

CHAPTER ONE

AN INTRODUCTION TO FORENSIC PSYCHOLOGY

1.1. Nature and Definition of Forensic Psychology

According to *The Concise Oxford English Dictionary*, 'forensic' means 'Of, used in, courts of law'. So, strictly speaking, forensic psychology is the application of psychology to matters concerning the court of law. Wrightsman's *Forensic Psychology* takes just this approach in

proposing that 'Forensic psychology is reflected by any application of psychological knowledge or methods to the task facing the legal system' (2001, p. 2). This correct usage of the term 'forensic' is similarly reflected in other texts given specifically to forensic psychology (Gudjonsson & Haward, 1998) or more generally to psychology and law (Bartol & Bartol, 1994; Kapardis, 1997; cf 0020Stephenson, 1992).

But 'forensic psychology' has also come to be used in a much broader sense – when psychology is associated with any topic even remotely related to crime, such as the development of antisocial behaviour, the study of different types of offender, and crime prevention. This improper use of the term 'forensic' has, rightly, met with disapproval (Blackburn, 1996), but its use has become widespread. In considering the topic of forensic psychology in the broad sense it is helpful to distinguish between *legal psychology* – which can be thought of in terms of Wrightman's definition – and *criminological psychology* – the application of psychological knowledge and methods to the study of crime and criminal behaviour.

Breadth of forensic psychology

Forensic psychology is a very new and exciting area; it seems exciting because of the immense range of its applications, For instance:

- ☐ Child custody decisions
- ☐ Child abuse of an emotional, physical and sexual nature
- ☐ Matters of competency to stand trial
- ☐ Victim support responsibilities
- ☐ Jury selection
- ☐ Alleviating Police burnout
- ☐ Competency evaluations
- ☐ Expert witness
- ☐ Advising legislators on public policy
- ☐ Treatment of chronic offenders

What do forensic psychologists do?

A Forensic Psychologist is more likely to be indulged in following activities:

- ☐ Applying psychological theory to criminal investigation

- ☐ Understanding psychological problems associated with criminal behaviour
- ☐ The treatment of criminals include piloting and implementing treatment programmes
- ☐ Modifying offender behaviours
- ☐ Responding to the changing needs of staff and prisoners
- ☐ Reducing stress for staff and prisoners
- ☐ Providing hard research evidence to support practice
- ☐ Undertaking statistical analysis for prisoner profiling
- ☐ Giving evidence in court; advising parole boards and mental health tribunals; crime analysis.

1.2. The Relationship between Psychology and Law

Not only is forensic psychology a challenging field to be in because of the diversity of roles that a forensic psychologist can play, it is also challenging because forensic psychology can be approached from many different angles. One way of thinking about these various angles, although not the only way, has been proposed by Craig Haney, a professor of psychology at the University of California, Santa Cruz. Haney (1980) suggests there are **three primary ways** in which psychology and the law can relate to each other. He calls these relationships **psychology and the law**, **psychology in the law**, and **psychology of the law**. Clinical and experimental, Forensic psychologists are typically involved in psychology and the law and psychology in the law much more often than the third area. Psychology of the law is largely the domain of the legal scholar role and, therefore, we will only touch on it very briefly.

Psychology and the Law: The use of psychology to examine the operation of the legal system. In this relationship, “psychology is viewed as a separate discipline [to the law], examining and analyzing various components of the law [and the legal system] from a psychological perspective” (Bartol & Bartol, 1994, p. 2). Frequently, research that falls under the category of psychology *and* the law examines assumptions made by the law or the legal system, asking questions such as these: Are eyewitnesses accurate? Do certain interrogation techniques cause people to make false confessions? Are judges fair in the way they hand down sentences? Is it possible to accurately predict whether an offender will be violent when released from prison? When working within the area of psychology *and* the law, forensic psychologists attempt to answer these sorts of questions so that the answers can be communicated to the legal community. Much of forensic psychology deals with this particular relationship.

Psychology in the Law: The use of psychology in the legal system as that system operates. Once a body of psychological knowledge exists in any of the above-mentioned areas of study, that knowledge can be used in the legal system by psychologists, police officers, lawyers, judges, and others. As the label indicates, psychology *in* the law involves the use of psychological knowledge in the legal system (Haney, 1980). As with psychology and the law, psychology in the law can take many different forms. It might consist of a

psychologist in court providing expert testimony concerning some issue of relevance to a particular case. For example, the psychologist might testify that, based on his or her understanding of the psychological research, the eyewitness on the stand may have incorrectly identified the defendant from a police line-up. Alternatively, psychology in the law might consist of a police officer using his or her knowledge of psychology in an investigation. For example, the officer may base his questioning strategy during an interrogation on his knowledge of various psychological principles that are known to be useful for extracting confessions.

Psychology of the law: The use of psychology to examine the law itself. Psychology of the law involves the use of psychology to study the law itself (Haney, 1980), and it addresses questions such as these: What role should the police play in domestic disputes? Does the law reduce the amount of crime in our society? Why is it important to allow for discretionary decision making in the criminal justice system? Although often not considered a core topic in forensic psychology, there does appear to be a growing interest in the area of psychology of the law. The challenge in this case is that to address the sorts of questions posed above, a set of skills from multiple disciplines (e.g., criminology, sociology, law) is often important and sometimes crucial. The new focus in North America and elsewhere on the role of the forensic psychologist as legal scholar will no doubt do much to assist in this endeavor, and we are confident that in the future more research in the area of forensic psychology will focus on issues surrounding psychology of the law.

1.3. Historical Development of Forensic Psychology

Compared to other areas of psychology, forensic psychology has a relatively short history, dating back roughly to the late nineteenth century. In the early days, this type of psychology was actually not referred to as forensic psychology, and most of the psychologists conducting research in the area did not formally identify themselves as forensic psychologists. However, their research formed the building blocks of an emerging field of psychology that continues to be strong today.

In the late nineteenth century, research in the area of forensic psychology was taking place in both North America and Europe, though as indicated above, it wasn't being referred to as forensic psychology at the time. Some of the first experiments were those of James McKeen Cattell (who is perhaps better known for his research in the area of intelligence testing) at Columbia University in New York (Bartol & Bartol, 2006). Cattell, a previous student of Wilhelm Wundt, who developed the first psychology laboratory in North America, conducted the first experiments on the psychology of testimony. One of the earliest examples of a psychologist testifying in a criminal trial. Albert von Schrenck-Notzing's testimony deals with the effect of pretrial publicity on memory.

Hugo Munsterberg's *On the Witness Stand* is published in the United States. A year later, John H. Wigmore's famous critique of Munsterberg's work appears.

In a series of articles, Guy Whipple introduces North American psychologists to the classic European experiments on eyewitness testimony. Julian Varendonck conducts a series of classic studies on the suggestibility of children in order to inform his courtroom testimony on the reliability of child witnesses.

William Marston develops the first modern polygraph. In the same year, Louis Terman pioneers the use of psychological testing for personnel selection in U.S. law enforcement agencies.

In *State v. Driver*, a North American psychologist testifies in court as an expert witness for the first time. However, the testimony is rejected. In *Frye v. United States*, the courts speak specifically to the issue of when expert testimony should be admissible. A brief written by social psychologists is cited in a footnote of the famous *Brown v. Board of Education* decision outlawing school segregation. The citation helps validate psychology as a discipline.

Famous personality psychologist, Hans. J. Eysenck, publishes *Crime and Personality* in which he proposes his biosocial theory of crime, viewed by some as the first testable theory of criminal behavior proposed by a psychologist. The American Psychology-Law Society (AP-LS) is founded. A few years later,

the AP-LS journal *Law and Human Behavior* begins publication. The American Psychological Association's (APA) Division 41, Psychology and Law, is established. Four years later, AP-LS merges with Division 41. In *Daubert v. Merrell Dow Pharmaceuticals Inc.*, the U.S. Supreme Court lays out specific criteria for determining when scientific evidence can be admitted. The American Psychological Association formally recognizes forensic psychology as a specialty discipline.

Leipzig, Germany, was one of the major powerhouses of psychology in North America. After developing an expertise in the study of human cognitive processes while in Leipzig, Cattell conducted some of the first North American experiments looking at what would later be called the psychology of eyewitness testimony (e.g., Cattell, 1895). Cattell would

ask people to recall things they had witnessed in their everyday life (e.g., "In which direction do apple seeds point?"), and he found that their answers were often inaccurate.

At around the same time, a number of other psychologists began studying eyewitness testimony and suggestibility (see Ceci & Bruck, 1993, for a review). For example, the famous French psychologist Alfred Binet conducted numerous studies in which he showed that the testimony provided by children was highly susceptible to suggestive questioning techniques. In a study discussed by Ceci and Bruck (1993), Binet (1900) presented children with a series of objects for a short period of time (e.g., a button glued to poster board). After viewing an object, some of the children were told to write down everything that they saw while others were asked questions. Some of these questions were direct (e.g., "How was the button attached to the board?"), others were mildly leading

(e.g., “Wasn’t the button attached by a thread?”), and still others were highly misleading (e.g., “What was the color of the thread that attached the button to the board?”). As found in numerous studies since this experiment, Binet demonstrated that asking children to report everything they saw (i.e., free recall) resulted in the most accurate answers and that

highly misleading questions resulted in the least accurate answers. Shortly after Binet’s study, a German psychologist named William Stern also began conducting studies examining the suggestibility of witnesses (Bartol & Bartol, 2006; Ceci & Bruck, 1993). The “reality experiment” that is now commonly used by eyewitness researchers to study eyewitness recall and recognition can, in fact, be attributed to Stern. Using this research paradigm, participants are exposed to staged events and are then asked to recall information about the event. In one of Stern’s experiments, participants were exposed to a scenario that involved two students arguing in a classroom setting until one of the students drew a revolver (Stern, 1910). As was the case with Binet, Stern found that eyewitness testimony can often be incorrect, and he was perhaps the first researcher to demonstrate that an observer’s level of emotional arousal can have an impact on the accuracy of that person’s testimony. Early Court Cases in Europe Around the time that this research was being conducted, psychologists in Europe also started to appear as expert witnesses in court. Unsurprisingly, given the research being conducted at the time, much of the testimony that they were providing dealt with issues surrounding the accuracy of eyewitness testimony. For example, in 1896, Albert von Schrenck-Notzing was probably the first expert witness to provide testimony in court on the effect of pretrial publicity on memory (Bartol & Bartol, 2006). The case took place in Munich, Germany, and involved a series of three sexual murders. The court case attracted a great deal of attention from the press of the time, and Schrenck-Notzing testified

that this extensive pretrial press coverage could influence the testimony of witnesses by causing what he called “retroactive memory falsification” (Bartol & Bartol, 2006). This referred to a process whereby witnesses confuse actual memories of events with the events described by the media. Schrenck-Notzing supported his expert testimony with laboratory research, and this research is in line with more recent studies that have examined

the effects of pretrial publicity (e.g., Ruva, McEvoy, & Bryant, 2007).

Following this case, Julian Varendonck, a Belgian psychologist, was called on to be an expert witness in a 1911 case involving the murder of a young girl, Cecile. Ceci and Bruck (1993) describe the case:

Two of Cecile’s friends who had played with her on the day of her murder were awakened that night by Cecile’s mother to ask of her whereabouts. One of the children replied that she did not know. Later that night, she led the police to the spot where the children had played, not far from where Cecile’s body was found.

In the next month, the two children were repeatedly interviewed by authorities who asked many suggestive questions. The children quickly changed their original testimony of not knowing about Cecile’s actions on the day of her murder.

They provided details of the appearance of the murderer as well as his name. Because of an anonymous letter, the police arrested the father of one of the playmates for the murder of Cecile. On the basis of the details of the case, Varendonck was convinced of the defendant's innocence. He quickly conducted a series of studies with the specific intent of demonstrating the unreliability of children's testimony. (p. 406) According to Ceci and Bruck (1993), in one of his studies, Varendonck (1911) asked a group of children to describe a person who had supposedly approached him in front of the children earlier that morning. Although this person did not exist, Varendonck was able to demonstrate, in line with more recent studies, that many of the children were easily led by suggestive questioning. Based on these findings, Varendonck concluded to the court that the testimony provided by the children in this case was likely to be inaccurate and that, as a group, children are prone to suggestion.

Advocates of Forensic Psychology in North America Although it was not until years later that psychologists began testifying on similar issues in North America, psychology in North America was making great strides in other areas of the criminal justice system. Perhaps one of the most important landmarks was the publication in 1908 of Hugo Munsterberg's *On the Witness Stand* (Munsterberg, 1908).

Another student of Wilhelm Wundt, Munsterberg is considered by many to be the father of applied psychology (Bartol & Bartol, 2006). Coming from Germany to Harvard University in 1892, he quickly established a name for himself (Brigham, 1999). In his book, Munsterberg argued that psychology had much to offer the legal system. Through a collection of his essays, he discussed how psychology could assist with issues involving eyewitness testimony, crime detection, false confessions, suggestibility, hypnotism, and even crime prevention.

Unfortunately, Munsterberg presented his ideas in a way that led to heavy criticism from the legal profession (Bartol & Bartol, 2006). This is unsurprising given the way in which he wrote. Consider the following quotation from the introduction to his book:

The lawyer and the judge and the jurymen are sure that they do not need the experimental psychologist. They do not wish to see that in this field pre-eminently applied experimental psychology has made strong strides. . . . They go on thinking that their legal instinct and their common sense supplies them with all that is needed and somewhat more . . . if the time is ever to come when even the jurist is to show some concession to the spirit of modern psychology, public opinion will have to exert some pressure. (Munsterberg, 1908, pp. 10–11) Munsterberg's biggest critic was John Henry Wigmore, a well-respected law professor at Northwestern University in Chicago. Wigmore is known for many things, most

notably his *Treatise on Evidence*, which is a critical examination of the laws of evidence. In the field of forensic psychology, however, what Wigmore is most commonly known for is his ruthless critique of Munsterberg's book. Through a series of fabricated "transcripts,"

Wigmore (1909) put Munsterberg on “trial,” where he was sued, and found guilty of “claiming more than he could offer” (Brigham, 1999, p. 276). Wigmore criticized Munsterberg for the lack of relevant research publications to back up his claims and, more generally, for the lack of applied research in the field of forensic psychology as a whole.

Due perhaps in large part to Wigmore’s comprehensive attack on Munsterberg’s work, North American psychologists working in areas that we would now define as forensic psychology were largely ignored by the legal profession for a period of time.

However, according to some, Munsterberg was still instrumental in pushing North American psychologists into the legal arena (Bartol & Bartol, 2006).

1.4. The Importance of Psychology in the Legal Setting

The application and *utility of psychology* and psychological principles, approaches and findings in law and law enforcement continued throughout the 1920's and 1930's. This is, so mainly in more developed countries than less developed countries. To this day, however, globally, there is still a special interest in extending psychology to the law enforcement institutions (e.g. courts and police work). The demand for psychologists in the legal system has grown considerably over the past several decades.

- Psychology helps lawyers to *understand self and others’ behavior* including both the pro-social and anti-social behaviors.
- Psychology helps formulating social policies and programs, enacting laws, solving practical problems(e.g. social and legal problems) related to human behavior, relationship or interaction that have legal concerns.
- Helps lawyers *enlighten* people’s irrational and biased feelings, thoughts, perceptions, beliefs and anti-social as well as deviant behaviors that hampers the normal and healthy life conditions and might lead to criminal behaviors.
- Assist having good and smooth relationship with individuals, groups and institutions, helps to foster good relationship within the work environment and social settings.
- Study of psychology helps lawyers recognize and differentiate between normal and abnormal behaviors and attempt changing the latter to the former. It then helps them practice ethical and

professional manners of service delivery by understanding the behaviors of clients. Key tasks undertaken particularly by forensic and legal psychologists include:

- ☛ modifying offender behavior;
- ☛ responding to the changing needs of people in the courts and justice system;
- ☛ advising the law makers, the executives, etc and counseling crime victims;
- ☛ reducing stress for staff and prisoners;
- ☛ providing hard research evidence to support legal practice;
- ☛ undertaking statistical analysis for prisoner profiling;
- ☛ working in partnership with psychologists, sociologists, medical practitioners, law enforcement agencies, the community, etc;
- ☛ giving evidence in court;
- ☛ advising parole boards and mental health tribunals; crime analysis.

1.5. Theories of Forensic Psychology

Forensic Psychology in Other Areas of the Criminal Justice System After the publication of Munsterberg's controversial book, forensic psychology in North America gradually caught up to what was happening in Europe. Not only were theories of crime being proposed at a rapid rate, these theories were informing Biological, Sociological, and Psychological

Theories of Crime

While an in-depth discussion of crime theories is beyond the scope of this material, efforts to develop such theories are clearly an important part of the history of forensic psychology. During the past century, a variety of biological, sociological, and psychological theories of crime have been proposed and tested. Below are brief descriptions of some of these theories.

Biological Theories of Crime

• ***Sheldon's (1949) constitutional theory.*** Sheldon proposed that crime is largely a product of an individual's body build, or somatotype, which is assumed to be linked to an individual's temperament. According to Sheldon,

endomorphs (obese) are jolly, ectomorphs (thin) are introverted, and mesomorphs (muscular) are bold. Sheldon's studies indicated that, due to their aggressive nature, mesomorphs were more likely to become involved with crime.

- **Jacobs, Brunton, Melville, Brittain, and McClellmont's (1965) chromosomal theory.**

Jacobs and her colleagues proposed that chromosomal irregularity is linked to criminal behavior. A normal female has two X chromosomes, whereas a normal male has one X and one Y chromosome. However, it was discovered that some men possess two Y chromosomes, which, it was proposed, made them more masculine and, therefore, more aggressive. According to Jacobs and her colleagues, this enhanced aggressiveness would result in an increased chance that these men would commit violent crimes.

- **Mark and Ervin's (1970) dyscontrol theory.** Mark and Ervin proposed that lesions in the temporal lobe and limbic system result in electrical disorganization within the brain, which can lead to a "dyscontrol syndrome." According to Mark and Ervin, symptoms of this dyscontrol syndrome can include outbursts of sudden physical violence, impulsive sexual behavior, and serious traffic violations.

Sociological Theories of Crime

- **Merton's (1938) strain theory.** Merton proposed that crime is largely a product of the strain felt by certain individuals in society (typically from the lower class) who have limited access to legitimate means (e.g., education) for achieving valued goals of success (e.g., money). Merton argued that while some of these individuals will be happy with lesser goals that are achievable, others will turn to illegitimate means (e.g., crime) in an attempt to achieve the valued goals.

- **Sutherland's (1939) differential association theory.** Sutherland proposed that criminal behavior is learned through social interactions in which people are exposed to values that are favorable to violations of the law. More specifically, Sutherland maintained that a person is likely to become a criminal when he or she learns more values (i.e., attitudes) that are favorable to violations of the law than values that are unfavorable to it.

- **Becker's (1963) labelling theory.** Unlike most other theories of crime, Becker proposed that deviance is not inherent to an act, but a label attached to an act by society. Thus, a "criminal" results from a process of society labelling an individual a criminal. This labelling process is thought to promote the individual's deviant behavior through a self fulfilling prophecy, defined by Becker as a prediction, which is originally false, but made true by the person's actions.

Psychological Theories of Crime

- **Bowlby's (1944) theory of maternal deprivation.** Bowlby argued that the early separation of a child from his mother prevents effective social development from taking place. Without effective social development,

Bowlby hypothesized that children will experience long-term problems in developing positive social relationships and will instead develop antisocial behavior patterns.

- **Eysenck's (1964) biosocial theory of crime.** Eysenck believed that some individuals (e.g., extraverts and neurotics) are born with cortical and autonomic nervous systems that influence their ability to learn from the consequences of their behavior, especially the negative consequences experienced in childhood as part of the socialization and conscience-building process. Due to their poor conditionability, it is assumed that individuals who exhibit high levels of extraversion and neuroticism will have strong antisocial inclinations.

- **Gottfredson and Hirschi's (1990) general theory of crime.** Gottfredson and Hirschi argue that low self control, internalized early in life, in the presence of criminal opportunities explains an individual's propensity to commit crimes. research conducting by North American psychologists. This research was also being practically applied in a wide range of criminal justice settings. For example, as Bartol and Bartol (2004) highlight, forensic psychologists were instrumental in establishing the first clinic for juvenile delinquents in 1909, psychologists began using psychological testing for law enforcement selection purposes in 1917, and 1919 saw the first forensic assessment laboratory (to conduct pretrial assessments) set up in a U.S. police agency. After these events, psychologists in the United States began to be more heavily involved in the judicial system as well, starting with the case of *State v. Driver* in 1921.

