because things change during the course of an investigation as more is learned about what occurred.[22]

INTUITION

The majority of cognitive functioning occurs outside conscious awareness. This includes perception, information processing, memory, and some methods of decision-making. As humans, we have only two types of decision-making mechanisms: the intuitive and irrational.[23]

Intuition falls between the automatic operations of perception and the deliberate processes of reasoning. Thus, intuition is not a paranormal ability or a form of extra-sensory perception. However, intuition is automatic and effortless and because of that it is fast and powerful. In comparison, reasoning is slow and effortful, vulnerable to interference, and easily disrupted. It is, however, flexible and controllable and can override intuition.[24]

Different situations encountered by the criminal investigator require different types of judgment. With often unreliable and incomplete data or under chaotic and uncertain conditions, intuitive decision-making is preferable.[25] The street cop or soldiers in battle typically encounter these types of situations. But just as individuals do not intuitively fill out their income tax returns every year, the professional and competent investigator requires reliable and adequate data for proper analysis, in order to produce the best results.

HEURISTICS AND BIASES

It is often difficult for people to think clearly and rationally.[26] At times, people exhibit limited rationality when faced with life's difficulties. This is because the brain is not wired to deal effectively with uncertainty. Therefore, people employ **heuristics**—rules of thumb that substitute simple questions for more complex ones—that typically operate on an intuitive level and work well most of the time. Unfortunately, under certain conditions, heuristics can lead to cognitive biases—mental errors resulting from oversimplified information processing.[27] Similar to an optical illusion, cognitive biases are consistent and predictable and can result in distorted judgments and faulty conclusions. Worse yet, according to research, a poor correlation exists between confidence and accuracy.[28] After a certain point, increased information leads to greater confidence in the analysis but not necessarily greater accuracy. Heuristic biases can prove particularly problematic for criminal investigators. Examples of these biases include the following (Figure 1.16):

- ***Anchoring*** refers to the strong influence of the starting point or first approximation on the final estimate. Limited or incorrect information will skew the starting point, thus jeopardizing the path to the correct conclusion. An example would be murder scenes that often first appeared to be something other than what they really are.
- ***Tunnel vision*** is another heuristic bias. Tunnel vision develops when the investigator focuses on a limited range of alternatives and results in the officer becoming so focused on an individual or an incident that no other person or incident registers in the officer's thoughts. So, tunnel vision can result in the disregarding of other suspects who should be investigated.
- ***Availability*** refers to the ease with which previous examples come to mind. This occurs because people make judgments based on only what they remember, not on the totality of their experiences. For example, they can remember recent events easily but find unpleasant events difficult to recall. Typically, people use the availability heuristic for determining how common or how likely something is. The availability heuristic proves especially problematic for investigations of less-common crimes such as child sex homicides.

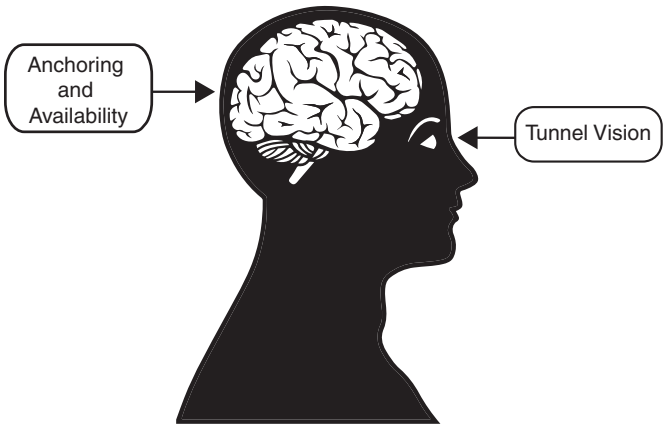


FIGURE 1.16 ► Graphic depicting sensory variables: anchoring and tunnel vision.

In conclusion, professional investigators can learn from those who rarely jumped to conclusions. For the most part, all options should remain open. This is because the wrong mindset, along with a limited organizational approach, can undermine the potential benefits of advanced forensic techniques, comprehensive criminal databases, and highly skilled police personnel.