CHAPTER TWO

EYEWITNESSES: KEY ISSUES AND EVENT CHARACTERISTICS

Eyewitness testimony is of crucial importance for both crime investigators and lawyers. Kebbel et al. (2006) had participants commit a mock crime, namely, stealing a mobile phone. As experienced police investigators would have predicted, when later questioned about the theft, those subjects who were presented with evidence from a witness who was said to have seen the offence were more likely to confess than subjects who were not confronted with such evidence (see also chapters 8–9). Not surprisingly, therefore, within the psycholegal field, testimony, especially eyewitness testimony, has attracted a lot of attention over the years. Since the 1980s the treatment of court witnesses by the criminal justice system began to improve. Memory issues permeate the law and psycholegal studies of eyewitness testimony constitute one of the pillars of legal psychology. As the content of this and the next two chapters indicate, more empirical studies have been reported in this area of legal psychology than in any other area. Furthermore, assumptions about human memory are inherent in both substantial and procedural rules without which the legal system could not function.

CHARACTERISTICS OF HUMAN ATTENTION, PERCEPTION AND MEMORY

Everyday witnesses in criminal and civil cases all over the world are asked by police, lawyers and others in and out of court to recall details of events, to describe a face and so forth on the assumption that the human memory operates like a video-recorder, a neutral and accurate recording device. Apparently, the same model permeates the literature on accident investigation (Kelloway et al., 2004). This misleading passive model of human attention, perception and memory has, since the late 1970s, given way to the view that these are active processes, that perception and memory are also constructive processes, that a person's knowledge of the world around them is of paramount importance in understanding what and how he/she perceives events or other stimuli and what they remember about them (Clifford and Bull, 1978).

The available experimental evidence in cognitive psychology is evidence

that goes back to Bartlett (1932) and his finding that perceptions are assimilated into organisations or schemata: that when we remember a story, for example, we try to 'make sense' of what we remember. Such evidence leaves no doubt that perception and

memory are 'social systems' (Buckhout, 1974) with structural and functional limitations. Many aspects of eyewitness behaviour cannot be explained unless we consider what someone is, what they are trying to do and the ways their values, attitudes, expectations and motivations act not only at the time of attention and perception but also during the period of storage, and especially when they are being asked to remember. In other words, perception involves a contribution from the perceiver; human memory is both selective and constructive and 'we make sense of things and come to perceive them in terms of the sense we have made of them' (Lloyd-Bostock, 1988:5).

The mental processes by which we come to understand things is known as 'cognition' and is made possible by the combined work of attention, perception and memory. According to Davenport (1992), human attention can be thought of as a 'low capacity, single channel' operation that enables us to selectively attend to stimuli in our environment and within us (pp. 127–33). 'Perception' refers to those processes that take in, and make some sense of, all our sensations, that is, the input from our senses. Perception is an active process whereby we interpret what information we receive so that it is meaningful to us. How we interpret sensations is influenced by our age, cultural background, expectations, emotions, particular specialist knowledge and so forth (p. 135).

In a matter of a few years memory researchers have shifted from proposing a somewhat monolithic view of long-term memory to a view that differentiates different kinds of memory. The three-stage processing model of memory (Atkinson and Shiffrin, 1968) has proved a useful framework for thinking and talking about the mind. This model posits: (a) that the mind combines three memory stores, namely, a sensory memory, a working or short-term memory and a long-term memory; and (b) that the processing of information within stores and the movement of information between stores is governed by the following three central processes that comprise the *central executive* by controlling the flow of information:

attention – from the sensory store into the working memory

encoding – from the short-term memory into the long-term memory

retrieval – from the long-term memory into the working memory (Gray, 1999:322).

The available research evidence points to an impressive degree of specialisation in how information is stored (Gray, 1999:484). Finally, when psychologists distinguish between different kinds of memory, this is best understood 'as reflecting the different processes that can be used to access a common memory trace' (p. 482). More recently, experimental psychologists Pansky et al. (2005) have proposed a theoretical framework that specifies the critical role of metacognitive monitoring and control processes in strategically regulating memory performance. While memory appears to be organised into separate stages or processes, the fact remains that

its short-term storage lasts for less than 20 seconds, by which time new input will displace existing information. The memory can hold no more than seven items at one time unless information is passed into the long-term store for permanent storage, from where it can be retrieved (Davenport, 1992:153–4). Failure to retrieve information from our memory may reflect: failure to encode information correctly; that information may have been displaced; the memory trace has simply faded away or decayed with the passage of time; or there may have been interference from later input which sounded similar and impacted negatively on the short-term memory or is semantically similar and interfered with information in the long-term memory (Davenport, 1992; Gray, 1999). In addition, forgetting can be due to retrieval failure because stored information cannot be accessed. Many clinicians would argue that forgetting can be due to repression, that is, a process by which, according to Freud, the mind pushes into the unconscious a memory of a traumatic experience. This is also known as ‘motivated forgetting’. However, despite attempts to integrate the cognitive and the psychodynamic unconscious,¹³ as the discussion of the whole issue surrounding the subject of recovered memories of childhood sexual abuse shows (see below), the concept of repression (see chapter 3) is a rather controversial one.¹⁴ Despite such controversies, there is general agreement that the human memory does not operate like a video-recorder and, therefore, there is an undisputed need that interviews of crime victims/witnesses by police and other investigators are informed by in-depth knowledge about the human memory and how it normally operates.

According to Davies (1993a:368), three representative theories of remembering that have impacted on the controversy surrounding the processes involved when eyewitnesses recall are: (a) *schema theory*;¹⁵ (b) *multiple-entry modular memory model, or memory monitoring*;¹⁶ and (c) the *headed records* theory.¹⁷ While schema-based (constructionist) theories hold that memory is subject to post-event contamination through assimilation and distortion over time and one cannot, therefore, access the original memory because it no longer exists, monitoring memory and headed records posit that memory events leave records that cannot be altered and are accessible under the appropriate circumstances (see Davies, 1993a for a critical evaluation of these three theories).

In considering the structure and functioning of human memory we must not forget such memory disorders as *amnesia*, *hypermnnesia*, and *paramnesia* (see Kopelman, 1987; Yanagihara and Petersen, 1991). Amnesia (that is, some defect/s

of the mental process/es responsible for registration, retention and retrieval of information) may be total or partial, temporary or permanent, and may be attributable to cerebral causes (for example, senile dementia, brain injury) or to inattention which, in turn, may be voluntary or involuntary. Someone charged with a crime such as murder may claim amnesia, but whether the amnesia is genuine or not would be a fact to be contested in court (see Gudjonsson, 1992a:96–9; Taylor and Kopelman, 1984, and the English case *R v. Podola*, Court of Criminal Appeal, October 1959).¹⁸ *Hypermnnesia* refers to being able to retain and retrieve an incredible amount of detail (see Ham, 1996; Hunter, 1957, for descriptions of two such prodigies). Ham describes the case of Briton, Dominic O’Brien, who has won the World Memory Championships for three consecutive years and who in 1995 won by memorising 2080 playing cards – a total of

40 packs – in the exact sequence in which they were dealt (pp. 27–8). Another individual famous for his incredible feats of memory is the well-known conductor Arturo Toscanini who is reported to have known every note of every instrument of 250 symphonic scores, 100 operas and numerous other musical works (Gray, 1999: 330). *Paramnesia* means false recollection, a clinical condition that can be attributed to ‘a disorder of the mental processes responsible for the appreciation of feelings of familiarity’ (Power, 1977:137). An everyday example of paramnesia is the occasional déjà vu experience familiar to most people. With increasing incidence, this experience becomes responsible for fabrications or ‘illusions of memory’. The term ‘confabulation’ is used by clinicians to describe cases where people ‘fill in’ memory gaps with imagined experiences as when they suffer from Korsakoff’s psychosis (Carson et al., 2000:382). Before turning our attention to methodological aspects of eyewitness research and the numerous factors that have been studied, one question that should perhaps be answered is: How good is witness memory?

Early experimental psychological studies examining recognition rates for photographs (see Chance et al., 1975) reported accuracy of over 90 per cent even after a delay of up to 35 days. Such studies, however, lack ecological validity and their findings would not be of great interest to lawyers. In studies that have used a paradigm high on both experimental and mundane realism as well as ecological validity by staging an event rather than using a face photograph, accuracy turns out to be 12 to 13 per cent for identification¹⁹ and between 25 per cent for recall details in civilians²⁰ and about 47.5 per cent for policemen in very simple, static but live, situations (Clifford and Richards, 1977).²¹ Accuracy levels, however, need to be evaluated against the level of ‘accuracy’ one would expect on the basis of chance alone.

VARIABLES IN THE STUDY OF EYEWITNESS MEMORY

Wells (1978) made an important distinction between ‘system’ variables (that is, those factors the criminal justice system can do something about, procedures used to enhance the accuracy of eyewitness testimony) that focus on the retrieval stage of memory and ‘estimator’ variables (that is, characteristics of the witness which influence witness accuracy that the criminal justice system cannot do anything about) that focus on the encoding and storage stages. Wells et al. (1999) stress the crucial importance of system variables because for them, ‘much of the problem with the accuracy of witness testimony owes to the system and the methods used to obtain the information from these witnesses’. While the distinction suggested by Wells is an important one when considering policy implications of research findings, it needs to be remembered that in the real world of crime victim and crime witnesses interviewed by police, the distinction between estimator and system variables is not always as clear cut as it appears. For example, the time when a witness is to be interviewed by particular police personnel is often the result of a little negotiation between the volunteer witness and police over the telephone to accommodate each other’s preferences. Similarly, ‘refreshing a witness’ memory’ is something that inevitably occurs as eyewitnesses discuss their experience with lawyers, friends, family members and others. However, it is also a common practice for the police officer who has the conduct of the case to ‘refresh the memory’ of a prosecution witness by ensuring that the witness has reviewed the statement he/she made to the

police at the first possible opportunity before going into the witness box (Magner, 1995b:26). In the English case of *R v. Da Sylva* ([1990] 1 WLR 3; 1989 90 Cr App R 233), after entering the witness box a witness was allowed to refresh his memory by reading the statement he had made to the police a year earlier, a factor not addressed by psychologists (Magner, 1995b:29).

Drawing on a taxonomy of variables first used by Clifford (1981:21), Hollin (1989) categorised eyewitness memory variables under the heading of ‘social’ (attitudes, conformity, stereotypes, prejudice, status of interrogator), ‘situational’ (complexity of event, duration of event, illumination, time delay, type of crime), ‘individual’ (age, cognitive style, personality, race, sex, training) and ‘interrogational’ (artists’ sketches, computer systems, identification parades, mugshots, photofits). As Hollin pointed out, eyewitness researchers have been concerned with the effects of these variables at the stages of acquisition, retention and retrieval. Other attempts to classify eyewitness testimony variables have included Ellis’ (1975) distinction between ‘stimulus’ factors (for example, length of viewing time) and ‘subject’ factors (for example, sex of the witness) and Loftus’ (1981) distinction between ‘event’ and ‘witness’ factors. Clifford (1979) suggested the additional category of ‘interrogational’. In this context, it is worth noting that Wells’ (1978) ‘system’ variables overlap with Ellis’ (1975) ‘stimulus’ factors and Loftus’ (1981) ‘event’ factors, while Wells’ ‘estimator’ category overlaps with Ellis’ ‘subject’ and Loftus’ ‘witness’ category. Adopting Wells’ dichotomy, Memon, Vrij and Bull (2003) classify

estimator variables into seven categories: stable witness characteristics (for example, age, gender, race); malleable witness characteristics (for example, blood alcohol); style of presentation (for example, consistency and confidence); stable target characteristics (for example, facial distinctiveness); malleable target characteristics (for example, disguises); environmental conditions (for example, exposure duration); and, finally, post-event factors (for example, previous exposure to target).

In reviewing studies of eyewitness testimony, authors in the 1980s such as Goodman and Hahn (1987), Hollin (1989), Loftus (1981) and Penrod et al. (1982) drew upon the three memory stages of acquisition, retention and retrieval. These three stages have traditionally been identified in memory research and correspond to the stages involved in: (a) witnessing an event; (b) time taken before giving evidence; and (c) giving evidence. In reality, of course, these three stages are not distinct. For example, while waiting to give evidence, a witness may see a police artist’s sketch of the suspect on television and/or may talk about the incident with other witnesses. As will be seen below, in the course of such exposure to information about the crime, a witness acquires information that becomes part of the memory to be retained for later recall. Furthermore, the terms ‘event’ and ‘witness’ variables are not always mutually exclusive. For example, ‘type of event’ and a witness’ level of physiological arousal are related, while ‘number of witnesses’ can be both an ‘event’ and a ‘witness’ variable. Table 2.1 shows the variables considered in the literature reviews that follow below and in the next chapter under the categories of ‘event’, ‘witness’ and ‘interrogational’.

Table 2.1 Variables in the study of eyewitness testimony by category

Event	Frequency, time, duration, illumination, type of event, weapon
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Witness	Fatigue, physiological arousal, chronic anxiety, neuroticism, extroversion, reflection-impulsivity, need for approval/affiliation, morning-evening type, self-monitoring, field-dependence, breadth of categorising, levelling-sharpening, mood, alcohol, age, race, gender, schemas/stereotypes, physical attractiveness, whether also victim of the crime, confidence, whether witness is a police officer, collaborative testimony.
Perpetrator	Gender, body size, height, ethnicity, gait.
Interrogational	Retention interval, type of recall, efforts made to recall, leading questions, memory retrieval therapy, cognitive interview.

In considering classifications of such factors it should also be remembered that memory errors are of two types: errors of omission and errors of commission. Errors of omission stem from inherent limitations of the way the human memory is structured and processes information.

Before reviewing available empirical evidence that a number of factors impact on the accuracy of eyewitness testimony, it should be noted that the empirical literature on witness testimony deals almost exclusively with the accuracy of identification rather than non-identification or misidentification (see Twining, 1983, on the issue of identification and misidentification in legal processes). A small number of researchers have examined the impact on mock juror verdicts of non-identification, that is, when the witness says: 'No, that's not the person I saw'. According to Williams et al. (1992:152), a non-identification may be construed as a 'non-event' rather than as an important piece of evidence. Leippe (1985) reported that the probability of a defendant being found guilty by mock jurors in an experiment was reduced from 53 per cent to 14 per cent by a non-identifying witness even if it was in contrast to two witnesses who positively identified the defendant. It was also found that the impact of a non-identifying witness was completely negated if such a witness elected not to testify and the information was conveyed to the mock jurors by the lawyer. Finally, Bekerian (1993) rightly argued against the notion of a typical eyewitness situation or typical eyewitness because psychologists 'might be asked to identify one in court' (p. 575).

VARIABLES THAT IMPACT ON EYEWITNESSES' TESTIMONY ACCURACY

There already exist a number of works that provide excellent reviews of the eyewitness literature.⁴⁰ The aim of the discussion of the literature that follows is to reach conclusions about the importance of a number of 'event' factors in eyewitnesses' accuracy, considering the findings in a broader sociolegal context as much as possible, drawing on contemporary criminology and relevant law. A literature review of the categories of 'witness', 'perpetrator' and 'interrogational' variables is the subject of the next chapter.

In *Neil v. Biggers*, 1972, the US Supreme Court outlined five criteria on which evaluations of eyewitness identifications should be based: certainty, view, attention, description and time. Interestingly, an experimental study by Bradfield and Wells (2000) found that each of the five *Biggers* factors contributes some amount to the overall impression of witness accuracy and, also, that the amount contributed by one factor is independent of the other factors.

Event Characteristics

Passage of time: the interval between witnessing an event and being questioned about it can vary from a few minutes to months and even years. When witnesses are asked to recall details a long time after they witness an event, they are allowed⁴¹

to refresh their memories from any notes they may have taken at the time, evidence that the law does somehow recognise the difficulty of remembering under such circumstances (McEwan, 2003:212). It is very well established in eyewitness testimony research that both children and adults forget things over time (Flin et al., 1992). In a Dutch study, Van Koppen and Lochun (1997) used archival data from official police records to examine both the completeness and accuracy of witnesses' descriptions of commercial robbery offenders. As would have been expected, it was found that more complete descriptions were associated with a shorter delay between the crime and the reporting of the description. Similarly, Odinet and Wolters (2006) reported that a longer retention interval (3 or 5 weeks) before initial testing resulted in lower eyewitness accuracy and lower confidence scores than one week's interval. The reader should note, however, that a person's memory of an event, of someone's appearance, can be wonderfully accurate weeks later or even longer. It is well established, of course, that recognition is more accurate than recall. The following case illustrates accurate eyewitness recall of an event at a busy airport on Christmas Day that helped police investigators convict a homicide offender.

Frequency: in some cases a bank-teller has spoken to the suspect of an armed robbery when he/she came into the bank to carry out surveillance and/or to do a 'dry run', or a suspect may have been seen at least once before in the vicinity of premises that have been broken into. Powell and Thomson (1994)⁴² found that the greater the frequency of an event, the better people will remember it as having occurred and details about it. However, if people are asked to remember a specific occasion when a recurring event took place, the accuracy of recall decreases the more times it has occurred.

Time: remembering accurately when an event actually took place would add to the credibility of an eyewitness' recall of event information, including identification of a suspect alleged to have been involved in the event. A witness' recall of an event, or a description of an offender's face, exists in a time framework. Despite the fact that 'Time is a richly elaborated concept, one that is resistant to analysis' (Friedman, 1993:44), there is a limited body of literature on memory for time. Both life memory studies and laboratory studies have reported the 'forward telescoping' phenomenon. Forward telescoping refers to a 'tendency to give estimates that are too recent for events that are among the oldest in the range tested . . . Respondents seem to import events that really took place before the cutoff in the question' (Friedman, 1993:51). It has also been found that judgements of time are more accurate when there is a more temporary structure to an unusual interval than when people's activities are more uniform (Tzeng and Cotton, 1980); when two items belong to the same semantic category, such as 'sofa' and 'chair', and when two items are strongly associated, as in 'smoke' and 'tobacco' (Winograd and Soloway, 1985). A number of theories have been put forward to account for such findings (see Friedman, 1993, for a discussion). Friedman groups theories according to the type of information that each theory emphasises as the basis for memory of dates.

Duration: the time it takes to commit a particular crime can range from a few seconds to a few minutes or even longer. An assault may be over in a fraction of a second, an armed robbery of a bank or of a person in the street may well be over in less than a minute (Kapardis, 1989), while a brawl between two street gangs or an abduction or a rape could last for much longer. According to Williams et al. (1992), in *Neil v. Biggers*, 1972, the US Supreme Court accepted the proposition that there is a strong correlation between a witness' memory accuracy and an opportunity for the witness to observe. In fact, the same court 'accepted this notion as a criterion for judging every witness' reliability' (p. 143). In the English case of *R v. Turnbull*

[1977] 65 Cr App R 242, Lord Widgery stated that a defining feature of 'good' quality witness identifications (as opposed to 'poor' ones) is that the witness had ample time to get a good look at the suspect. This commonsense belief is supported by the literature, as reported by Shapiro and Penrod (1986) in their meta-analysis of face recognition studies. In real-life situations, of course, it is not often the case that the victim of a crime, especially of such property offences as theft and burglary, will get a close look at the perpetrator's face. A survey of

836 members of the public and 477 undergraduates in Kingston, Ontario, found that duration of crime was rated by potential jurors as the fourth most important determinant of eyewitness identification accuracy out of 25 variables (Lindsay, 1994a:372). In an experiment by Clifford and Richards (1977) policemen were asked to recall details of a person who had approached and conversed with them for either 15 or 30 seconds. They found better recall in the 30 seconds than in the 15 seconds exposure to the target person. In view of the existence of selective attention, however, greater exposure duration to an offence will not necessarily mean greater accuracy. Early research into the importance of observation conditions and duration at Aberdeen University in Scotland by Shepherd et al. (1982) and more recent work by Memon et al. (2002a) found that prolonged observations make little difference to witness accuracy. However, while laboratory findings consistently show that the longer the time allowed an eyewitness to observe an event, the more the information is encoded and recalled, studies of real-life crime witnesses (for example, van Koppen and Lochun, 1997) have not found such a relationship. In support of van Koppen and Lochun, Fahsing et al.'s (2004) archival study of bank armed robbery eyewitnesses in Oslo, Norway, found that longer duration did not improve memory for offenders' basic features, namely, gender, build, age, height and ethnicity. It should be noted in this context that people tend to overestimate significantly short temporal duration, a tendency that is more likely to manifest itself when the event in question is complex or the person is stressed (Sarason and Stroops, 1978; Schiffman and Bobko, 1974). A bank-teller may say the robber pointed his sawn-off shotgun at him/herself for two minutes when, in fact, the time involved was no more than 30 seconds. In the Fahsing et al. study, however, CCTV footage provided an objective measure of the duration of each armed robbery examined.