Critical Thinking and Scientific Methodology

In addition to the use of deductive and inductive logic in interpreting evidence, the criminal investigator must incorporate skills of critical thinking with known scientific methods in their investigations. Let's look at how these two approaches to criminal investigation compare. In a most basic sense, critical thinking is the use of rational skills, worldviews, and values to get as close as possible to the truth. It is judgment about what to believe or what to do in response to observations or experiences. Fisher and Scriven define critical thinking as: "Skilled, active, interpretation and evaluation of observations, communications, information, and argumentation."[29] Critical thinking can also involve determining the meaning and significance of what is observed to determine whether there is adequate justification to accept whether a conclusion is true.

In contemporary usage, "critical" has the connotation of expressing disapproval, which is not always true of critical thinking. A critical evaluation of an argument, for example, might conclude that it is good.

Whereas thinking is often *casual* or routine, critical thinking deliberately evaluates the *quality* of thinking. In an early study

on critical thinking in 1941, Edward Glaser wrote that the ability to think critically involves three things:[30]

1. An attitude of being disposed to consider in a thoughtful way the problems and subjects that come within the range of one's experiences
2. Knowledge of the methods of logical inquiry and reasoning
3. Some skill in applying those methods

Critical thinking calls for a persistent effort to examine any belief or supposed form of knowledge in light of the evidence that supports it and the further conclusions to which it tends. It also generally requires ability to recognize problems and to find workable means for meeting those problems. Critical thinking may occur whenever one judges, decides, or solves a problem; in general, critical thinking may be used whenever one must figure out what to believe or what to do and do so in a reasonable and reflective way.

Critical thinking is an important element of all professional fields, including criminal investigation. It is important because it enables one to analyze, evaluate, explain, and restructure one's thinking, thereby decreasing the risk of adopting, acting on, or thinking with a false belief.

In contrast with critical thinking, the scientific method refers to techniques for investigating phenomena, acquiring new knowledge, or correcting and integrating previous knowledge. To be termed scientific, a method of inquiry must be based on gathering empirical and measurable evidence.[31] A scientific method consists of the collection of data through observation and experimentation and the formulation and testing of hypotheses. Each element of a scientific method is subject to peer review for possible mistakes.

The processes of critical thinking and scientific method need not be mutually exclusive. Rather, reasonable and informed investigators consider both as tools in their investigative arsenal, allowing for critical thinking in determining the direction of the investigation and scientific methods in evaluating the value and usefulness of evidence.

MODES OF INVESTIGATION

Criminal investigations are conducted through the use of three different responses: reactive, proactive, and preventive. The **reactive response** addresses crimes that have already occurred, such as murder, robbery, and burglary. In this case, investigators typically respond to a crime, collect evidence, locate and interview witnesses, and identify and arrest a suspected perpetrator. Investigations are also conducted as a **proactive response** to anticipated criminal activity, as with many vice and organized crime investigations. Proactive investigations differ from reactive ones in two major ways: (1) the investigation is conducted before the crime is committed (rather than after) and (2) the suspect is identified before he or she commits the crime. Finally, investigations are sometimes conducted as a **preventive response**. Prevention through deterrence is sometimes achieved by arresting the criminal and by aggressive prosecution.

TYPES OF INVESTIGATIONS

The mission of law enforcement is complex and demanding but contains some fundamental components, including the maintenance of peace in our communities and the protection of lives and property. When people choose to violate laws that provide for these essentials, the perpetrators must be identified and brought before a court. It is the task of identifying such offenders that is the quintessence of criminal investigation (Figure 1.17). Criminal investigators confront investigations in several areas in the regular course of their duties:

- Personal background—to determine a person's suitability for appointment to sensitive public trust positions
- Suspected violations of criminal law
- Infractions of civil law
- Vice (drug and organized crime activity)