Illumination: crimes take place around the clock and illumination, the amount of light available at the scene of the crime, is undoubtedly a relevant factor. Illumination was considered by the potential jurors in Lindsay's (1994a) survey as the fifth most important determinant of eyewitness identification accuracy out of the 25 variables examined. Kuehn (1974) reported that witnesses could remember less about an incident that took place at twilight rather than during the day or at night and, similarly, Yarmey (1986b) found that accuracy of incident details and recognition of the people involved was better during daytime than at the end of twilight or during the hours of darkness. Van Koppen and Lochun (1997) reported that the only factor that, to a significant degree, influenced the accuracy of commercial robbery eyewitnesses' descriptions of the offenders was the lighting conditions. The fact that a crime occurred at night, does not seem to discourage witnesses from having confidence in the accuracy of their testimony acquired under poor lighting conditions (see below). The ability to adapt to the dark can take up to 30 minutes depending on the intensity and duration of lighting conditions one was previously experiencing (Loftus et al., 1989:17). Consequently, eyewitnesses who experience

abrupt changes from one lighting condition to another can also have trouble seeing what actually took place. As Buckhout (1974) reminded his readers, crimes very rarely take place under ideal light conditions, or in close proximity or last long enough or, finally, free from other interference (p. 25). One can also add the important fact that actual witnesses may well be

fatigued at the time of encoding, a factor that has been found to interfere with recall accuracy (Horne, 1992).

Wagenaar and van der Schrier (1994)⁴⁴ varied illumination and distance at which witnesses saw a person they were subsequently asked to identify. It was found that with moderately bright lighting in the evening, the identification of a person viewed at night in full moon at a distance of more than 3 metres is dubious. Similarly, Dutch psychologists De Jong et al. (2005) found a systematic increase of face recognition performance with increasing illumination, the ideal light condition being 15 lux. Experimental psychologists are well suited to test the accuracy of witnesses claiming to have seen the features of someone some distance away under poor light. Buckhout (1974) mentions a case in the United States in which a policeman testified seeing the defendant, a male African-American, shoot a victim as the offender and the victim stood in a doorway 120 feet (36.5 m) away. Checking light conditions at the scene of the crime for the defence, Buckhout found that the amount of light was less than a fifth of the light from a candle and it would have been impossible for someone to see a face that far away. Not surprisingly, perhaps, when the members of the jury went to the scene of the crime and asked one African-American person to stand in the doorway they were unable to make out his features and subsequently acquitted the defendant.

Type of event: the range of offences witnessed in real life is much broader than that which has been studied by psychologists in simulated or field studies. Findings from a survey (unpublished) by the present author for the Victoria Police in Australia of archival data on 1636 real-crime victims/witnesses interviewed by specialist police personnel of the Criminal Identification Squad in Melbourne, for the purpose of constructing a composite colour computer image of the various suspects during a nine-month period in 1994, revealed that such interviews mainly involved burglary (19.8 per cent), theft (16.8 per cent), armed robbery (12.2 per cent), assault (11.1 per cent), wilful indecent exposure (9.4 per cent) and deception (4.6 per cent). It was also found that females were seven times more likely than males to have provided descriptions of suspects in rape and indecent assault and three times more likely to do so in abduction cases. Interestingly enough, 16 per cent of the witnesses were unable to remember enough details about the suspect's face for the police to construct a colour computer-face composite image to assist the investigators to apprehend the offenders (see also chapter 8). Furthermore, failure in this context was not related to the type of crime involved. There is some limited evidence that the more serious the crime witnessed (for example, petty theft vs murder), the more likely an identification will be made in a subsequent line-up, especially by people aged 18–30 years (Searcy et al., 2000). Unfortunately, Searcy et al. confounded the type of crime with the type of suspect by telling their subjects the murder suspect had a criminal record, whereas the minor theft suspect was not so described.

Weapon: firearms, especially hand guns, feature in crime in the United States (Cook, 1983) to a much greater degree than they do in the UK, Australia or New Zealand (Cantor et al., 1991; Chappel et al., 1988). The use of a weapon to commit a crime is generally considered an aggravating factor when courts come to impose sentence on a convicted defendant (Thomas, 1979). Experimental psychologists have examined the effect of a weapon in the hands of an offender on witness testimony. A weapon, of course, does not have to be a loaded firearm or a knife – a broken bottle, a stone, a piece of wood or a syringe and so forth are also defined as ‘weapons’ in many jurisdictions. As we shall see later on, while laboratory studies support the weapon focus effect (that is, that an eyewitness’ vision is focused on the weapon held by an offender), archival studies do not (Stebly, 1992; Behrman and Davey, 2001).

Physiological arousal: the presence of a weapon is undoubtedly stressful for both victims and

bystanders, a factor that generally increases their level of physiological arousal. There is no doubt that subjects in simulation studies, whether in the laboratory or field, are unlikely to experience the varying degrees of emotional arousal, stress or the trauma experienced by real-life witnesses (whether as victims or bystanders) to such serious crimes as assault, rape, armed robbery, abduction and homicide. For example, researchers have found that witnesses to bank robberies are concerned about being taken hostage and/or receiving serious injury, even death (Christianson and Hubinette, 1993:372). Potential jurors in Canada have been found to consider stress and emotional arousal during the crime as the eleventh most important determinant of eyewitness identification accuracy out of 25 factors (Lindsay, 1994a:372). The resulting psychological trauma is recognised in law: a crime victim/witness can sue for damages in a civil suit; in various countries there exist schemes which aim, inter alia, to compensate the victim/witness for 'pain and suffering', and some organisations such as banks have a policy of giving time off work and providing psychological counselling to their employees who have been victims of or witnessed an armed hold-up at work (see Leeman-Conley and Crabtree, 1989).

Psychologists have long assumed that people's cognitive efficiency is related to their level of emotional tension arousal. More specifically, Yerkes and Dodson (1908) proposed an inverted U-form relationship between these two factors whereby cognitive efficiency is at its highest at a moderate level of arousal. Cognitive efficiency is said to decline if the arousal level increases beyond an optimal point. Easterbrook's (1959) cue-utilisation theory has been used to account for what has come to be known in psychology as the 'Yerkes-Dodson law'. According to Easterbrook, as one's level of emotional arousal increases, the range of cues one can attend to and utilise decreases. A moderate level of arousal is conducive for attention and recall because one is in a position to attend to relevant cues and

exclude irrelevant ones. However, as arousal increases beyond a certain point as a result of stress, the number of cues (including relevant ones) that can be attended to are reduced. Mandler (1975) extended Easterbrook's argument by positing that the relationship between emotional arousal and cue utilisation is determined by our autonomic nervous system which allows for less attention and cognitive processing when one is highly aroused (Eysenck, 1982). Thus, a highly aroused (stressed) individual will focus on fewer cues in their environment for the simple reason that a lot of their energy will be expended on their anxiety. One serious limitation of such studies is a failure to take into account an individual's degree of neuroticism, which appears to mediate the alleged relationship between people's arousal and cognitive efficiency (see below).

Some psychologists have advocated a similar relationship between tension arousal and memory (Deffenbacher, 1983; Loftus, 1979; Loftus and Doyle, 1987). However, as will be seen below, this view has been seriously challenged. On the basis of a literature review, Christianson (1992:279) challenged the unidimensional view of a simple relationship between emotion and memory. He concluded that eyewitness memory for stressful emotional events 'should be understood in terms of complex interactions between type of events ... type of detail information ... time of test ... and retrieval conditions ...' and questioned whether the Yerkes-Dodson law is a useful theory in eyewitness identification research (p. 303).

Violent/traumatic event: the available literature on memory for violent or trau-

matic events has reported conflicting findings. On the one hand, experimental studies support the inverted U relation between arousal and eyewitness performance; in other words, a high level of stress impacts adversely on memory (see Deffenbacher, 1983; Loftus, 1979). Interestingly, this also appears to be the view shared by the majority (79 per cent) of the US experts on eyewitness testimony surveyed by Kassin et al. (1989). Other researchers, however, utilising real criminal cases, have found that, contrary to what the experimental literature would predict, a high level of stress is good for memory (Yuille and Cutshall, 1986, 1989; Yuille and Tollestrup, 1992). Yuille and Cutshall (1986) reported a study of witnesses to a homicide that found that witnesses indicating the highest level of stress had a mean accuracy of 93 per cent when interviewed by police two days later and 88 per cent when interviewed by researchers four to five months later. MacLeod and Shepherd (1986) analysed data pertaining to 379 statements made by assault victims and compared those where physical injury had been sustained and those involving no injury. They found some evidence that female eyewitnesses were likely to report less details than male eyewitnesses when there was injury to the victim to report.

Yuille and Cutshall (1989) have argued that: (a) laboratory studies of the effect of stress on recall do not adequately simulate real traumatic experiences; (b) subjects in such experiments are not emotionally involved; (c) the memories reported by the two sets of studies are qualitatively different; and (d) the memory of traumatised witnesses is highly accurate and stands the test of time. For Yuille and his colleagues (see Yuille and Tollestrup, 1992) the difference between the two types of methodologies is that real-life traumatic events impact on the witness in such a way as to narrow the witness' attention to details of core aspects of an incident that are stored and remembered for long afterwards. Consequently, laboratory studies cannot be said to have demonstrated that memory for traumatic events is unreliable. Indeed, experiments with the potential to test this hypothesis would probably be ruled out on ethical grounds.

In evaluating the findings from the real-life stressful events it needs to be remembered that, as Christianson and Hubinette (1993:366) point out, the Yuille and Cutshall study is limited by the mere fact that it only examined a single stressful event, and did not include an appropriate control event in support of their conclusion regarding the stress-memory relationship. In addition, unlike laboratory studies, Yuille and Cutshall ignored errors of omission when calculating their performance scores, witness recall of details about the personal appearance of the perpetrator of the crime, for example, was incomplete, as in laboratory studies and, finally, their figures may well have been inflated by the fact that only witnesses with complete or accurate memory volunteered to participate in their study (Christianson and Hubinette, 1993:366).

Neisser and Harsch's (1992) study of eyewitnesses to the Challenger explosion 32 months later reported that eyewitnesses' recollections of place, activity and time contained only 30 per cent correct answers, 27 per cent partially incorrect answers and 42 per cent totally incorrect answers (1 per cent allowance for rounding of figures). Christiansson and Hubinette (1993) reported an interesting study of witnesses to 22 bank robberies. The witnesses comprised 20 bank-teller victims, 25 fellow employees, 13 customers and 8 who had an earlier experience of a bank robbery. In considering their findings it is worth remembering that bank robberies are significantly

more likely to involve the use of firearms to intimidate the victim/s than robberies of soft targets; can last for up to 3 minutes; often involve older, more experienced criminals; tellers are usually instructed to comply with the demands made by robbers and, consequently, victims are much less likely to sustain physical injuries than is the case with robberies of 'soft' targets, such as family-run corner shops in which the victim is more likely to resist the attack, for example (see Kapardis, 1989). Christianson and Hubinette (1993) found that teller-victims were no more emotionally aroused than bystanders and that, in general, information about such an emotional event is retained for a lengthy period of time (p. 375). Also, witnesses' recall of robbery details was consistent with what they had told the police, irrespective of whether they were victims or bystanders; recall was more accurate about such features of the crime as action, weapon and clothing but, contrary to what would have been predicted on the basis of the 'flashbulb' memory theory (see below), recall was less accurate as far as such specific details of robberies as date, time and other people are concerned. Finally, Christianson and Hubinette concluded that self-rated emotional stress did not appear to be strongly related with memory performance (p. 375). Similarly, when Turtle and Yuille (1994) compared the eyewitness testimony of victims and bystanders they found no significant differences in their reports.

One significant strength of the Christianson and Hubinette (1993) study is that it was based on a relatively large number of real-life violent events and numerous witnesses. By comparison, the Yuille and Cutshall (1986) study was based on one event and 13 witnesses. Also, as Yuille and Tollestrup (1992) point out, robbery is a crime that takes place frequently in society, is often witnessed by many who have not seen the robber/s before and, also, it is a crime that traumatises both victims and bystanders. For these reasons robbery is a suitable event-type for testing the emotional arousal-memory hypothesis (Christianson and Hubinette, 1993:376). Studies of such real traumatic events can be criticised for relying exclusively on retrospective self-reports of emotion and fear and for using a measure of memory that is not a measure of retention (Christianson and Hubinette, 1993:375). As the same authors point out, their own study would have been methodologically better if they had measured witnesses' memory of robbery details immediately after the crime was committed. The limitations of their study notwithstanding, the findings reported by Christianson and Hubinette (1993), Turtle and Yuille (1994) and Halford et al. (2005) contradict the view shared by a large number of eyewitness testimony experts in the Kassin et al. (1989) survey.

In their analysis of 1001 exposures of real-life eyewitnesses to identification parades in England, Halford et al. (2005) compared the accuracy of 113 victims and 42 bystanders and found the former were significantly more likely to select the suspect in a line-up. They also found that witnesses of violent crime selected suspects significantly more often than did witnesses to non-violent crime. They also compared witnesses who had been subject to violence and witnesses who had not and found no significant differences between them as far as line-up identification accuracy was concerned. The researchers then interrogated their police archival data further by comparing victims who were rendered unconscious and those that were not and found that the former were less likely to select the suspect in a line-up, presumably because in some cases victims are attacked from behind. The Halford et al. (2005) study shows that real-life victims and victims of violence are more accurate eyewitnesses than bystanders and victims of non-violent crime. Generally speaking, of course, crime victims in general and victims of violent crime in particular get a closer look at their offenders than do bystanders or victims of non-violent crimes. Consequently, it is not clear whether their higher line-up identification accuracy is attributable to their levels of stress or their closer proximity or both. It

should also be noted in this context that bank-tellers are routinely trained in how to best deal with an armed robbery and this may explain the finding reported that bank robbery victims do not differ in their level of arousal and description accuracy from bystanders. Pointing out possible intervening variables is not meant to detract from the findings of Halford et al. (2005). Their findings should be replicated by other researchers in other countries and with other major crimes.

The conflicting findings reported by archival studies on the one hand and laboratory studies on the other are to some extent attributable to differences in methodology (see Christianson et al., 1992). Christianson and Hubinette (1993:376) point out that some studies (Reisberg et al., 1988; Yuille and Cutshall, 1986, 1989) have focused on memory accuracy, while others (Neisser and Harsch, 1992) have been concerned with the decline of memory over time and inaccuracy in terms of errors of commission. Similarly, differences in emphasis also go some way towards explaining conflicting findings reported by laboratory studies. For example, Christianson (1984) and Heuer and Reisberg (1990) were concerned with the persistency of emotional memories, while others (Clifford and Hollin, 1981; Clifford and Scott, 1978; Loftus and Burns, 1982) measured errors of omission. Thus, 'the data in both real-life studies and laboratory studies show good and poor recall depending on how recall is tested' (Christianson and Hubinette, 1993:376). When examining the relationship between arousal and performance and comparing victims and bystanders, Turtle and Yuille (1994) did not take into account such intervening variables as the distance of a subject from the event, or the duration of the crime or the gender of the witness (MacCleod and Shepherd, 1986) which might have confounded their results.

Christianson (1992:302) concluded that there are no real grounds

for a simple relationship between intense emotion and memory – 'the view that the more negative the emotion or stress, the poorer the memory is incorrect . . . ' – and that particular details of core aspects of a violent event and also information about circumstantial details are less susceptible to forgetting (p. 303). Yuille et al. (1994) had 120 trainee (probationer) constables at the Metropolitan Police Training Centre in Hendon, England, experience a stressful or

non-stressful occupational simulation (a 'stop-and-search' scenario) as participants or observers and tested their recall after 1 or 12 weeks. It was found that stress decreased the amount recalled but improved both accuracy and resistance to decay over time. The resistance to decay by eyewitnesses to stressful events may well be attributable to such witnesses going over the experience in their minds, that is, rehearsal. Wells et al. (1999) concluded their review of the literature stating that 'significant events leave an impression of indelibility but not an indelible impression' (p. 65). The arousal–memory relationship is, thus, best understood in terms of complex interactions between type of event, time of test, memory test and retrieval conditions. In conclusion, therefore, the Yerkes–Dodson (1908) law does not adequately describe the relationship between memory and arousal (p. 303). We can tentatively conclude that findings from archival studies cast doubt on laboratory research findings that high levels of stress impact adversely on eyewitness accuracy. *Weapon focus*: as already mentioned above, the presence of a weapon in the context of a criminal offence is, without doubt, stressful for victims and bystanders

alike. Loftus et al. (1987a) presented subject-witnesses with a series of slides depicting an event in a fast-food restaurant. Half of the subjects saw a customer point a gun at the cashier; the other half saw him hand the cashier a cheque. The researchers recorded the subjects' eye movements while viewing the slides. It was found that subjects made more eye fixations and for a longer duration on the weapon than on the cheque and that accuracy of recall was poorer in the weapon condition; in other words, the researchers documented the 'weapon focus' phenomenon.

Maass and Köhnken (1989) simulated the 'weapon effect' in an experiment in which 86 non-psychology students were approached by an experimenter who was holding either a syringe or a pen and either did or did not threaten to administer an injection. They found that exposure to the syringe decreased lineup recognition while enhancing the accuracy of recall for hand cues to a statistically significant degree. The 'weapon effect' reported is explainable in terms of witnesses' level of physiological arousal narrowing their attention and resulting in poor memory of peripheral details of the event in question. Support for the 'weapon effect' was obtained by Kramer et al. (1990b) who had witness-subjects (college undergraduates) confronted with the sight of a man carrying a weapon during an assault in which the victim was approached by an assailant who broke a liquor bottle over his head.

According to Kramer et al. (1990b:183), consistent with a number of modern theories of attention, a weapon can be seen as a salient object that demands a certain amount of attention from a witness. Kramer et al. concluded that the presence of a weapon reduces the accuracy of a witness' memory of the features of the person carrying the weapon and the more afraid someone is of the weapon the more they will remember about the offender's hand and the less about his face. Some support for Kramer et al.'s conclusion is to be found in Steblay's (1992) meta-analytic review of 12 studies, permitting 19 tests of the weapon focus hypothesis. Six of the tests yielded a significant difference, as would have been predicted between weapon-present and weapon-absent conditions. However, 13 of the tests showed no significant difference. Steblay's analysis showed that as far as the identification accuracy in a lineup is concerned (a most important piece of evidence from the point of view of both the police investigation and the criminal trial), the weapon-focus effect was small. The weapon-focus effect was stronger for accuracy of featural description. Steblay (1992:422) concluded that the weapon-focus effect is significant and 'a worthwhile focus for research'. The weapon-focus effect has also been demonstrated with children (Davies et al., 2007; Pickel et al., 2008). Interestingly, the weapon-focus effect is not found if carrying the particular weapon is consistent with the occupation of the person presenting it, such as a police officer holding a handgun; in other words, the absence of the weapon-focus effect is due to the lack of surprise, it occurs when the presence of a weapon is inconsistent with an activated schema (Pickel, 1998; Pickel et al., 2008). Research evidence indicates there is a need to also differentiate the type of weapon when examining

the weapon-focus phenomenon. In their study of armed bank robbery eyewitnesses in Oslo, Norway, Fahsing et al. (2004) found the opposite relationship between type of weapon and witness accuracy than would have been expected; more specifically, in terms of overall accuracy, exposure to firearms was associated with significantly better eyewitness descriptions than was exposure to knives, especially regarding such basic features of offenders as gender, height, build, age and ethnicity. There is a need to more precisely identify the mechanics of the process in forensically relevant settings. Investigating whether weapons automatically capture attention, Pickel et al. (2006) replicated the weapon-focus effect and also found that: (a) subjects can indeed avoid focusing on the weapon if they are instructed to focus on the person and not to fix their eyes on the weapon in his hand; and (b) their ability was unaffected by weapon unusualness and elevated levels of arousal. Another study of the role of attention in the weapon-focus effect by Hope and Wright (2006) also replicated the weapon-focus effect and found that both unusual and threatening objects command attention and the significance of a weapon may reduce the witness' description accuracy of the target. Interestingly, it has also been found that the mere presence of an unusual object, such as a stalk of celery has more influence on the accuracy of eyewitness testimony for the perpetrator's face than if the person behaves in a menacing manner (Mitchell et al., 1998; Pickel, 1998).