CRIME SCENE INVESTIGATORS

As discussed earlier, the popular television show *CSI: Crime Scene Investigation* has brought the role of the crime scene investigator to the public, creating widespread interest in the forensic sciences. Of course, crime scene investigators require very specific training with regard to crime scene protection and the identification and preservation of evidence. Not every law enforcement agency is able to support a dedicated *CSI* unit. The critical role of the crime scene investigator cannot be overstated. For example, the National Institute of Justice states:

> One of the most important aspects of securing the crime scene is to preserve the scene with minimal contamination and disturbance of physical evidence. The initial response to an incident shall be expeditious and methodical. Upon arrival, the officer(s) shall assess the scene and treat the incident as a crime scene.[32]

FIGURE 1.17 ▶ Criminalist Stacy Vanderschaaf works on samples from a rape kit at the LAPD's crime lab at the Hertzberg-Davis Forensic Science Center in Los Angeles. (Ann Johansson/Corbis Historical/Getty Images)

Proper protection of the crime scene makes sense from a practical, financial, and operational standpoint. Essentially, today's crime scene investigators need not concern themselves with the field operations of investigations—for example, identification of witnesses, interviews and interrogations, evidence analysis and evaluation, and arrests. Rather, their focus is to control, contain, identify, and collect crime scene evidence.

The Emergence of the Police Specialist

The process of investigating criminals in the United States is structured very differently from that followed in England. In the United States, typically, a division exists within law enforcement agencies between officers whose responsibility it is to maintain order and those who investigate crimes. In larger departments, specialized squads typically perform the investigative function in law enforcement agencies. In fact, many such departments have several detective divisions within, each dealing with different categories of crime, such as crimes against persons (e.g., rape, assault, robbery), crimes against property (e.g., burglary, larceny, auto theft), and vice (e.g., drug violations, gambling, prostitution). Smaller rural departments often lack financial resources to specialize, so patrol officers often conduct criminal investigations in addition to their patrol duties.

In some types of crime, such as homicide, investigators must develop leads through interviews with friends, family, and associates of the victim as well as witnesses to the crime. In other cases, investigative leads are developed by sifting through files and prior police records and establishing the suspect's mode of operation (MO). In all cases, the investigative process uses traditional and historical methods of detection through the use of official records, photographs, fingerprints, and so on, as opposed to daily face-to-face contacts with the citizenry, such as with the patrol division. The investigative specialist is generally an older person who has had considerable experience in police work. Most detectives are former patrol personnel who have worked up through the ranks due to the common practice of promoting from within.

THE ROLE OF THE CRIMINAL INVESTIGATOR

As indicated earlier, many myths exist regarding the role of criminal investigators. Perhaps these were best summarized by Herman Goldstein, who wrote:

> Part of the mystique of detective operations is the impression that a detective has difficult-to-come-by qualifications and skills; that investigating crime is a real science; that a detective does much more important work than other police officers; that all detective work is exciting; and that a good detective can solve any crime. It borders on heresy to point out that, in fact, much of what detectives do consists of very routine and very elementary chores, including much paper processing; that a good deal of their work is not only not exciting but downright boring; that the situations they confront are often less demanding and challenging than those handled by patrol officers; that it is arguable whether special skills and knowledge are required for detective work; that a considerable amount of detective work is usually undertaken on a hit-or-miss basis; and that the capacity of detectives to solve crimes is greatly exaggerated.[33]

Indeed, some studies have suggested that the role played by investigators is overrated and that their time could probably be spent more productively by focusing on crimes with the best likelihood of clearance.[34] Other researchers suggest that the investigative process is a valid utility in crime detection but should be augmented by the use of **proactive patrol** programs.