As is sometimes the case with research, however, an archival study by Behrman and Davey (2001) found no support for the weapon-focus effect, calling into question the external validity of laboratory studies of the alleged phenomenon. Further evidence against the weapon-focus effect has been reported by Halford et al. (2005) who found that real-life eyewitnesses who had viewed a gun, knife or other weapon in the possession of the offender were significantly more likely to accurately identify the suspect in an identification parade than weapon absent witnesses. We can conclude that: the weapon-focus effect has been found by a number of studies, with a variety of weapons and with both adults and children; that a knife in the hand of a robber attracts more attention by armed robbery victim witnesses than a firearm; the weapon-focus effect is consistent with a threat interpretation and is not found if the element of surprise from the point of view of the eyewitness is lacking because there is no schema incompatibility between the carrying of the gun and the category of person carrying it; and, finally, subjects can avoid focusing on the weapon and focus on the person instead if they are instructed to do so in advance. However, the findings just mentioned become problematic due to conflicting findings reported by the three archival studies by Behrman and Davey (2001), Fahsing et al. (2004) and Halford et al. (2005) that have found no support for the weapon-focus effect. Once again, more forensically relevant experimental simulation studies and more studies of real-crime victim-witnesses that will take into account more intervening variables are required before the issue of conflicting findings is settled. Finally, as far as potential jurors' belief about the importance of weapon focus as a determinant

of eyewitness identification accuracy is concerned, Lindsay (1994:372) found that it ranked 13 out of 25 variables.

Flashbulb memory: Brown and Kulik (1977) put forward the notion of a 'flashbulb' memory to refer to cases when a most significant, unexpected event, such as the shooting of John F. Kennedy in 1963, results in rather vivid, detailed and accurate memory traces of all that was observed at the time (see Winograd and Neisser, 1992, for a discussion of flashbulb memory research). According to Morse et al. (1993), psychologists have long been interested in flashbulb memories. They cite an early study by Colgrove (1899), in which people were asked to recall when they heard of President Lincoln's death 33 years earlier. Colgrove found that the majority (71 per cent) reported they had vivid images of the moment at which they heard of that death.

Other researchers have reported that 'flashbulb' memories are not always accurate (Christianson, 1989; McCloskey et al., 1988; Neisser, 1982). They have been found to be vivid for John F. Kennedy's assassination but less vivid for Robert Kennedy's and Martin Luther-King's assassinations and even less vivid for the Senate Hearings for confirmation of Clarence Thomas to the US Supreme Court in October 1991 (Morse et al., 1993). Emotion was found to have no significant effect on memory in a study of people's recollection of the space shuttle Challenger explosion (Harsch and Neisser, 1989) and in a study by Christianson (1989) of people's recollection of the assassination of Swedish Prime Minister Olaf Palme. In other words, 'flashbulb' memory studies do not consistently support the view that there is a positive relationship between accuracy of recall and emotional stress.

Wright (1993) surveyed 247 students at three sessions (2 days (N = 60), 1 month (N = 76) and 5 months (N = 111)) about the Hillsborough stadium disaster in England when, in the early stages of the Football Association semi-final between Liverpool and Nottingham Forest, an influx of people through the back of the Liverpool terraces resulted in 95 people at the front getting crushed to death. Subjects rated on a seven-point scale their emotional reaction, soccer enthusiasm, how important they felt the event was for them personally and for society (in the third session subjects were not asked about importance for society), their circumstances when they heard about the tragedy and of what it reminded them (Wright, 1993:131–2). Wright defined a 'flashbulb' memory in terms of whether subjects recalled either where they were, who they were with or what they were doing at the time. He found that most of his subjects had 'flashbulb' recollections of the event. It was also found that personal importance and emotional impact became more significant over time, supporting a reconstructionist explanation. Wright concluded that his results support a reconstructionist explanation rather than Brown and Kulik's (1977) 'special mechanism' idea. It would appear that how we learn of shocking news determines our memory of particular news items. Bohannon et al. (2007) examined different people's

flashbulb memories of shocking news about the Challenger explosion, the death of Princess Diana, Pearl Harbour and the Iraq bombings, with delay intervals ranging from 2 weeks to 50 years. They grouped subjects according to the source of their discovery (media vs person), affect at encoding (calm vs upset) and recounts (few vs many). They found that 'media' subjects remembered more facts but 'person' subjects remembered more of their personal discoveries. Talarico and Rubin (2006) compared flashbulb memories of the September 11 terrorist attacks and of everyday memories of the preceding weekend, using undergraduates as subjects. They found that memories of both declined over the following year but subjects' ratings of recollection of vividness were consistently higher for flashbulb than for everyday memories. Talarico and Rubin concluded that flashbulb memories are not extraordinarily accurate but differ from everyday memories in a number of significant ways. In considering studies of flashbulb memories it needs to be remembered that the defining feature of such memories is 'the undue confidence with which these memories are held' (Weaver, 1993:39).

It would appear that while a strong emotional experience enhances one's memory for salient details, no evidence has so far been reported that flashbulb memories are unusually accurate and how we learn of shocking news determines our memory of particular news items. Also, it should be noted here that the accuracy of people's recall of such an important event as the assassination of a US president, or a major terrorist attack, or a major soccer tragedy in the UK is impossible to determine because of the inevitable post-event interference (see below) by the substantial media coverage usually accorded such events. Independent of the stressful nature of a witnessed event, Loftus et al. (1989) drew attention to chronic anxiety as an attribute that can cause a person's attention to be focused on such other concerns as to fail to adequately perceive event details, resulting in inaccurate testimony. Therefore, the next chapter, *inter alia*, considers the importance of a number of personality characteristics of the witness that are said to influence accuracy of identification. The flashbulb memory hypothesis is that witnessing a stressful event is conducive for accurate testimony. There is also the notion that highly emotive and traumatic events are repressed. However, the review by Pope et al. (1999) of 33 studies of memory for traumatic events found that traumatic amnesia is a rare phenomenon and when it occurs it is explainable by reference to other causes. The vexed issue of repressed memories and accuracy of eyewitness testimony is discussed in the next chapter.

3 EYEWITNESSES

THE PERPETRATOR AND INTERVIEWING

INTRODUCTION

Psychologists have paid very little attention to the influence of individual differences in personality and their effects on identification (Hosch, 1994:328). Hosch attributes this lack of research to the facts that: (a) psycholegal researchers in the field have a background in social or cognitive psychology; and (b) the acceptance by many psychologists of Wells' (1978) argument and the focusing on system rather than on estimator variables in order to increase the practical usefulness of their work (p. 328). Let us, therefore, take a close look at the empirical literature on witness personality, demographic and other characteristics and their relationship with accuracy of eyewitness memory.

WITNESS CHARACTERISTICS

Neuroticism: Bothwell et al. (1987a) found that as arousal level increased from low to moderate to high, the identification accuracy of witnesses classified as low on neuroticism increased. The reverse was found for witnesses high on neuroticism. It would appear, therefore, that failure to control the subject's neuroticism will compound any relationship between arousal and witness recall accuracy.

Extroversion: in examining the importance of one's extroversion (see Eysenck, 1982), researchers must take into account the following facts: (a) time of day is important because introverts reach their arousal peak sooner than extroverts; and (b) people's memory performance varies depending on the time of the day and the type of memory called for. Thus, if immediate or short-term memory, or verbatim and ordered memory, or if shallow processing of material is required, the morning is better. If what is called for is delayed memory, prose memory and semantic or deep processing, then the evening is better (Diges et al., 1992:317).

Reflection-impulsivity: another personal characteristic that appears to be related to eyewitness accuracy is reflection-impulsivity (see Kagan et al., 1964).¹ A reflective individual is someone who has a strong tendency to consider a number of possible answers to a question before responding. Thus, in being asked to decide whether the culprit is in a line-up, an impulsive individual will take less time to decide than a reflective one and his/her correct line-up identification (see chapter 9 in this volume) will correlate with speed of identification (Sporer, 1989; Stern and Dunning, 1994). *Need for approval/affiliation:* human beings vary in the extent to which their everyday lives are characterised by grouping. This process of grouping is also known as 'affiliation'.

Affiliation refers to 'forming associations involving cooperation, friendship and love' (Davenport, 1992:123). Schill (1966) reported that persons high in need for affiliation (n-Aff) showed greater perceptual sensitivity to face-related stimuli than those low on n-Aff (Atkinson and Walker, 1955) and, similarly,

persons high in need for approval (n-App) performed better in a memory task for faces than those low in n-App.

Morning-evening type: different people prefer different schedules in their daily lives. More specifically, morning-type individuals (known as 'larks') are said to reach their arousal peak three hours before the evening-type ones – known as 'owls' (Kerkoff, 1985). In fact, in free recall, larks perform better in the morning and the owls perform better in the evening (Lecont, 1988).² Where a person is located in the 'morningness-eveningness' dimension can be measured by Horne and Ostberg's (1976) questionnaire.

In an interesting experiment Diges et al. (1992) showed morning- and evening-type subjects a very brief film of a traffic accident at 10 a.m. or 8 p.m. Utilising two measures of arousal from McNair et al.'s (1971) *Profile of Mood States*, they found that the main factor affecting witness testimony is time; in other words, accuracy of recall is significantly better when people are more aroused. Diges et al. also found, however, that there was a systematic superiority of the 10 a.m. (testing time) as compared with the evening test at 8 p.m. Finally, evening-type subjects in the morning test failed to discriminate as much accurate from irrelevant information. The authors explained the last finding in terms of evening-type individuals' tendency to be extroverts (Kerkhoff, 1985) and thus more assertive, self-confident and seem to have a lower decision criterion when they recall details of an event. Consequently, they were found to write longer reports, to perform hurriedly and make mistakes when trying to integrate the information (p. 320). It is obvious that researchers are a long way from closing the chapter on individual differences in arousal and witness accuracy.

Intelligence: no relationship has been found between intelligence (when it falls within normal ranges) and the accuracy of eyewitness testimony (Brown et al., 1977; Feinman and Entwistle, 1976). As far as people with intellectual disability are concerned, even though they appear to have broad deficits in memory encoding, storage and retrieval, they can give accurate witness testimony in some circumstances, which includes being asked open, free recall questions (Kebbel et al., 2004). One would normally expect that an eyewitness with intellectual disability testifying in court would likely feel distress, especially as certain questioning techniques employed by lawyers (for example, using double negatives) are potentially confusing for such witnesses (p. 25). It is for this reason that in some countries special measures are available for such persons. To illustrate, section 17(1) of the *Criminal Justice Act 1991* in England and Wales provides that any person who would suffer fear or distress in connection with testifying in court is eligible for special measures, irrespective of any disability being proven (McEwan, 2003:214). Furthermore, there is a presumption in s.17(4) in favour of special measures for complainants in sexual cases (p. 214). Despite such legal provisions, it comes as a big disappointment to learn that when some lawyers cross-examine witnesses who have documented intellectual disabilities, including victims of assault and sexual

assault, they question them in the same way as they question witnesses from the general population; in other words, they do not adapt their questioning behaviour, thus increasing their suggestibility (Kebbel et al., 2004).

Self-monitoring: Snyder (1979, 1987) has distinguished between persons who are high self-monitors (HSMs) and low self-monitors (LSMs). This attribute refers to 'the extent to which people observe, regulate and control their public presentation of self in social situations and in their interpersonal relationships' (Hosch, 1994:329–30). Since HSMs are more attentive to the social environment, one might expect them to be more accurate eyewitnesses than low LSMs. In a number of studies Hosch and his co-workers have examined differences in eyewitness identification as a function of differences in one's degree of self-monitoring ability.³ Hosch (1994) concluded that while HSMs appear to be more accurate (but no more confident) on identification tasks when they are the 'victims' of a staged crime instead of bystanders (p. 332), the relationship between witness accuracy and degree of self-monitoring ability 'is not necessarily a simple one' (p. 332). Snyder (1987) has argued that individual differences in self-monitoring are biologically-based. In support of this view, Pannell et al. (1992)⁴ found significant differences in evoked potentials between HSMs and LSMs in a facial recognition task, suggesting important differences in the way the two types of individuals search their memory and decide such a task.

Cognitive style: Kogan (1971) defined 'cognitive style' as a characteristic way of perceiving, storing, transforming and utilising information. A widely cited example of cognitive style in psychology is field dependence/field independence. This construct describes one's ability to discriminate parts from the whole in which they are embedded. The same construct is referred to as *articulated vs global psychological differentiation* (Hosch, 1994:341). Field independence has been theoretically linked with facial identification accuracy. Studies that have tested the hypothesis that field-dependent persons are better at recognising faces than field-independent ones because they are generally more attentive to faces put forward by Witkin et al. (1962, cited by Hosch, 1994:342), have reported conflicting findings.⁵ Durso et al. (1985) reported that field-dependent persons are more likely than field-independent ones to confuse memories of actual and illusory events. This finding lends support to the view that field-dependent individuals differentiate self less sharply from non-self compared to field-independent ones.

Breadth of categorising is another cognitive characteristic that has been considered in eyewitness identification accuracy (Kogan and Wallach, 1967)⁶ and 'refers to a preference for being inclusive, when establishing an acceptable range for specified categories' (Hosch, 1994:338). Thus, if a witness is over-inclusive, then he/she would be more likely to pick a foil in a line-up. Hosch (p. 339) cites empirical evidence that breadth of categorising is positively related to facial recognition accuracy⁷ and is predictive of eyewitness accuracy.⁸

Levelling-sharpening: Hosch (1994:343–4) has also suggested that a witness' position on this dimension could be related to suggestibility to unconscious

interference (see Ross et al., 1994a) and the misinformation effect (see Lindsay, 1994b; Weingardt et al., 1994, and below in this chapter). ‘Levelling-sharpening’ refers to reliable individual variations in assimilation in memory (Gardner et al., 1959).⁹ Levellers have been described as tending to blur similar memories and to merge perceived objects or events with similar but not identical events recalled from previous experience (Hosch, 1994:343).

Mood: it has long been known in cognitive psychology that people find it easier to recognise something than to recall and describe it. In accounting for the difference between recall and recognition, context is of paramount importance.¹⁰ Cues to recognition may be present within the witness when reliving the original incident and feeling the same way they did at the time¹¹ and/or in the external environment,¹² termed the first context ‘intra-organic condition’ of the learner and the second ‘stimulus properties of the external environment’.

Researchers have examined the hypothesis that a person’s mood at encoding will subsequently serve as a retrieval cue for the learned information during recall. This is known as state-dependent effect (Mayer and Bower, 1986). On the basis of their discussion of relevant empirical studies, Ellis and Ashbrook (1991:14) concluded that state-dependent effects seem to occur seldom and the results are often impossible to replicate. The same authors reported stronger support for the ‘mood-congruity effect’; that is, the view that individuals retrieve more easily material which is congruent with the mood state prevailing at the time of encoding. According to Ellis and Ashbrook, this phenomenon is quite robust across a broad range of experimental conditions. Support for both state-dependent and mood-congruity effects has been reported by clinical studies (see Weingartner et al., 1977; Ingram and Reed, 1986; Blaney, 1986).¹³ However, studies of the effects of emotional states on the retrieval of personal experiences in one’s childhood or more recently have reported contradictory findings (see Ellis and Ashbrook, 1991:16). According to Gudjonsson (1992a), the basic idea is that people find it easier to remember an event if they are in a similar mood (Haaga, 1989) or under the influence of a particular drug (Overton, 1964) or alcohol (Lisman, 1974) as when they witnessed the event. As far as the facilitating effect of cues in the external environment is concerned, the important finding is that reinstating the witness in the original context (for example, returning the witness to the scene of the crime, showing the witness photographs of the scene of the crime or asking the witness to form an image of the crime scene) enhances recall by maximising retrieval cues (Gudjonsson, 1992a:90; see also ‘cognitive interview’ below). Cutler and Penrod (1988) found, for example, that identification accuracy can be increased if police reinstate strong physical context cues associated with the offender, such as the offender’s voice, posture and gait. The effect of context on memory can be explained by Bower’s (1981) ‘associative network theory’ which holds that one’s emotions serve memory units and are linked to what has been seen and experienced. In other words, one maximises retrieval cues by reliving the original

context (Gudjonsson, 1992a:90). Reinstating the context is a crucial component of one particular technique for enhancing witness memory, namely, the 'cognitive interview technique' (see below).

Alcohol: alcohol abuse afflicts many societies (see De Luca, 1981; Saunders, 1984). Very few would doubt that, in addition to its astronomical social cost, alcohol is also a major contributor to road accidents and impairs many sensory motor and cognitive functions. Generally, the more alcohol consumed the greater the impairment, but this relationship is 'subject to a host of task, instructional, cognitive process and individual variables' (Read et al., 1992:427). Alcohol, of course, features frequently in the commission of a large volume of such criminal offences as homicide, rape, serious assault, robbery and culpable driving.¹⁴ It is often a requirement for judges in jury trials in common law countries to direct the jury that intoxication could render a witness' recollections inaccurate.¹⁵

In view of the ethical problems in the types of experiments one can do and the fact that individuals differ in their alcohol tolerance, research into alcohol and witness accuracy face methodological difficulties. Steele and Josephs (1990), Cutler and Penrod (1995a) and Yuille and Tollestrup (1990)

found that blood alcohol content impacts adversely on the acquisition and encoding of information, thus reducing witness accuracy. Read et al. (1992) reported that it significantly impairs subjects' recall of peripheral information. More specifically, Dysart et al. (2002) found that the level of alcohol intoxication correlated with making a false identification from a target-absent show-up. Clifasefi et al. (2006) told half their subjects that they had received a placebo and half that they had received alcohol and the information was either true or false. They found that intoxicated subjects, regardless of what they were told, were more likely to show 'inattention blindness' (that is, a failure to detect) an unexpected object in their visual field. Such findings cast doubt on an early study by Parker et al. (1980), who reported that consuming alcohol during the retention interval correlated with better recognition and recall performance than when subjects did not. It can be seen that the overwhelming research evidence documents that alcohol consumption reduces witness accuracy. However, more research is needed before the alcohol-memory performance relationship is elucidated, as far as the role of alcohol in particular perceptual processes is concerned. Lindsay's (1994a:372) survey found that the level of witness intoxication during the crime was ranked tenth by potential jurors in importance as a determinant of eyewitness identification accuracy out of 25 variables.

Alcohol is one kind of drug. A commonly taken drug that is illegal in most countries is cannabis. It has been found that being high on cannabis interferes seriously with one's recall accuracy of recent events (Thomson, 1995a:127). On the basis of what is known in psychological pharmacology, illicit drugs such as heroin, cocaine and amphetamines can only be expected to influence adversely both a witness' initial perception of an event and his/her memory of it (Spiegel, 1989). Also, given the large number of people in society who are on prescribed

drugs such as antidepressants and barbiturates and so forth, there is a need for research into how such individuals' performance as eyewitnesses is affected by their medication.

Age: largely due to improvements in medical care, an increasing proportion of the general population, especially of western countries, comprises elderly people. Since the 1970s there has been an increasing concern about the abuse of elderly people in the home, in institutions and as vulnerable victims of crime (Groth, 1979), who often live in fear of crime even though they are the least likely to be victimised by strangers.¹⁶ In criminal law, the fact that a victim of an offence is of advanced age is regarded as an aggravating factor at the sentencing stage (Kapardis, 1985:103–5; Thomas, 1979). However, it should be noted in this context that ageism, like racism, which it resembles, is based on prejudice and fear. Senior citizens are often the victims of discrimination due to negative stereotypes and prejudice (Berger, 2001:616–7).

According to the American Psychological Association (APAONLINE), 'For the human brain, there is no such thing as over the hill'. The memory that declines the most is episodic (that is, what did I have for dinner last night?), source (that is, where did I read about that?) and flashbulb (for example, where were you on 11 September 2001?). Semantic and procedural memory declines the least as one gets older. While people's ability to recognise new information does not decline with age, their ability to remember new information declines during early and middle adulthood (Schonfield and Robertson, 1966). In their study of older people in England, Baber and Brough (1997) used a focus group of 20 people and a national postal survey of 250 people aged 55 or older. Their results indicate that, 'older people feel they are able to effectively recall events and descriptions, wish to be treated as individuals, and acknowledge their declining abilities' (p. 6). In fact, there is also ample evidence pointing to 'cognitive slowing' with ageing, that is, that as one gets older one gets slower as far as the rate of rehearsal during a memory task, scanning in memory search tasks or responding in primary and secondary memory tasks is concerned (Light, 1991:361). According to Light (1991): 'Older adults complain more about memory than younger adults' (p. 333). Light also reported that older adults on forensically relevant tasks remember less of buildings along the main roads in towns they have lived in for a long time, about what coins and telephones look like, activities they have participated in, names and faces of people and, finally, they have poorer memory for prose (p. 334). Farrimond et al. (2006) found that memory search but not cue detection was affected in older people when participants were given fewer trials to learn the instructions in a simulated shopping task. They concluded that their findings point to a reduction in capacity for self-initiated reinstatement of working memory in old age. May et al. (1993) reported that older adults perform better at recognition tasks early in the morning rather than late in the day. Apparently, also, older people are disadvantaged if their recall accuracy is tested by means of multiple-choice questions instead of 'yes' or 'no' answers (List, 1986; Yarmey and Kent, 1980).

There is disagreement among researchers as to whether there is a peak age beyond which memory does not improve and may decrease. Diamond and Carey (1977) claimed to have found that memory peaks at the age of 10 years while Carey (1981) and Chance et al. (1982) reported that adult-like levels of face recognition on performance may not, in fact, be achieved until about 16 years of age.¹⁷ There is agreement, however, that elderly people of 70 years or older have poorer perceptual and memorial faculties (Wallace, 1956). A common loss suffered is in short-term memory retention (Craik, 1977) and in visual acuity for both near and distant objects, as well as the ability to discriminate colours adequately. Elderly people have also been shown to have a strong tendency to emphasise the accuracy of what they say at the expense of the speed in saying it;¹⁸ are less able than younger subjects to pay attention to stimuli on the periphery when driving (Manstead and Lee, 1979), and have less confidence in their testimony and may well approach memory tasks differently (Yarmey and Kent, 1980).

The available literature also indicates that the elderly are also more prone to recognition errors for faces seen only once before.¹⁹ Searcy et al. (2000) compared 18–30 and 60–80-year-olds and found that the elderly subjects made more false identifications. However, this age-related deficit disappears if a face has been seen from a number of viewpoints (Bartlett and Leslie, 1986; Yarmey and Kent, 1980). Another defect which the elderly suffer is in free recall of events they have witnessed (List, 1986). Bartlett and Leslie (1986) reported that there may be an age-related deficit where the suspect is young and/or is seen only at a glance. More recent studies have in fact reported an *age-own bias*. Comparison of face-recognition by 18–25 and 35–55-year-olds by Wright and Stroud (2002) revealed an own-age bias in target-present but not in target-absent line-ups. However, a similar study by Memon et al. (2002b) found no support for own-age bias. More research is needed before definitive conclusions can be drawn about the apparent age-own bias. Finally, it should be noted that studies reporting no significant differences between elderly and young subjects²⁰ defined ‘elderly’ to mean an average age of 50 years while others reporting differences²¹ used ‘elderly’ to refer to subjects aged 65–90 years. According to British researchers Baber and Brough (1997), it is generally accepted that ‘older’ starts at 55 years of age. For American potential jurors, however, the age of the witness is not considered an important determinant of eyewitness identification accuracy. Lindsay (1994a:372) reported that it was ranked eighteenth in importance out of the 25 factors considered. Ross et al. (1990) carried out three experiments on mock-jurors’ perception of the average 74-year-old’s credibility as a witness compared to an average 24-year-old and reported inconsistent results. There was general agreement, however, that elderly witnesses are honest.

In her review of the literature on memory and ageing Light (1991) discussed four classes of explanation for age-related decrements in memory, namely, (a) metamemory (in terms of deficient knowledge about memory; deficient strategy use; memory monitoring); (b) semantic deficit (for example, in terms of richness, extensiveness and depth of encoding; encoding inferences); (c) impairment of

deliberate recollection; and (d) reduced processing resources. Light concluded that, whether separately or combined, these hypotheses do not account adequately for what is known about the memory performance of elderly people (p. 366). On the basis of his literature review, Bornstein (1995) suggested the following means of improving elderly eyewitnesses' memory: use recognition; ask precise questions; avoid leading questions; emphasise that a high degree of certainty is needed before deciding to select someone out of a line-up; present a line-up sequentially; and, finally, make use of the cognitive interview technique (see below).

Race: as criminologists are not tired of reminding us, 'blacks [in the United States] are vastly over-represented in prison populations, in the official statistics of arrest and in victim reports of robbery and assault' (Feldman, 1993:69). Aborigines in Australia are also over-represented in official criminal statistics,²² as are West Indians in Britain (Ouston, 1984). Researchers have generally found that cross-racial identifications are more difficult, less accurate and thus less reliable than within-race identifications by adult witnesses.²³ A meta-analysis by Bothwell et al., (1989) and a later one of 39 published studies by Meissner and Brigham (2001) found that the own-race bias is consistent for both white and black subjects, that testimony will be of doubtful validity when the race of the witness and the suspect is not the same. Cross-racial identification is also characterised by a higher rate of false identifications (Thomson, 1995a:136). Support for the own-race witness identification bias has also been reported by a comparative field study in England and South Africa (Wright et al., 2001). According to McLelland and Chapell (1998), the own-race bias can be explained in terms of familiarity, whereby people store faces of their own race more accurately and efficiently. In fact, research evidence supports an own-race effect at the level of perceptual encoding in adults. Walker and Hewstone (2006) examined the perceptual basis of the own-race effect in white and South Asian secondary school students from two socially segregated communities. A significant own-race effect was found for white subjects only, that is, they were better at discriminating white relative to South Asian faces. Walker and Hewstone concluded that other-race experience influences other-race perceptual expertise. Differences in frequency and quality of contact between members of different races go a long way towards explaining the cross-race identification difficulty. Support for this was provided by Dunning et al. (1998) who found that seasoned basketball fans were as accurate in identifying African-American faces as European ones but that novice basketball fans were not. Of course, as racial integration becomes more widespread, the extent of the own-race witness identification bias will be reduced, as the South African experience suggests (Wright et al., 2001). Interestingly, despite the overwhelming evidence for the own-race witness identification bias, race of the witness and the criminal was rated as one of the least important factors (twentieth out of 25) in eyewitness identification accuracy in the Lindsay (1994a:372) study. The issue of the cross-race effect is discussed further in the context of line-ups (see chapter 9).

Gender: according to Wootton (1959): ‘If men behaved like women, the courts would be idle and the prisons empty’ (cited by Feldman 1993:66). The gender gap in criminal offending has been known in criminology for a long time and victimisation surveys confirm it (Feldman, 1993:66; Blackburn, 1993:50–2). A number of studies have focused on gender as an influencing variable in eyewitness identification/facial recognition (see Loftus et al., 1987c, for a review). Levine and Tapp (1971)²⁴ informally interviewed members of a large police force in the United States and found they seemed to prefer female to male witnesses. But how important is gender in witness testimony? It is established that, generally, people tend to overestimate the duration of an event but it appears that females exhibit the tendency more than males (Loftus et al., 1987c). Males, on the other hand, are significantly more likely to suffer colour deficiency (Hurvich, 1981) and hearing loss (Corso, 1981), deficiencies that inevitably have a detrimental effect on their accuracy as witnesses. In addition, a witness’ gender has been found to influence the types of details that are remembered from an incident. Powers et al. (1979) reported that females are more accurate in their memory recall than males for ‘female-oriented’ details and vice versa, suggesting that a witness’ interest (see below) may well be another important factor in testimony.

A series of other studies of the importance of gender has yielded inconsistent findings. While some²⁵ found no gender differences in identification/facial recognition accuracy, others reported that females have higher accuracy of recall and are better than males in identifying a bystander.²⁶ There is also some evidence²⁷ that accuracy is greater for same-gender than cross-gender targets.²⁸

As far as violent incidents and the effects of arousal are concerned, Clifford and Scott (1978) found that female subjects were less accurate than male subjects about event details but were equally accurate as male subjects after viewing a non-violent incident. MacLeod and Shepherd (1986) compared 379 witness reports for assaults that involved either physical injury or no physical injury to the victim. They found no differences in the kinds and amount of details reported by male and female witnesses when the victim was not physically injured. However, when the victim sustained physical injury, female witnesses reported significantly fewer details about the perpetrator’s appearance than did male witnesses. Finally, Jalbert and Getting (1992) reported a tendency by male subjects to make more false identifications than females, irrespective of the race of the suspect. In considering contradictory findings on gender and person identification we should note that different studies have used different events: rape (Yarmey, 1986b; Yarmey and Jones, 1983), a robbery (Loftus et al., 1987a) or a non-criminal event or a snatch-theft of a satchel (Sanders and Warnick, 1981). Also, as Foster et al. (1994:110) point out, none of the studies just mentioned examined consequentiality or type of line-up instructions. We can see that while gender does appear to be an important factor in the reliability of eyewitness testimony, for the most part the often contradictory findings reported do not allow any definitive conclusions to be drawn, other than the weight of the evidence points to a same-gender bias. Interestingly, Lindsay (1994a:372) found (without taking type of crime into account) that the potential jurors in his study

considered the gender of the witness to be rated the least important variable in eyewitness identification accuracy of all the 25 examined.

Schemas/stereotypes: social psychologists are particularly interested in social perception/cognition. For a number of years now, it has been known that in some circumstances (for example, of ambiguity, as when one has a glimpse of a robbery being committed in a matter of seconds) people tend to report seeing what they expect to see, or desire or need to see (Whipple, 1918; Hollin, 1980). In Hollin's (1980) study the target person had blond hair, green eyes and a fair complexion. Of the 93 per cent who correctly recalled the hair colour (blond), almost half reported blue eyes! In other words, the subjects remembered the information originally encoded but combined it with stereotypical information, with information from their own scripts (Bower et al., 1979). As Buckhout (1974:26) put it: 'Expectancy is seen in its least attractive form in the case of biases or prejudices'. Very relevant to the impact of people's expectations on their testimony are their social schemas, that is, mental representations of social categories. Schemas can refer to persons, social events and social roles (see Lilli, 1989; Wippich, 1989). They include some knowledge about a particular object or person, some information about the relationships among the various thoughts concerning that object or person, as well as some specific examples (Taylor and Crocker, 1980). Our social schemas often influence the impressions we have of others. Once we have decided that a person fits a particular category, then our mental representations about that group of people may influence our expectations, how we subsequently remember and what inferences we make about that person, as well as how we judge them (Goodman and Gareis, 1993). Similarly, there is also evidence that when we observe an ambiguous social event we may well perceive causal relations that are not actually present because two acts happen at the same time (Dahmen-Zimmer and Kraus, 1992). In other words, when the picture we have of a social event is incomplete, as witnesses we show phenomenal causality. In addition, people have a tendency to associate crimes with particular faces (Bull and Green, 1980; Goldstein, Chance and Gilbert, 1984). What is being emphasised here is the finding that when people find it difficult to remember they may use schematic processing to enhance their memory. Kleider et al. (2007) had subjects watch a slide show of a man and a woman perform stereotype-consistent and stereotype-inconsistent actions. Over a two-day delay subjects increasingly misremembered stereotype-inconsistent actions as having been performed by the stereotype-consistent actor. When the wrong actor was suggested to the subjects, all the source errors increased irrespective of the stereotype consistency. Kleider et al. concluded that when memory fades, people rely more on schemata, thus making more stereotypic memory errors.

Unlike Sheldon (1942), most contemporary criminologists would not accept that there is a relationship between criminal behaviour and certain body types. As most people are aware, however, film-makers, fiction writers and television producers have traditionally portrayed criminals as dark and swarthy while the heroes have tended to be blond. Such stereotypes would seem to reflect popular stereotypes about the appearance of criminals.²⁹ Yarmey (1994) reported that stereotypes also

impact on earwitnesses (see chapter 10), that is, that listeners attribute personality characteristics to individuals on the basis of speech characteristics (p. 107), while MacLeod et al. (1994) emphasised the importance of stereotypes when it comes to qualities people associate with certain body types. We are not concerned here with whether such stereotypic notions are valid – in fact, the question of validity is irrelevant – but with their influence on how people perceive and subsequently remember and describe others (Liggett, 1974).

Journalist Walter Lippman (1922) coined the term ‘stereotype’ to refer to the generalised beliefs we have about particular groups in society and they can be positive, negative, implicit or explicit. Stereotypes are a type of schema and, therefore, they distort reality (as do all such concepts) and oversimplify it to a certain degree. Quattrone and Jones (1980) found that people have a tendency to see out-group members as relatively homogeneous in opinions and behaviour, while they perceive their own group as more heterogeneous. An early experiment by Allport and Postman (1947) as part of a ‘rumour-chain’ illustrates the importance of stereotypes. Allport had subjects hear about a drawing of seven people on a subway train that included a seated woman holding a baby in her arms, a black man in jacket and tie standing up and a white man with sleeves rolled up standing near him holding an open cut-throat razor in his left hand. The white man seemed to be saying something to the black man, waving his finger at him at the same time. When later asked to describe what they had seen half of the subjects reported that the open razor had been in the hand of the black man. However, the empirical evidence regarding the importance of ethnic stereotypes in the weapon-transfer phenomenon is equivocal. Testing both recall and recognition, Boon and Davies (1987) showed slides to subjects. For half the subjects the slides showed a white man holding a knife and talking to another man who was black, for the other half of the subjects the white man with the knife was talking to another white. The weapon-transfer phenomenon when the other man was black was observed when subjects went through a recognition test first before recall. Treadway and McCloskey (1989), however, failed to replicate the weapon-transfer phenomenon. It is not clear whether Treadway and McCloskey’s negative finding is evidence against the importance of ethnic stereotyping or an artifact of their methodology. In view of the limitations of slide presentation as a research method discussed in chapter 2, there is undoubtedly a need to investigate racial stereotypes in eyewitness recall/recognition accuracy utilising a combination of different research methods.

Adding to a large body of literature, Bollingmo et al. (2007) in Norway studied 69 police investigators whom they asked to view one of three video-recorded versions of a rape victim’s statement. A professional actress was used to make the statement displaying emotional expressions that were ‘congruent’, ‘neutral’ and ‘incongruent’. Police investigators judged the victim as most credible when crying and showing despair and less credible when being neutral or expressing more positive emotions. Bollingmo et al.’s study shows that police officers in Norway, as in other countries, have stereotypic beliefs about rape victims that lead them to believe

r not to believe their statements, a decision that will influence how a rape victim's report to the police is processed further by police investigators.

Social psychologists have long established that if people know some key features of a person (for example, that they are 'warm-hearted' and 'honest' or 'ruthless and brutal') they tend to infer other physical and personality characteristics consistent with the limited original description (Hurwitz et al., 1975). Loftus (1979) identified four different types of expectations that can influence how we perceive and act: cultural expectations or stereotypes, expectations from past experience, personal prejudices and temporary expectations. Such expectations will, of course, impact more on people's perception and memory when they have but a glimpse of a brief and complex incident or a face, and/or when the memory has become rather vague and there is perceived pressure to recall a complete image.

Physical attractiveness: a good example of a popular stereotype is the general belief that 'what is beautiful is good' (Ashmore et al., 1966). Regarding what is 'attractive', without ignoring variations in standards of beauty across cultures, the available social psychological literature points to having big eyes and prominent cheek bones as correlates of an attractive face. We also know that physically attractive people are considered more socially competent, sexual, happy, assertive, extraverted and popular than less attractive ones (Eagly et al., 1991; Feingold, 1992). The available psychological literature also shows that both men and women are strongly influenced in their first impressions of people by physical attractiveness,³⁰ that it does pay to be tall³¹ and to be good-looking when being judged by a person who does not know much about you (Felson, 1981). Researchers have reported that the more attractive someone's face, the less severe the sentence given by mock-jurors.³² But what is the impact of a person's physical attractiveness on witnesses' testimony? Attractive faces are better recognised than unattractive ones;³³ male witnesses better remember details of a female's clothing if they have seen her wearing make-up than without;³⁴ and, finally, subjects are more likely to remember later on details of a conversation they had with someone over the phone if that person has been described to them as attractive rather than unattractive. The apparent significance of physical appearance is not reflected in potential jurors' beliefs about what is an important determinant in eyewitness identification accuracy. Lindsay (1994a:372) reported that the accused's appearance was ranked as one of the least important variables – 22nd out of 25 variables by potential jurors.

Whether the Witness is Also a Victim of the Crime: one of the very few roles in which crime victims are seen in a public place is as a witness to a crime in criminal trials (Rock, 1991). In his study of the treatment of victims and use of space in the Wood Green Crown Court in North London, Rock (1991) describes crime victim witnesses as 'an admixture of pariah and saint' (p. 278). Rock also found that a victim-witness' cross-examination often comes after lengthy and lonely periods of waiting around the courtroom precinct. Unlike the psychological laboratory, in

real life a frequent key witness to a crime is the victim him/herself. If this person happens to be a victim of a violent crime such as a robbery or rape or assault (see North et al., 1989, regarding short-term psychopathology of mass murder eyewitnesses), it is possible they will experience difficulty in accessing details of the incident because of their psychological state when being asked to describe or identify the suspect soon after the crime. On the other hand, however, it is also possible that a victim of crime is more motivated to focus on the criminal's face and to remember it well. While it has been found that recall for such witnesses becomes better with time (Bradley and Baddley, 1990), as far as the accuracy of victim-witnesses vs witnesses-only is concerned, studies have reported conflicting findings. MacLeod's (1987) and Fahsing et al.'s (2004) studies of real-life witnesses found that bystanders gave less information about both events and appearance than did victims. Two possible explanations for the findings in both studies are that: (a) victims of crime themselves get asked a lot more questions by police than is the case with bystanders, on the assumption that victims are in a better position to 'assist police with their enquiries'; and (b) victims of armed robbery or assault, for example, get a closer look at the offender. However, it has been found that in the context of theft, the respective levels of accuracy of victims and bystanders are not different (Hosch and Cooper, 1982; Hosch et al., 1984). Similar findings were reported by Farrington and Lambert (1993) in their study of burglary and violent offenders in Nottingham, England. Table 3.1 shows the highest degree of agreement between offender characteristics, as recorded by police when offenders were apprehended, and victim and witness descriptions.

Farrington and Lambert (1993) concluded that: 'it seems clear that reports by victims and witnesses about sex, ethnicity, age, height, build, hair colour, hair length and facial hair of offenders (at least) might usefully be included in an offender profiling system'. As Farrington and Lambert point out, when comparing the accuracy of victim and victim-witness descriptions of criminal suspects' characteristics it should be remembered that such comparisons are not possible for some types of crimes. For example, most burglaries take place when the victim is not at home and some crimes are committed under circumstances in which the only witness is the victim. Fahsing et al. (2004) concluded that offender descriptions are not really useful for identifying the actual perpetrator of an armed robbery but help police to narrow the range of potential suspects. Finally, whether the witness is a victim or a bystander is considered an important determinant (ranked seventh out of 25) of eyewitness identification accuracy by potential jurors (Lindsay 1994a:372).