Characteristics of the Investigator

What characteristics best define a professional criminal investigator? Certainly, standards vary from one law enforcement agency to the next, but certain commonalities can be identified. To recognize these qualities, many police agencies implement a supervisory performance appraisal system to evaluate suitability for appointment to investigator. Once taken, the police manager can choose from candidates who possess the most sought-after qualities. According to a study by the National Institute of Justice (NIJ), investigative traits most commonly desired include the following:[35]

- Motivation
- Intuition
- Stability
- Judgment
- Street knowledge
- Teamwork
- Persistence
- Reliability
- Intelligence
- Dedication
- Integrity

Investigators are specialists. They undertake activities related primarily to law enforcement; patrol officers, on the other hand, routinely spend their time in order maintenance and the provision of general services (e.g., emergency aid, finding lost children, traffic control). Despite the diversity of tasks performed by patrol officers, investigators also assume many substantial duties. For example, detectives gather crime information, effect arrests, and prepare cases for prosecution and trial.

Gathering Information

Many criminal investigations are initiated with a call to the police dispatcher during which a crime is reported. Some of the most critical tasks performed by detectives include rapid arrival at crime scenes; searching the area; and identifying, collecting, and preserving evidence. In addition, investigators must be familiar with the department's computer and manual records, which contain such information as mug shots, fingerprints, intelligence, and stolen property files. Depending on the assignment, detectives must be able to follow up on leads through the use of various methods and procedures. These include visits to pawn shops, suspected fencing locations, taverns, and other places thought to be frequented by criminals.

FIGURE 1.18 ▶ Members of an FBI Evidence Response Team search an area that is still an active crime scene in downtown Dallas following the deaths of five police officers on Thursday evening on July 9, 2016, in Dallas, Texas. Five police officers were killed and seven others were injured in the evening ambush during a march against recent police involved shootings. (Photo by Spencer Platt/Getty Images)

Field Operations

The best investigators have a demonstrated ability to function in **field operations** such as patrol and surveillance functions (stakeouts). At times, an investigator may even be required to perform in an undercover capacity to procure information on illegal activities such as drug trafficking, fencing operations, prostitution, or corruption. In addition, such investigations require the investigator to know how to operate technical and complicated electronic surveillance equipment, such as hidden-body transmitters, night-viewing devices, and photography equipment. Along with these skills, stamina and a willingness to work long hours are prerequisites (Figure 1.18).

Arrests

One of the basic functions of law enforcement is to arrest violators of the law. Accordingly, making arrests is a significant objective for investigators because they spend so much time collecting and evaluating information on criminal activity. The quality of arrests is also an important variable because an officer who has a reputation for making many poor-quality arrests will probably not be considered for the position of detective. Because a major purpose of an arrest is to secure a conviction, the quality and number of prosecutions and convictions are critical elements in assessing the performance of investigators.

The Patrol Officer as an Investigator

Traditionally, the responsibility of patrol officers in criminal investigations has been limited. Patrol officers have been required only to collect and record the most basic information by asking simple questions to the victims and witnesses and recording their answers on a report form. While in the past, patrol officers have studied crime scenes for physical evidence, usually the time spent on any one incident has been minimal. As a rule, reports have been reviewed by a supervisor and then sent to the detective division or an investigative unit for follow-up. In many cases, this process has resulted in duplication of efforts by investigators.

Over the past decade, many police departments have expanded the role of the patrol officer to responsibilities that are traditionally assigned to investigators. These new responsibilities include the following:

- The patrol officer provides immediate assistance to victims, locates witnesses, interviews both victims and

QUALITIES INVOLVED IN INVESTIGATIVE PERFORMANCE		
Gathering Information	Intelligence	**Prosecutions**
Crime scene management	Perseverance	Quantity
Communication skills	Initiative	Presentation of testimony
Field Operations	Judgment	Percent of convictions
Stakeouts	Teamwork	**Personnel Performance**
Patrol	Involvement	Absenteeism
Crime pattern analysis	Dedication	Complaints
Developing informants	**Arrests**	Awards
Street knowledge	Quantity	Dedication
Personal Traits	Quality	**Qualifications**
Motivation	**Public–Victim Satisfaction**	Education
Stability	Crime reduction	Training
Persistence	Diminution of fear	Previous assignments in department

witnesses, and records information about the crime scene. Depending on the seriousness of the crime or the presence of physical evidence, the patrol officer may call for a more specialized search by evidence technicians. To a great extent, this procedure initiates the case.