Confidence: as McEwan (2003) reminds us, 'The adversarial system is built upon a conviction that the appearance and behaviour of witnesses are crucial indicators of reliability. The result is an emphasis on oral testimony... The rule against hearsay is the legal expression of this principle' (p. 105). However, as we shall see in chapter 8, relying on a witness' verbal and non-verbal supposed cues to deception, a court may easily be led astray by the demeanour of a witness in a

Table 3.1 Offender characteristics recalled by victims and witnesses

	Victims' description (%)	Witnesses' description (%)
<i>Burglary</i>		
Sex	98.0	99.0
Ethnicity	85.3	82.6
Age	31.3	22.8
Height	–	18.3
Build	–	33.3
Hair colour	–	34.9
Hair length	–	83.1
<i>Violence</i>		
Sex	90.2	88.3
Ethnicity	82.5	82.0
Age	14.3	14.8
Height	18.3	20.9
Build	22.1	23.0
Hair colour	29.4	30.5
Hair length	57.0	59.3
Facial hair	31.9	32.2
Accent	45.5	–
Facial feature	94.0	94.3

trial. In fact, arguments for a reduced role for the hearsay rule are based on the well-founded belief that a witness' demeanour in court when being cross-examined is not a good basis for deciding his or her credibility. According to McGuire (1985),³⁵ there are two components to credibility: trustworthiness and expertise. In addition to consistency in a witness' account (Stone, 1991), a witness' appearance and demeanour (for example, confidence) may influence the assessment of his/her credibility, the defendant's guilt and the severity of the sentence imposed (Efran, 1974; Kapardis, 1985). When it comes to ascribing credibility to an eyewitness, his/her confidence 'is the most powerful single determinant' (Wells, 1985:58).

Regarding the relationship between witness confidence and accuracy, one would expect that a normal person who is more confident in the accuracy of what they are describing would, on average, be more accurate. As Williams et al. (1992:152) put it, people believe those who seem credible. In fact, available evidence suggests that mock/potential jurors rely heavily on eyewitness confidence to infer witness accuracy (see Cutler et al., 1988; Wells, 1984) and many a jury has been persuaded by a confident eyewitness testifying before it (Leippe, 1994:385). Furthermore, the US Supreme Court, rather amazingly, in *Neil v. Biggers* (1972) and *Manson v. Brethwaite* (432 US 98 (1976))³⁶ stated that eyewitness confidence is a significant indicator of witness accuracy. The claim by the US Supreme Court is of interest

in view of conflicting findings reported regarding the relationship between witness' confidence and accuracy.¹⁵ Eyewitness confidence accounted for less than 10 per cent of the variance in eyewitness identification accuracy in Wells and Murray's (1984) study. This is not surprising, perhaps, when we remember that it is decisions by police officers, magistrates, jurors, judges and other fact-finders about eyewitness testimony rather than testimony itself that can lead to wrongful convictions. Thus, a fact-finder ends up believing an inaccurate witness or doubts an accurate one (Leippe, 1994:385).

A number of reviews have concluded (but see Sporer et al., 1995, below) that, contrary to what some fact-finders would expect, there is no significant relationship between witness confidence and identification accuracy.³⁷ Different explanations have been offered for this finding.

Leippe (1980) suggested that the accuracy and confidence of witnesses could be controlled by different mechanisms; Bothwell et al. (1987b)

expressed the view that the better the encoding conditions the better the relationship between confidence and

accuracy, while Wells and Murray (1984) attributed differences in the findings reported to differences in the methodologies used by the different researchers. Leippe (1994) suggested that fact-finders' perceptions of witness credibility can be understood by utilising a witness communication-persuasion model. For Leippe, 'the witness, in essence, is an influence agent delivering what we might call a "memory message"' (p. 386) in an interactive context (p. 387). Thus, according to Leippe, how a fact-finder judges a memory message is influenced by: (a) the content and delivery of what the witness says; and (b) the fact-finder's own beliefs and preconceptions about eyewitnesses. Furthermore, the content and delivery style of the witness are, themselves, influenced by witnessing conditions, questioning factors and such attributes of the witness as his/her age. In his book *The Psychology of Criminal Justice*, Stephenson (1992:161) made a very good suggestion, namely, that testimony be scrutinised for plausibility, consistency and likely reliability.

Williams et al. (1992) draw on Festinger's (1957) concept of 'cognitive dissonance' (that is, the social psychological explanation for a person wanting to maintain consistency with a view they have expressed publicly) to explain the role played by a witness' confidence in testimony. Williams et al. state that a witness' confidence in the accuracy of their recall increases as they repeat and repeat the same account to others; in other words: 'Confidence in memory is a social phenomenon, as well as a social issue, and as such, is subject to social influence' (p. 152). Pressure to be consistent would also be a strong factor operating in this context, resulting, perhaps, in what Smith et al. (1989) refer to as the 'I was there so I should know' situation. Alas for magistrates, judges and juries, Brown et al. (1977) found that, with time, people who are confident of accurate memories are also confident of inaccurate memories. Furthermore, like mock-jurors (Brigham and Bothwell, 1983), police officers, too, and lawyers (especially prosecution ones) have been found to share the belief that confidence and accuracy go hand in

hand (Brigham and Wolfskiel, 1983). It would also appear that a witness who is confident in their testimony will insist on the accuracy of even specific details in his/her testimony – a factor that helps to convince jurors further (Bell and Loftus, 1988). In this context, Freedman et al. (1996) reported that a more detailed statement by a witness has a significantly greater impact on judgements of guilt when the honesty of the witness is not an issue; if a witness' honesty is an issue the finding obtained only applies if the amount of detail in the statement is at an intermediate level.

A meta-analytic review by Sporer et al. (1995) of 30 studies using staged-event methods that included target-present and target-absent line-ups has cast serious doubt on the findings of earlier reviews that the confidence-accuracy relationship in eyewitness research is a weak one. Sporer et al. included choice as a moderator variable and found that: (a) in every study reviewed, the mean confidence level was higher for correct choosers (that is, witnesses making positive identifications) than for incorrect ones; and (b) that the confidence-accuracy relationship was reliably and consistently higher for choosers but was not so for non-choosers. Of course, generally speaking, it is witnesses who choose a suspect in a line-up who will appear in court to testify. On the basis of their literature review, Sporer et al. suggest that 'it might be advisable to videotape the witness' statement and introduce the videotape into evidence' (p. 324) in order to preserve it for juries and also allow the confidence expressed by a witness at the time of the identification decision to be scrutinised in cross-examination. Regarding the role of the expert witness in this context, the same authors suggest that 'the expert might emphasise that witness confidence should, in any event, be considered together with a number of other variables that can influence eyewitness performance' (p. 324).

Attempts to identify the conditions that impede or enhance the confidence-accuracy relationship have highlighted the importance of exposure time (Bothwell et al., 1987b) and the distinctiveness and unattractiveness of the target's face (Brigham, 1990) at the encoding stage 'as well as the witness' willingness to choose someone from the line-up they viewed'. Also, Kassin (1985) found that allowing witnesses to gain 'retrospective self-awareness' (that is, to view videotapes of themselves identifying a suspect from a photospread before being asked to rate their confidence in their identifications) could improve the confidence-accuracy relationship. Shaw et al. (2001) had 96 subjects watch a videotape of a simulated robbery in groups of three or four. In the 'public' condition, subjects shared aloud their answers to the researcher's questions and their confidence ratings with the other participants while subjects in the 'private' condition did not share them. Shaw et al. reported that confidence ratings were significantly lower in the public than in the private condition. Luus and Wells (1994a, 1994b) have shown that not only is eyewitness confidence malleable but it is also bidirectional. In their study witnesses observed a staged theft, made a photo line-up identification and received different types of information regarding the alleged identification decision of their co-witnesses. It was found that witness confidence was inflated or deflated depending on whether

they were informed their co-witness had identified the same person as themselves. Interestingly, research in Sweden by Allwood et al. (2005) found that the meta-memory realism of witness confidence judgement two weeks later was not related to whether the participants had been interviewed with the Cognitive Interview or the Structured Interview. Regarding the confidence of child witnesses, Allwood et al. (2005) used video clips with 8–9-year-olds, 12–13-year-olds and adults, and found that realism in the subjects' confidence judgements was poorer when asked focused instead of free recall questions. Luus and Wells (1994a:355) have suggested that knowledge about the witness variable moderators relevant to the confidence-accuracy relationship could be conveyed in expert testimony and communicated to jurors, while findings pertinent to system variable moderators could be used to improve police procedures.

Lindsay (1994a:373) found that witness confidence was rated as less important by respondents than illumination, exposure time, alcohol and stress, but was more important than the age, race and gender of the witness and the suspect.

Konečni and Ebbesen (1992) strongly criticised experimental simulation studies of the relationship between witness confidence and testimony accuracy, also arguing that published claims by such researchers and 'the experts' litanies in court have potentially tilted the scale of justice toward unjustified acquittals by lowering the jurors' quite justified reliance on witness confidence' (p. 419). Citing research evidence, British authors Memon et al. (2003) reiterate the point that by relying on experiments and with college students as subjects (that is, homogeneous samples) many researchers in fact minimise 'variability in witness conditions, thereby reducing the chance of finding a confidence-accuracy relationship' (p. 113). Konečni and Ebbesen's and Memon et al.'s conclusions should be taken very seriously by psycholegal researchers who should reflect on what they research, how they research it and what they do with their findings. Confidence is a complex construct that warrants a more sophisticated analysis than has been the case in a lot of the eyewitness research. Research with forensically relevant real-life eyewitnesses is essential to test hypotheses generated in laboratory experiments with student subjects. Witness testimony confidence, of course, is but one factor that will contribute to the magistrate or jury or judge coming to regard a witness as credible. Other factors are internal consistency of the testimony, its improbability, whether it is consistent with other facts already established and with circumstantial evidence.³⁸

One of the aims of cross-examination for most lawyers is to discredit a key witness of the other party. One strategy that is routinely used is to try to show during cross-examination that a witness is inconsistent in what he/she remembers and the fact-finders should infer that the testimony is unreliable. Practising attorneys are probably not surprised to be told that experimental evidence confirms the effectiveness of this cross-examination strategy (Berman and Cutler, 1996; Berman et al., 1995). In some jurisdictions, in fact, a judge is required to make directions to the jury concerning a witness' prior inconsistent statements (*Davies v. R* (1995) Supreme Court, South Australia, *Crt Crim App*, 8 September). Interestingly enough, however, Loftus (1974) reported that mock-jurors were still influenced by the

testimony of a 'discredited witness', even when they were informed that the witness normally wore glasses and was not wearing them at the time of the incident. Later studies found that the impact of a discredited witness' testimony can be removed if, for example, the witness admits to poor eyesight and apologises for the testimony (Elliott et al., 1988; Havatny and Strack, 1980) and, finally, if the status of the discreditor is a relevant factor (Weinberg and Baron, 1982).

If a lawyer manages to reduce the accuracy and confidence of a witness, then he/she has succeeded in largely discrediting that witness. Kebbell and Johnson (2000) had subjects view a videotaped film. One week later half the subjects were asked about what had been seen, with half of them being asked confusing questions (that included negatives, double negatives, leading, multiple questions, complex syntax and complex vocabulary), while the other half were asked for the same information in simpler, clear language. It was found that confusing questions reduced significantly eyewitness accuracy and confidence. Furthermore, the subjects rarely asked for a confusing question to be explained or qualified their answers. Wheatcroft et al. (2004) examined the effect on witness confidence of three types of questioning: simple style, lawyerese questioning (including leading and suppositional phrases) and lawyerese with negative feedback. It was found the lawyerese style impacted adversely on the confidence-accuracy and that adding subtle negative feedback reduced the problem but also reduced overall witness accuracy. Finally, mock jurors observing the interviews judged the witness to be less accurate in the lawyerese negative feedback condition. Lawyers who want to boost a witness' confidence could do so by having them go over their statements, prepare them for questions the other side is likely to ask, providing them with feedback that they are performing well (Memon et al., 2003:112) and, finally, by encouraging a witness to exert extra effort during memory retrieval (Shaw and Zerr, 2003). However, whether eyewitness confidence inflation (that is, increases in a witness' confidence between the time of the identification and the trial) impacts on judgements on the strength of the defence case in trial may apply for white but not for Hispanic subjects (Bradfield and McQuiston, 2004).

Whether the eyewitness is a police officer: one of the skills that basic training at police academies and specialist training at detective training schools all over the world aims to develop is a sharp ability to observe and a good memory for details. Furthermore, many people will go along with the belief that because of their training and experience police are more accurate witnesses than civilians (Yarmey, 1986a). According to the Court of Appeal in England (see *Ramsden and Williams (John)*),³⁹ witness identification by a police officer carries more weight than an ordinary witness. However, as far as memory capacity is concerned, police have been found to be similar to civilians in the amount of information they retain from their daily briefings, irrespective of whether the information is presented face-to-face or not, and better recall of information is associated with greater length of service in the police (Bull and Reid, 1975). Different findings were reported by Ainsworth (1981). In Ainsworth's study the subjects comprised: (a) police officers with an average of nine years' experience; (b) new police officers (averaging less

than a year); and (c) a control group of members of the public. Subjects were shown a film in which a staged event took place, including, for example, a car theft, a man loitering suspiciously outside a bank, and traffic offences. No significant differences were found between the three groups of subjects regarding the number of offences detected and, with the exception of the traffic offences, the inexperienced officers exhibited the highest reporting and the experienced ones the lowest. Given the small and very likely unrepresentative groups of subjects in Ainsworth's study, his findings should be treated with caution. His findings, nevertheless, like those of Verinis and Walker (1970) and Tickner and Poulton (1975), do not support the popular belief that police officers, because of their special training, are more vigilant in perceiving offences and suspicious circumstances (p. 235). The finding that young police officers focused on traffic offences at the expense of other offences could possibly be due to the fact that a lot of attention is paid to traffic offences early in police training in Britain and elsewhere and/or a wish on the part of the young constables to maximise their performance by focusing on an offence they perceive as easier to detect (p. 236). Finally, another interpretation of Ainsworth's (1981) findings could be in terms of police officers having been taught to exercise caution before recording a piece of behaviour as an offence. The need for further research in this area cannot be overemphasised.

It turns out that precisely because of their very training and experience police also develop a mental 'set' and are thus more predisposed to selectively perceive and interpret information about an event in such a way as to even impute and remember details of a criminal nature that, in fact, never existed. Marshall and Hinsin (1974)⁴⁰ showed police and civilian subjects a 42-second film in which a man approached a pram, pulled down its protective net, and then walked off. As he was walking away, a woman appeared out of a house. It was found that while police remembered more details about the persons depicted, they also remembered twice as many incorrect facts (that is, non-existent details) than did the civilian subjects.

In an interesting study by Clifford and Richards (1977) police and civilians were asked to describe the appearance of a target who had walked up to them to ask the time (short duration, 15 seconds) or to ask for directions (long duration, 30 seconds). Using data from stationary police and civilians and from the subjects who really looked at the target, it was found that at short exposure there was no difference in the amount of target detail recalled by the two groups but the police recalled more such detail in the long exposure condition. On the basis of those findings Clifford and Bull (1978:191) stated that 'providing an irreducible minimum time for viewing was not prevented, police had processing skills which could be employed and which eventuated in better recall'.

A Canadian study by Thomassin and Michael (1990) had subjects view a staged non-violent event in a classroom. It was found that while police science students provided more physical and clothing descriptions than medical biology students they were not more accurate. Also, the former group made more mistakes in the

visual identification and were more certain of their selections than the civilians. These results support Ainsworth's (1981) conclusion that: 'The claim that police officers are specially trained in the perception of offences and suspicious circumstances was not supported by the data . . . ' (p. 235).

As far as race recognition is concerned, the study by Billig and Milner (1976) concluded that police officers are no exception to the finding that such recognition is poor, irrespective of whether they have worked in black neighbourhoods. Finally, researchers (see Verinis and Walker, 1970; Tickner and Poulton, 1975) have found that because of their training and experience police officers view events in predictably different ways from civilians. More specifically, they are prone to construe an event as criminal, as involving the commission of an offence, and thus to remember events and details that never existed.

Logie et al. (1992) compared the recognition accuracy of: (a) 10 residential burglars in a remand centre with an average age of 16.1 years; (b) 14 male police detectives (12 constables, one sergeant and one inspector); and (c) 10 highly educated law-abiding members of the public with a mean age of 39 years. They used photographs of houses, and subjects were given a surprise recognition test where, in some photographs, physical features had been changed. It was found that recognition memory was better for the group of burglars than for the police officers who, in turn, were better than the law-abiding members of the public. In a second experiment, Logie et al. compared 19 male juvenile burglars with a mean age of 15 years 2 months with a control group of 10 boys whose mean age was 14 years and who had been charged with a non-burglary offence. Both groups of boys were in a British residential and day school for children with special educational needs. It was found that the juvenile burglars' recognition memory performance was significantly better than that of the other offenders. The Logie et al. findings point to burglary offenders possessing a level of expertise that is associated with their experience of offending. In view of the fact that police officers, like civilians, have poor knowledge of many important factors in eyewitness testimony (see Bennett and Gibling, 1989), the need for improvement in police training to address this important aspect of the work cannot be stressed too strongly.

Stephenson et al. (1989) compared the recall performance of uniform police members, mainly constables, with at least three years' experience with that of students. Stephenson et al. had subjects listen to a tape-recording of a script featuring a fictional interrogation by two police officers, one male and one female, of a woman who alleged she had been raped. Under free recall, individual police officers performed consistently worse than students. Police recall was much better than that of students when they were working in dyads or four-member groups (see also below), but they also produced more errors than did the students.

Empirical evidence that experienced police officers, because of their professional knowledge and experience of violent crime, are more accurate eyewitnesses than the general public was reported by Christianson et al. (1998) in a Danish study. Experienced police officers with a mean age of 35 years, police recruits,

psychology undergraduates and high school teachers were shown a slide presentation of a simulated violent crime, were given neutral facial photographs of men and women to study (filler task) and, 20 minutes after seeing the slides of the crime, they were tested for their recall of the incident. Finally they were asked to identify the perpetrator in a line-up with seven foils. The line-up was presented simultaneously. It was found that the experienced police officers were superior in overall performance to the other three groups, including remembering more peripheral information such as colour, model of car used in the robbery and licence plate number.

On the basis of the studies mentioned, the weight of the evidence indicates that police are: no more vigilant unless an event of long duration is involved; their recall is no more accurate than that of civilians and, in fact, they may make more errors of commission and feel very confident in their testimony nevertheless; their cross-race recognition accuracy is as poor as that of civilians, even when police officers have worked in black neighbourhoods; generally, there are conflicting findings as to whether their ability improves with length of service and, finally, they are prone to put a criminal construction on events they witness and even to report events and details that never existed. Contrary to how the police are usually portrayed, their testimony is no more reliable than that of members of the public. Consequently, their credibility is unwarranted and they should not be regarded as 'experts' when testifying as witnesses in court. This conclusion, however, needs to be treated with caution due to the low ecological validity of many of the studies mentioned because some used photographs⁴¹ and non-violent incidents. On the basis of the findings reported by Stephenson et al. (1989) who, in contrast to other researchers, tested witness accuracy for violent incidents, it does appear that experienced police officers remembering with another or with three more colleagues, are capable of more accurate recall than non-police. In the real, everyday world of operational policing, an experienced undercover police officer may be asked by his superiors to recall the content of conversations and/or facial and other characteristics of suspected drug-dealers, bomb-makers or even professional assassins they encountered briefly in a dark alley or car park or, finally, to identify such suspects in a line-up. This is a far cry from the well-controlled world of the psychology laboratory. Future research should attempt to replicate Christianson et al.'s (1998) findings under realistic conditions. Meanwhile, police officers are left to ponder the policy implications of the finding that available evidence shows that, with the exception perhaps, of recognition of faces of a different race, it is impossible to train adults to improve their face recognition accuracy (Williams et al., 1992:147). This somewhat pessimistic picture for police eyewitnesses may, however, change in view of the increasing involvement of psychologists in police training programs and further field studies.

Number of witnesses: despite the fact that people witness a crime in a social context, and often enough there is more than one witness who is likely to talk about it with other witnesses and/or talk to others about it as well as answer questions by police personnel, very few studies have concerned themselves with collaborative

testimony. According to Stephenson et al. (1989), in the UK: ‘There’re no legal rules forbidding collaboration by police officers or anyone else . . . The only rule is that if you do collaborate, you should say so . . . Collaborative testimony itself is admissible, and indeed, one officer may give evidence on behalf of a group of officers . . .’ (p. 324). Furthermore, ‘There are important legal issues raised by this practice’ (p. 255). Stephenson et al. (1982) asked dyads of subjects in Austria who listened to a story to recall details by themselves or in dyads. The dyads were encouraged to discuss the story and to agree on a single version. It was found that dyads produced more correct answers than individuals, both immediately and one week later. As far as errors are concerned, dyads had a strong tendency to produce more implicational errors (that is, to go beyond the original but not to contradict it) than did individuals (p. 257). Using a tape-recording of a script of a police interrogation, Clark et al. (1986) replicated the finding that dyads gave more correct answers than did individuals. Four-member groups were found to have twice as many correct answers as did individuals. In other words, a relationship was found between group size and number of correct answers. However, Clark et al. also found that groups of four subjects ‘were virtually certain of the correctness of their wrong answers’ (p. 258).

Stephenson et al. (1989) examined differences between police officers and students as a function of group size (individual, two-person, four-person) and reported the following: in responding to a questionnaire, individual police, police in dyads and four-person groups answered more questions correctly than did students; police in dyads and four-person groups did better than students under free recall and, finally, police dyads were almost twice as productive as individual police (p. 261). Stephenson et al. interpreted their findings as indicating that police respond more to the stimulus of the group (p. 262). It is interesting also to note in this context that Stephenson et al. (1989) found confidence increased with group size (for the wrong reasons), while in an earlier study (Stephenson et al., 1986a) it was reported that when there is disagreement between individuals, the more confident member of a dyad normally prevails. Stephenson et al. (1989:265) suggested, therefore, that there may be some merit in individuals attempting to recall tasks prior to discussion and decision.

In the light of their findings, Stephenson et al. (1989:268) concluded the following about the practice of admitting collaborative evidence: (a) potentially useful information is excluded by groups; (b) group remembering is selective remembering; and (c) the practice of permitting one police officer to represent a group is a dubious one. In the same vein, Stephenson et al. (1991) also warned that a group of individuals who have a vested interest in what they remember (for example, two police officers remembering details of an assault in which they were the victims) may be motivated to fill any gaps in their recall by inferring some of the details and, also, to testify falsely about the incident, appearing very confident in court. These concerns take on greater significance when we remember that there is no precedent for the cross-examination of a group (p. 269). Other studies, however, have yielded results that are different to those reported by Stephenson and his co-workers.

On the basis of their evaluation of the existing literature dealing with the question of whether ‘two heads are better than one’ (that is, the social facilitation of memory hypothesis; see Edwards and Middleton, 1986), Meudell et al. (1992) maintain that those studies that have taken information-pooling into account⁴² have found that group recall is either at or below the level that such pooling would predict; in other words, that groups do not outperform the pooled contributions of their constituent members (p. 526). Meudell et al. could find no evidence whatsoever that dyads of subjects generate new information that was not available to either member of the pair, that is, they could find no support for the social facilitation of the memory hypothesis.

Underwood and Milton (1993) showed student subjects a video of a two-car collision at an intersection. They used a questionnaire to test subjects’ recall individually or in groups of three after one hour. Groups of subjects were encouraged to talk to each other during the showing of the film and in the period immediately after the accident before being questioned. They found no overall differences between the recall accuracy of individual and group witnesses. However, when expecting to see a collision, the group witnesses were more accurate than the individuals. Thus, Underwood and Milton’s study provides partial support for the social facilitation of memory. However, unlike Meudell et al. (1992), Underwood and Milton did not compare the recall of individuals and groups taking information-pooling into account – an omission that detracts from their findings. In view of differences in the subjects, materials and measures used in Stephenson et al. (1989), in Underwood and Milton (1993) and Meudell et al. (1992) studies, the jury is still out on whether two heads are better than one in eyewitness testimony. Collaborative testimony does, of course, warrant more attention than it has enjoyed by psychological researchers.

While being interviewed by police a witness may (foolishly) be told what another witness has already told them. Also, a police officer may, contrary to the advice given to police recruits at police academies all over the world, interview the two witnesses together. Shaw et al. (1997) examined the influence of inaccurate information provided by a co-witness and found that it had an adverse effect on witness accuracy, especially if combined with a leading question. To prevent co-witness information biasing eyewitness accuracy police officers should interview eyewitnesses to a crime separately.

PERPETRATOR VARIABLES

Criminal investigators generally take very seriously what a crime witness tells them about both the crime and the perpetrator (Kebbell and Milne, 1998) because, even though such information very rarely helps police to identify the perpetrator, it helps them to narrow the range of potential suspects. In evaluating the findings of studies that utilise real-life archival data (usually from police files) some limitations of such data should be borne in mind (Fahsing et al., 2004): the findings obtained may be due to factors not included in archival data; what offence and offender

descriptions are available in files reflect the questions police are trained to ask witnesses (Milne and Bull, 1999) and there are individual differences in what police officers ask witnesses. Crimes, of course, are committed alone or in company. It has been found that offender description accuracy declines as a function of the *number of perpetrators* (Clifford and Hollin, 1981; Fahsing et al., 2004). As operational police know only too well, an eyewitness may fail to identify an offender in an identification parade even though he has been very accurate about individual characteristics of the offender. The large Dutch study by Van Koppen and Lochun (1997) of real-life witness descriptions of robbery offenders found the following degree of agreement between the witness description and the police description: gender (100 per cent), eye shape (100 per cent), hair colour (73 per cent), face shape (69 per cent) and race (60 per cent). The Fahsing et al. (2004) study of armed robbery witness accuracy reported that, while the total number of offender attributes mentioned by a single witness ranged from 2–16, the number of basic features contained in a description ranged from 1–5. Fahsing et al. concluded that such eyewitness descriptions are useful in assisting the police to narrow the range of potential suspects for a robbery rather than to identify the actual perpetrator. Their conclusion is not surprising because the offenders in their archival study operated in disguise by covering distinguishing facial features. Interestingly, though, of the CCTV verifiable offender attributes, 65 per cent were completely correct, 23 per cent partly correct and 12 per cent incorrect; the same distribution applied to basic offender features. As far as the age of offenders is concerned, Fahsing et al. (2004) found that bank-tellers tended to overestimate the age of the youngest one-third of bank robbers (16–21 years) by 3.1 years on average, and to overestimate the age of the oldest one-third (40–50 years) by 10.3 years on average. Offender age estimates in the intermediate age group (25–35 years) were impressively realistic. In other words, real-life bank-robbery eyewitnesses exhibited a tendency for regression to the mean in their estimates of offender age.

Despite the fact that our judgements about other people are influenced by factors apart from their facial appearance (Lerner and Korn, 1972), very limited attention has been given to ‘the role of non-facial information such as body shape, dimension and movement in person perception and recognition’ (MacLeod et al., 1994:125). In demonstrating the relevance of whole-body information to eyewitnesses MacLeod et al. cite a study by Barclay et al. (1978); which found that subjects can accurately identify the gender of targets just by means of a moving light on each ankle. MacLeod et al. reported that when they asked subjects whether two people in a film were of similar or different body size, subjects were significantly more likely to perceive an ambiguous shove by the perpetrator as aggressive or violent if the perpetrator was perceived to have been large and the victim small (p. 128). It is worth noting in this context that witnesses’ estimates of an *offender’s size* can be influenced by post-event information. Christiansen et al. (1983)⁴³ showed that telling subjects that a male person they had encountered earlier on was a truck driver gave heavier weight estimates than when he was described as a dancer.

As far as the *height of perpetrators* is concerned, Van Koppen and Lochun (1997) found that the degree of accuracy between witness descriptions and police descriptions was 52 per cent, while Flin and Shepherd (1986) identified a tendency by members of the public to underestimate the height of a male person who had earlier on asked them for directions in a busy city centre. Furthermore, it was also found that the subjects' degree of inaccuracy in estimating height was related to their own height, with shorter ones being the more likely to underestimate. Regarding the race of a suspect, witnesses in Van Koppen and Lochun (1997) were accurate in 60 per cent of the robbery suspects. The *ethnicity* of both the witness and the perpetrator has been shown to be an important factor in estimating someone's height. Chen and Geiselman (1993) reported that Caucasian and Asian subjects recalled an Asian perpetrator as being shorter than a Caucasian one, despite the fact they were both of exactly the same height. Caucasian, Hispanic and Asian subjects in Lee and Geiselman's (1994) study first saw a photo of a Hispanic, Caucasian or Asian male (all of the same height, 1.71 m) and then watched a 40-second videotape of a robbery featuring the same male as the perpetrator. Subjects were tested in groups of one to five immediately after viewing the videotape. It was found that the Caucasian, who was shorter than the normative height for Caucasians (1.73 m), was recalled as being taller than his actual height. Pooling the results from Chen and Geiselman (1993) and Lee and Geiselman (1994), it appeared that perpetrators from different ethnic groups who differ from their own ethnic height are likely to be remembered by witnesses as being more consistent with their normative ethnic height than their actual height.

It is sometimes the case that a witness sees a *perpetrator's back* and *gait* as he/she is leaving the scene of a crime. There is some limited evidence that people can accurately: (a) distinguish the two genders; and (b) identify individuals known to them on the basis of gait (Cutting and Proffitt, 1981). Alas, as far as it has been possible to ascertain, there has been no research into the accuracy of identifying strangers viewed by their gait. According to MacLeod et al. (1994), 'one's own physical characteristics can affect judgements about the height and weight of other individuals' and people use their own body measurements 'as norms, or anchors, against which relative judgements are made'.

3 INTERROGATIONAL VARIABLES

Being unable to access and retrieve information stored in our memory is a common experience and underpins a lot of forgetting (Tulving, 1974, 1983). We have seen already that recall accuracy of an event or a face is associated with a number of event, witness and perpetrator factors. The report of a witness' memory can be modified during the retrieval stage by such factors as mode of recall, the context in which retrieval takes place, how questions are worded and pressure on the witness to remember. In other words, inaccuracy can be introduced into eyewitness evidence by police and court procedures used to elicit such testimony. Experienced police and other investigators know only too well that well-

informed and skilled interviewing is a crucial factor in dealing with suspects. Fortunately for them, unlike a few years ago, there is now a very large body of knowledge on which to draw and very useful books on the topic.⁴⁵

Retention interval: memory issues arise in the law in a variety of contexts. In fact, the law's assumptions about memory impact (for example, on statutes of limitations) are implicit in the procedures governing the jury's function (Johnson, 1993:604–5). Thus, in the case of civil actions for childhood sexual abuse in the United States: 'Many courts and state legislatures have recently recognised an exception to the traditional statute of limitations' (p. 604; see Hagen, 1991; Kanovitz, 1992). In most cases, witnesses to a crime will be asked to describe what they saw happen some time after an incident. This is known as retention interval. In real life this delay can range from a few minutes to a few months and even years. To illustrate, in the late 1980s a Jerusalem court tried, convicted and sentenced to death as a Nazi war criminal John Demjanjuk, then an American citizen who had been deported to Israel to face trial as 'Ivan the Terrible', a camp guard at Treblinka concentration camp, who was responsible for the extermination of 850 000 Jews there in the Second World War. The defendant protested his innocence but to no avail. To the embarrassment of both the Israeli and United States governments he was released when access to wartime archives following the collapse of the Soviet government established the true identity of the real 'Ivan the Terrible'. The court believed nine elderly witnesses, not the expert testimony for the defence by Professor Willem Wagenaar of Leiden University in the Netherlands (see Wagenaar, 1988; Cutler and Fisher, 1993). It is comforting to know, therefore, that the time interval (delay) between crime and identification was considered by the potential jurors in Lindsay's (1994a:372) questionnaire survey to be the most important determinant of eyewitness identification accuracy.

In a study (unpublished) by the present author on behalf of the Victoria Police Identification Squad in Melbourne in 1994 of 1634 actual victims/witnesses interviewed by specialist police personnel in Melbourne, it was found that over half (52 per cent) of the witnesses were interviewed more than three days after the offence had been committed; in fact, 37 per cent of them were not interviewed until five to six days after the commission of the crime. During the intervening period their memory of the event would generally deteriorate as a result of inevitable, normal forgetting as well as interference (see below). It is well established in psychology that recall and recognition accuracy declines as a function of time (Hunter, 1968; Thomson, 1984; Shapiro and Penrod, 1986). Recall and recognition is at its best immediately after encoding information, but both decline, rapidly at first, and then gradually. This means that often the original statements of witnesses are a great deal more accurate than what they remember months, or sometimes even years, later at the trial. Face recognition and person identification, however, in an identification parade (see below) has been found to be more resistant to the adverse

effects of delay in recall (Deffenbacher, 1989; Ellis, 1984; Loftus, 1979; Shepherd et al., 1982). This does not mean, however, that long delays in recall are justified because long delays significantly increase the likelihood of post-event memory interference (see below) as well as distortion and misidentification. Therefore, in order to enhance witnesses' accuracy, police would be well advised to obtain a witness' description of a suspect's unfamiliar face as soon as possible.

As the criminal law stands in common law countries, the basic evidence is what witnesses tell the magistrate, judge or jury during the trial, months, or even years later in some cases. If the judge permits, after counsel has applied for permission, a witness giving evidence may refresh his/her memory by reference to any writing concerning the facts to which he/she testifies, made or verified by the witness at a time when their memory was clear (Att-Gen.'s Reference (No. 3 of 1979), 69 Cr.App.R. 411, CA (per Lord Widgery CJ., at p.414) cited in Archbold, 2000:1058). If a witness' present testimony is inconsistent with statements he/she made to the police earlier, the lawyer for the other side will refer to these inconsistencies in cross-examination in order to discredit the witness. Despite the fact that 'The alteration of recollection appears to be a fact of life' (Williams et al.,

1992:149), the basic legal position and practice seriously undermine the credibility of the processes by which relevant facts that are in dispute in a trial are established. Stuesser (1992) has advocated reforming the law (in Canada) so as to leave a discretion with the trial judge to admit prior inconsistent statements for their truth, where the statements are seen to be both reliable and necessary. The main reason for allowing prior inconsistent statements to be admitted for their truth is that the person who has made the statements is in court and can be examined. Adopting a practice of admitting the original statement as the primary evidence has also been advocated by Thomson (1984:111) in Australia, on the grounds that evidence can only be useful if it is accurate and by admitting the original account as the primary evidence will also prevent a dishonest witness from making up a story.

Type of recall: a witness may be asked to tell everything they saw happening during an incident in their own words and at their own pace. This is known as 'free recall' and it would be normal police practice to follow it with cued, 'interrogative' recall. According to Hollin (1989), the distinction between 'free' and 'interrogative' recall was made by Binet (1900). Experiencing difficulty in remembering, a witness may well hesitate. Rather unwisely, police investigators may encourage a hesitant witness to 'have a guess' in furnishing a physical description of the suspect, for example, or in picking him/her out from a photospread, an identification parade or in a 'show-up' (see chapter 9). Such encouragement has been shown to have an adverse effect on accuracy later on.

Psychologists have known for a long time that, generally speaking, an interrogative recall produces a greater range of information (that is, it is more complete) than free recall, but it is less accurate. In contrast to what early researchers⁴⁶ reported, the picture for the effect of mode of recall on testimony is more complex; interrogative, structured questions can lead to more complete recall but also produce more inaccuracy when asking a witness about difficult items of information (see Clifford and Scott, 1978). In other words, from the point of view of law-enforcement personnel, testimony accuracy and completeness are directly related to how specific a question is as well as

how difficult is the information being asked of the witness. Police investigators, therefore, need to be aware of the trade-off here.

Number of efforts made to recall: repeatedly recalling stories was an issue that attracted the attention of Bartlett (1932) and its significance was noted by Penrod et al. (1982), for example, but the number of studies devoted to it are few in number.⁴⁷ Both laboratory and survey studies have found that the amount of cognitive effort influences the quality of recall (Jobe et al., 1993:573). Hypermnnesia, first observed by Ballard (1913),⁴⁸ is a phenomenon of improved memory performance with repeated testing. In fact, one of the recommendations of the architects of the cognitive interview technique⁴⁹ that enhances eyewitness accuracy is to solicit multiple recalls from witnesses in order to increase the amount of information provided (see below). Payne (1987) suggested that 'hypermnnesia' be used to refer to increases in net recall in successive trials and 'reminiscence' as referring to gains in gross recall.

As would have been expected on the basis of the literature on the usefulness of the cognitive interview, in a series of experiments Turtle and Yuille (1994) obtained evidence supporting the reminiscence notion, that 'multiple eyewitness recalls can be beneficial in terms of overall recall without a severe increase in errors' (p. 268). As for how hypermnnesia and reminiscence occur, Turtle and Yuille (1994:261) accept a process, put forward by Estes (1955), as stimulus sampling, that is, as witnesses repeatedly attempt to access their memory they obtain different samples from a population of potential information about the trace in question. Like Turtle and Yuille (1994), Otani and Hodge (1991) found no support for hypermnnesia in two forced-choice recognition experiments. Otani and Hodge, however, found support for hypermnnesia in two cued recall experiments and explain their findings in terms of relational processing that increases the availability of retrieval cues and thus aids recall of target words.⁵⁰ Turtle and Yuille (1994) remind us that while repeated recall may well produce more accurate information for the police investigation, any inconsistencies between successive accounts by the witness will be useful ammunition for the lawyers in court to discredit such a witness.

Post-event interference: it is common police practice to ask witnesses to a crime for a verbal description of the suspect/s, to assist in making a photofit or an artist's impression with or without the aid of a computer, and to also ask witnesses to take a look at photographs of known offenders and try and identify the suspect they have seen. In addition, police may later ask a witness to identify the suspect in an identification parade/line-up (see chapter 9). It is interesting to note in this context that the Devlin Committee (1976) examined all line-ups in England and Wales in 1973 and found that 347 cases were prosecuted when the only evidence was identification by one or more eyewitnesses. Three-quarters of the accused were convicted. The significant impact of eyewitness testimony on findings of guilt is also documented by experimental studies (see Loftus, 1974; Wells et al., 1979). According to Milne and Shaw (1999), 'The proper use of questions is itself a complex skill. The complexity arises because different types of question produce different types of answer and it is essential that particular classes of question are used in their correct way' (p. 129). In asking witnesses questions the police may inadvertently contaminate the witness' memory.

A very popular paradigm for eyewitness testimony researchers since the mid-

1970s has been the use of the 'misinformation' paradigm to study how and when information encountered after an event contaminates a witness' memory and makes it unreliable. Documenting, of course, that false memories (that is, incorrect beliefs about past events that have become part of our recollection of and believed by us to be accurate) can be implanted, raises the question as to the underlying mechanism (see below). The considerable interest in the misinformation effect that first manifested itself in the late 1980s and was evident by studies⁵¹ *inter alia* in the United States,⁵² in Australia⁵³ and in Germany.⁵⁴ In such studies, planting misinformation on subjects has been found to lead to misrecall, a witness remembering a car as being of a different colour, a 'give-way' sign as a 'stop' sign, seeing broken glass

and even a barn never seen (Williams et al., 1992:149). Similarly, as a result of misinformation, a man with a moustache, straight hair, a can of cola and break- fast cereal were recalled as clean shaven, curly hair, a can of peanuts and eggs respectively (Hoffman et al., 1992:293). There is disagreement among cognitive psychologists whether the later information causes an irrevocable alteration of the original memory, or whether the original memory is retrievable under appropriate circumstances (see below). There is, however, consensus among researchers that memory can be contaminated by means of leading questions (see below).

There have been a number of attempts to account for the post-event information/misinformation effect in terms of a theoretical mechanism. Loftus et al. (1978) proposed the 'trace-alteration account' (that is, the original memory trace is altered or updated), while Saunders and MacLeod (2002) suggested that the memory of the original information is inhibited when one retrieves misinformation. Finally, others (for example, McCloskey and Zaragoza, 1985) maintain that information from the original memory trace remains unaltered and under the right conditions it can be recalled despite the post-event information effect. More research is needed before it can be decided which of the different explanations is the more plausible.

Leading questions: during a trial a lawyer is generally not allowed to ask leading questions either in examination-in-chief or in cross-examination, that is, questions suggesting how a lawyer wishes a witness to answer them (Waight and Williams, 1995:251). However, according to Archbold (2000:1058), the answers to leading questions are per se inadmissible (*Moor v. Moor* [1954] 1 WLR 927) although the weight that can properly be attached to them may be substantially reduced (*R v. Wilson*, 9 Cr.Ap.R.124, CCA). It is stated in Archbold that there are exceptions to this general rule: (a) if a witness swears to a certain fact and another witness is called in order to contradict him, the latter witness may be asked directly whether the fact did occur; and (b) counsel for the party that has called a witness may ask him leading questions if he has leave from the court to treat him as hostile (p. 1058). Practising lawyers might be interested to know that, from a psychologist's point of view, asking a witness a question is analogous to an experimental treatment situation and the type of question and manner of asking it impacts on the answer given (Lilli, 1989:223-4).