- The patrol officer has the authority to initiate and complete investigation of certain classifications of crime, such as all **misdemeanors**, cases that involve property value up to $1,500, and auto larceny cases. Investigations of more serious crimes continue to be referred to specialized investigative units. The practical effect of this "sorting out" of responsibilities for different types of investigations is that patrol officers investigate high-volume crimes that can be investigated as effectively by patrol as by criminal investigators. Conversely, investigations that require more time, specialized skill, and effort are handled by trained criminal investigators.
- In rare cases, the police officer may be given responsibility for the entire investigative process. In these situations, the patrol officer carries out all investigative functions. Investigators, if there are any, perform as consultants to the patrol officers.

For the most part, police administrators agree that these changes in the patrol officers' role have produced a number of benefits, including the following:

- The cases are handled completely and expeditiously.
- Relationships and communications between patrol officers and investigators have improved.
- The frequency of morale problems among patrol officers has decreased, and the decrease is attributable to the officers' belief that their skills are being better used in the investigative process.
- An increase in investigator productivity has resulted from a lighter caseload, which produced more time to focus investigative resources on specific high-profile cases.
- There is better management of the entire investigative effort by the police administrator.

Solvability Factors

A police department's reporting system and the investigative role of patrol officers are inextricably bound. The redefining of the role of patrol officer is intended to ensure that evidence supporting the continual investigation or case closure is collected at the earliest possible point in the investigative process. This reporting system serves as the foundation for the criminal investigation.

The reporting system is defined by two basic components, which in combination form the basis for an initial investigation. The first is a format that logically guides the identification of leads, or **solvability factors**, that experience and research have demonstrated are most likely to result in case solution. The second provides an opportunity for details of the investigation thus far expended so the follow-up plans do not unnecessarily duplicate tasks already completed.

A police department's reporting system should not only indicate that solvability factors are present, but it should also identify the investigative effort expended in searching for leads. For example, if witnesses have been sought in a number of locations, the report should indicate where the search was conducted, who was contacted, and what was found. Without this description, the follow-up investigator will not have a clear idea of where the patrol officer has located the existing solvability factors and will end up duplicating his or her efforts.

Unless the patrol officer is able to make an immediate, on-scene arrest, 12 essential questions need direct answers. These solvability factors are logically based on existing police practices. All agencies may have different capabilities and procedures that result in slightly different solvability factors. The primary factors are as follows:

1. Immediate availability of witnesses
2. Name(s) of the suspect
3. Information about the suspect's location
4. Information about the suspect's description
5. Information about the suspect's identification
6. Information about the suspect's vehicle and vehicle movement
7. Information about traceable property
8. Information about significant MO
9. Information about significant physical evidence
10. Discovery of useful physical evidence
11. Judgment by the patrol officer that there is sufficient information available to conclude that anyone other than the suspect could not have committed the crime
12. Judgment by the patrol officer on case disposition. If the officer believes there is enough information available and with a reasonable investment of investigative effort the probability of the case solution is high, then the investigation should be continued

From an investigative standpoint, these 12 structured questions serve to define what the patrol officer should accomplish. By directing his or her activities to areas of inquiry that are the most promising for a successful case solution, the role of the patrol officer is broadened and more effective. Furthermore, utilization of the solvability factors emphasizes the importance of a thorough initial investigation even when it is being turned over for a continuing investigation. The patrol officer has provided the direction of the investigation, up to this point.

In summary, the expanded role of patrol officers in recent years has meant increased efficiency and effectiveness in policing in general and criminal investigation specifically. It has also served to enlighten those who serve the community in the capacity as patrol officers and to make them more aware of their important role as first responders to crime scenes and as the police department's eyes and ears on the street. In their role as first responders to crime scenes, patrol officers have many specific duties. These duties are encompassed in a process known as the preliminary investigation (discussed in greater detail in Chapter 3).