A very common method of contaminating someone's memory of an event (that is, introducing errors) is to ask them a leading question containing an item of information that never existed in the original incident. In a study by Loftus and Palmer (1974) subjects viewed a

film of a car accident and were asked to estimate the speed of the car at the moment of impact. It was found that estimates of speed varied as a function of the verb used to describe the accident. Asking subjects how fast the cars were travelling when they ‘contacted’ one another as opposed to when they ‘smashed’ into each other yielded speed estimates of 31.8 mph and 40.8 mph respectively. Furthermore, when subjects were later asked to describe the accident it was found that those exposed to the ‘smash’ condition were more likely to report having seen broken glass at the scene of the accident when, in fact, none existed.

One relatively straightforward way of creating a false memory was reported by Roediger and McDermott (1995). It involves asking subjects to remember a list of words. Later, they are unexpectedly asked to remember if a particular word was in the original list. People remember critical non-presented words, with those who score higher on measures of dissociation being more likely to do so (Winograd et al., 1998). Available evidence, however, suggests that the correlation with dissociative tendency may not apply to autobiographical memory (Wilkinson and Hyman, 1998). That people systematically develop false memories for unseen aspects of an event has also been documented by a number of recent studies. Forty per cent of subjects in a study by Ost et al. (2002) said they had seen a non-existent film of the car crash in Paris a few years ago in which Princess Diana was killed, the majority of subjects in a study of the sinking of the *Estonia* ferry by Granhag et al. (2003) claimed to have seen a non-existent film of the event, and two-thirds of undergraduate subjects in a Dutch study by Jelicic et al. (2006) said they had seen non-existent footage of the assassination of Dutch politician Pim Fortuyn (see also Smeets et al., 2006). Finally, available evidence suggests that the tendency by witnesses to develop false memories of unseen aspects of an event applies especially to missing non-crucial than missing crucial information (Gerrie et al., 2006). It is now well established that subjects exposed to misleading post-event information are likely to report such information on subsequent memory tasks and to do so confidently.⁵⁵ Loftus et al. (1978) found that the greatest post-event contamination/misinformation effect occurs when the misleading information is introduced following a long delay after acquisition and before recall. Dristas and Hamilton (1977)⁵⁶ reported that post-event information interferes more easily with peripheral, rather than central, features of one’s memory of an incident. The available literature leaves no doubt that asking a witness questions can influence their memory of an event. Loftus and Zanni (1975) reported that the presence of the indefinite article (‘a’) instead of the definite article (‘the’) gives rise to different expectations about the existence of an object. Using ‘the’ significantly increases the percentage of subjects who say they saw something that was not present in a film.

The literature on post-event misinformation has given rise to an ongoing controversy regarding whether the new information changes the original memory – the ‘integration’ view (see Loftus and Ketcham, 1983) – or whether the effects found by Loftus are attributable to the processes used rather than to permanent changes in memory.⁵⁷ Some authors have referred to the controversy as ‘memory wars’ or even ‘religious war’ (Pezdek and Banks, 1996:xii). Zaragoza and Koshmider (1989) argued that misinformation-based responses do not necessarily mean that the witnesses actually believe the details concerned happened in the original event;

that subjects' responses are indicative of 'demand characteristics'. McCloskey and Zaragoza (1985), in fact, expressed the view that memory for an original incident is not impaired by post-event contamination and advocated the 'coexistence' theory, that is, that the original memory could become accessible under appropriate circumstances at retrieval.

Bonto and Payne (1991) examined the effect of varying the context of presentation of the original event and the post-event information and found it did not have an effect on subjects' performance. The robustness of the misinformation effect has been further reinforced by Weingardt et al.'s (1994) study, which found that even when subjects were instructed to exclude suggested items from their recall lists they continued to include them. This finding led them to conclude that: 'Witnesses can exhibit strong beliefs in their memories, even when those memories are verifiably false' (p. 25). Lindsay and Johnson's (1987) own work in this area has produced results that are consistent with Loftus and her associates. Lindsay and Johnson (1987) and Lindsay, D.S. (1994), however, proposed that a satisfactory explanation for the misinformation effect lies in what they term 'source misattribution' by witnesses in terms of their source monitoring processes, that is, that although the original event and the post-event information may exist in the memory, misled subjects may experience confusion as far as sources of the two types of information is concerned (see below).

Work by Dutch researchers at the University of Maastricht⁵⁸ also shows that when witnesses discuss details of what they saw with one another⁵⁹ they do influence one another. This kind of situation has been termed 'collaborative storytelling'. Merckelbach et al. (2007) investigated the corruptive effects on memory of a confederate in a social contagion paradigm (see Roediger, et al. 2001) suggesting incorrect details or denying correct ones. They found that denying correct details influenced subjects who had been shown six different pictures on a computer screen as much as suggesting incorrect information. More specifically, 70 per cent omitted previously mentioned but confederate-denied, while 52 per cent incorporated incorrect details in their free recalls. As would have been expected, being misled by a confederate correlated significantly with having a higher score on the Gudjonsson Compliance Scale (see Gudjonsson, 1989), a forensic tool measuring one's eagerness to please. There is a need to replicate Merckelbach et al.'s finding with a more heterogeneous sample. Finally, Itsukushima et al. (2006) reported that the co-witness misinformation effect is greater if it is presented in written than in audio-visual form.

Watkins (1990) suggested that cognitive psychology may not be able to resolve the question of whether misleading post-event information does, in fact, alter memory traces or simply makes them less likely to be retrieved. It is unlikely this fierce debate between the 'integration' and 'coexistence' views of post-event influences on memory will be resolved in the very near future. It is, therefore, worth remembering that both sides to the dispute are in agreement that post-event misleading information can have a significant effect on what a witness remembers and the accuracy of his/her testimony. Finally, available research indicates that post-event contamination by interviewing police officers is more likely when a witness believes the police know exactly what happened (Smith and Ellsworth, 1987). This finding is of particular importance when it is remembered that both developmentally

handicapped and mentally disordered witnesses are particularly vulnerable to the misinformation effect (Gudjonsson, 1995a; Perlman et al., 1994).

INTERVIEWING EYEWITNESSES EFFECTIVELY

Interviewing crime victims and witnesses is a crucial part of evidence-gathering in law-enforcement investigations. It is essential, therefore, that when various professionals interview witnesses, especially such vulnerable witnesses as children (see next chapter), the elderly and learning-disabled, they base their procedures on scientific knowledge of how human memory works in order to obtain the maximum accurate recall but without contaminating the recollection of the witness. A number of interview techniques have been developed to enhance eyewitness recall accuracy. The cognitive interview technique and forensic hypnosis are two such aids to recall that have attracted a lot of researchers' attention. Before focusing on particular techniques, let us first consider 'official guidance' available on how to interview witnesses. Of course, general guidance and particular interviewing techniques described in this and the next chapter as well as elsewhere should be used bearing in mind the particular category of eyewitness, such as vulnerable, intimidated, reluctant and hostile, for example, and their particular needs (see *Achieving Best Evidence in Criminal Proceedings*, Criminal Justice System, 2007, for excellent detailed guidance for a range of eyewitnesses).

Research⁶⁹ into video and audio recordings of police interviews in the early 1990s that had been encouraged by the *Police and Criminal Evidence Act* of 1984 (PACE) and provided support for investigative interviewing (see chapter 8) which was developed and incorporated into PEACE, a five-phase model of interviewing (Milne and Bull, 2003a). The mnemonic PEACE denotes: Planning and preparation, Engage and explain, Account, clarification and challenge, Closure and Evaluation (Milne and Bull, 2003a).

In England and Wales, the *Criminal Justice Act 1991* provided that interviews of children involved in cases of alleged abuse is the responsibility of social workers and police officers who must follow the guidance to be found in the *Memorandum of Good Practice* (MOGP) on video-recorded interviews with child witnesses for criminal proceedings (Home Office and Department of Health, 1992). The MOGP recommended that the length of interviews be no longer than 60 minutes. However, evaluation of the implementation of MOGP guidance by Davies et al., (2000) of interviews carried out by police officers with children aged 4–14 years in cases involving alleged sexual abuse found that: the interviews lasted from 20 to 90 minutes; less than 10 minutes was spent on average developing rapport, and while open-ended questions were more effective in the oldest children, specific questions were more effective (that is, produced more information) in the young children. Another evaluation of compliance with MOGP guidance by Sternberg et al. (2001) of 119 videotaped interviews involving children aged 4–13 years in alleged sexual abuse cases found that police officers made greater use of forced-choice than open-ended questions. The MOGP was subsequently incorporated in *Achieving Best Evidence in Crime Proceedings: Guidance for Vulnerable or Intimidated Witnesses* (ABE) (Home Office and Department of Health, 2001). A document similar to ABE was published by the Scottish Executive in 2003.⁷⁰ It provided a set of investigative protocols for use with children and other vulnerable witnesses. The 2007 revised version of ABE (paras 3.151–3.267) makes the following recommendation for interviewing vulnerable adult witnesses: Interviews with vulnerable persons should normally comprise the following four phases: establish rapport; seek the narrative recall; ask questions; and closure (para. 3.152). More specifically:

Phase 1: establishing rapport (including engaging and explaining)

First explain the formalities and establish rapport by, *inter alia*, helping the witness to relax and feel as comfortable as possible, briefly mentioning the reason for the interview in a way that does not refer directly to an alleged offence (for example, 'Could we please talk about something you have already told your mummy about?')

or, 'Something seems to have been making you sad, perhaps we can talk about it'). In explaining the ground rules, the interviewer should communicate the outline of the interview in a way that is appropriate to the

abilities of the witness (para. 3.171), making it clear that the witness can ask for a break whenever he/she wants.

Phase 2: initiating and supporting a free narrative account The interviewer should only ask very open-ended questions in this phase such as ‘Do you know why you are here today?’, ‘Is there more you can tell me?’, ‘Can you put it another way to help me understand better?’ (paras 3.180, 3.181). To avoid mere *compliance* by a witness, the interviewer should try not to appear too authoritative but, rather, competent and confident, thus reassuring the witness they can be relied upon (para. 3.184). To avoid acquiescence, the interviewer should do their utmost to avoid using ‘yes’ or ‘no’ questions, using, instead, ‘either/or’ type questions.

Phase 3: questioning

Before proceeding to ask the witness questions, it is a good idea for the interviewer to first let the witness know they will be asking them some questions in order to expand on and clarify what they have said so far (para. 3.194). The authors of ABE make it clear in para. 3.195 that in order to help vulnerable witnesses to answer their questions, interviewers should ensure their questions are:

- simple
- free of jargon
- free of abstract words and/or ideas not too directive or suggestive
- free of double negatives and, finally, every question contains only one point.

· To facilitate the questioning phase, the interviewer could ask open-ended questions beginning with ‘Tell me’ or ‘Explain’. To encourage the witness to elaborate, the interviewer could ask an open-ended question such as, ‘You’ve already told me the person who touched you on the chest was a man. Please describe him to me’. Of course, if a witness appears distressed answering questions, the interviewer should move away from that topic for a while and then get back to it (para. 3.210). Specific-closed questions should be asked in a non-suggestive way (for example, ‘What colour was the man’s jacket?’ (para. 2.213) and, similarly, the interviewer should avoid asking ‘why’ because the witness may take it to mean that he/she is being blamed for something (para. 2.214).

Phase 4: closing the interview

The interviewer should always aim to end the interview appropriately by thanking the witness, asking them if they have anything else they wish to add and ensuring that the witness leaves the interview in a positive frame of mind (paras 3.237– 3.243).

Following the conclusion of the interview, the interview team should evaluate:

- (a) the information obtained in the interview, and (b) the performance of the interviewer (paras 3.244–3.246). Finally, if the interview team is of the view that a vulnerable witness requires therapeutic help before the criminal trial, the witness should be given a free choice. (For guidance in such cases, see *Provision of Therapy for Vulnerable or Intimidated Witnesses Prior to Criminal Trial: Practical Guidance* [Crown Prosecution Service and the Department of Health with the Home Officer, 2001]).

Cognitive Interview (CI)

Until recently a police officer was expected to learn interviewing skills ‘on the job’. It is also known that police spend a large part of their time talking to people and that frequently witnesses do not provide police with all the information they require for an investigation (Köhnken et al., 1999). Through sheer experience, police investigators come to appreciate the usefulness of reinstating the context of a crime when interviewing eyewitnesses. The practice is supported not only by research into the components of the cognitive interview technique but also by research into a very common need of police, especially in investigating hit-and-run traffic accidents, namely, witnesses’ recalling licence plates (Emmett et al., 2006). The availability, therefore, of an effective technique for interviewing witnesses can only assist police and other investigators. Such a procedure

now exists; it is known as the cognitive interview (CI) technique and has been adopted by police forces on both sides of the Atlantic, on continental Europe and in Australia, as well as by other professionals (for example, social workers) whose work involves interviewing people, including children.

By now there is research evidence regarding the success of the CI in assisting police investigators to catch criminals. Fisher et al. (1989) reported that detectives elicited 48 per cent more correct information from actual victims of crime after being trained in the CI technique. Milne and Shaw (1999) found that the CI helped detectives in the United States to elicit detailed information pertaining to sightings of a missing girl aged seven years old and it was used successfully in the police investigation of the bombing incident in Bournemouth, England, in 1993.

The CI has been largely the work of American psychology professors Fisher and Geiselman (see Fisher and Geiselman, 1992; Geiselman et al., 1984). They have utilised four principles derived from the empirical literature on information retrieval⁷¹ which increase recall accuracy without increasing the amount of inaccurate information remembered. According to Geiselman et al. (1984), the four principles (mnemonic aids) are: (a) reinstate the context,⁷² that is, the conditions under which the event in question was encoded; (b) report everything, however trivial it may seem; (c) recount the event in different orders; and (d) recount the event from different perspectives. Researchers have found that: (a) each of the four components are equally effective in improving accurate recall of information (Milne and Bull, 2002); (b) a combination of the CI mnemonics produces better recall compared to any of the mnemonics used on their own (Memon and Stevenage, 1996); and, finally, (c) the context reinstatement is perhaps the most powerful component of the CI (Milne and Bull, 2002).

Geiselman et al. (1984) compared the CI with the hypnotic interview along the lines suggested by Orne et al. (1984) and a 'standard police interview' in a study in which student subjects saw a video showing an armed robbery. The hypnotic interview and the CI were found to yield 35 per cent more accurate information than did the standard police interview, without an increase in inaccurate and fabricated information. The CI has also been shown to significantly reduce the impact of misleading questions on witness accuracy (Geiselman et al., 1986). In the light of studies with serving police officers, the original CI was revised by Fisher et al. (1987). The enhanced CI was developed to overcome such difficulties as anxious and inarticulate witnesses and poor interviewing strategies used by interviewing police officers (George, 1991). The enhanced CI incorporates techniques like rapport building, transferring control of the interview to the interviewee, appropriate use of pauses and non-verbal behaviour. The revised version places less importance on asking the witness to recall, using different perspectives and in different order and stresses the importance of repeated recall and listening skills. Fisher et al. (1987) found the revised version produced significantly more (45 per cent) accurate information in police detectives' interviews of crime witnesses without increasing inaccurate recall. Subsequent laboratory and field studies with both children and adult eyewitnesses reported findings in support of the CI as a superior interview technique with crime witnesses (Fisher and Geiselman, 1992; Memon and Bull, 1991). Researchers have demonstrated the usefulness of the CI in a developing country, namely, Brazil (Stein and Memon, 2006) and across age-groups (Wright and Holliday, 2006). British researchers Clifford and George (1995) reported a field study with 28 experienced policemen and policewomen interviewing real-crime victims/witnesses that compared three methods of investigative interviewing: CI, conversation management (CM) and a combination of both. Their findings provide strong support regarding the ecological validity of the CI as a superior investigative interviewing technique. Findings supporting police use of the CI were also reported by Kebbell et al. (1999), who established that a serious problem was that many police officers in the UK do not have the time to conduct a full cognitive interview.

Köhnken et al. (1999) reported a meta-analysis of the CI literature since 1984, a total of 55 experimental comparisons of the CI and the standard interview from 42 empirical reports, both published and unpublished, representing 2447 interviewees. They concluded that the CI 'generates substantially more correct details compared to a structured (or unstructured) interview... Moreover, no experiment has been reported yet where a cognitive interview has resulted in fewer correct details compared to a standard interview' (p. 20). Köhnken et al. found that the memory-enhancing effect of the CI on the recall of correct details is even greater in the more ecologically valid studies. The CI has been shown to compare favourably with other interview procedures (see

also Memon and Higham, 1999, for a literature review) such as the standard police interview, the guided-memory interview (Malpass and Devine, 1981), the structured interview (Memon et al., 1997) and hypnosis (Geiselman et al., 1995). Granhag and Spjut (2001) compared the structured interview, the standard interview and the enhanced cognitive interview with 32 children as subjects aged 9–10 years who watched a 15-minute performance by a professional fakir. They found children recalled more correct information (and no more incorrect information) with the enhanced cognitive interview than with any of the other techniques.

Regarding the usefulness of the CI as far as the misinformation effect is concerned, Centofanti and Reece (2006) in Melbourne, Australia, have examined the effect of the CI on misleading post-event information and found it produced significantly more correct pieces of information than the structured interview, without an increase in errors or confabulation. They concluded that their findings lend support to a trace-alteration explanation for the misinformation effect but does not exclude other possible mechanisms (p. 681). Regarding the question of whether the CI is able to reduce the misinformation effect, Geiselman et al. (1986) and Milne and Bull (2003) found that it does but only if used before the presentation of misleading information. However, other researchers (Holliday, 2003; Holliday and Albon, 2004) have reported mixed findings regarding the impact of the CI on the misinformation effect. As far as interviewing vulnerable witnesses is concerned, Milne and Bull (1995) and Milne et al. (1999) reported a study that compared 47 adults with mild learning intellectual disabilities attending day-centres and 38 adults from the general population. The subjects were shown a video-recording of an accident and were interviewed a day later using the CI or the structured

interview. It was found that for both groups of subjects the CI was more effective than the structured interview in enhancing witnesses' recall. However, with the learning disabilities group the CI also produced a disproportionate increase in the reporting of person confabulation. The authors of *Achieving Best Evidence in Criminal Proceedings* (Criminal Justice System, 2007, at 3.254) warn their readers that, unless interviewers who try to use the CI with vulnerable witnesses have had appropriate training, they risk using the technique ineffectively and confusing such witnesses. It should also be noted in this context that, as Memon et al. (2003:101) point out, more research is needed with vulnerable witnesses as eyewitnesses, utilising existing knowledge in social psychology about vulnerable vs 'normal' people pertaining, for example, to the acquiescence tendency (that is, 'yea-saying') and facial expression and personal space (see Home Office, 2002). There is also an urgent need for ecologically valid research into the role of interviewees (in terms of their social background) in investigative interviews, especially with vulnerable witnesses, including children (see chapter 4).

A number of ecologically valid studies have failed to find support for the CI as a superior interviewing technique and point to difficulties in training experienced police investigators to use the technique (Memon et al., 1995). Some researchers have also failed to find evidence that all four techniques used in the CI increase witness accuracy significantly. Boon and Noon (1994) reported that the changing perspectives mnemonic did not facilitate recall of accurate information by student subjects. Finally, Milne et al. (1995) examined the degree to which the CI helps children to resist the impact of misleading questions. It was found that whilst the CI enhanced children's recall of person and action details, it increased their person errors and confabulations; children were significantly more likely to resist script-inconsistent than script-consistent misleading questions and, finally, the CI enhanced children's resistance to misleading questions only when the questions were presented after the CI. The CI is a very good example of the transfer of psychological theory from the laboratory to the field. However, despite the fact the CI is routinely taught to police officers in Britain, for example, many of the officers are reluctant to apply the CI, especially to interview traumatised victims.⁷³ Shepherd et al. (1999) has advocated the use of spaced cognitive interview (SCI) which, they argue on the basis of case studies, has therapeutic effects on traumatised victim-witnesses. The SCI 'combines standard prolonged exposure procedures with explicit memory retrieval techniques of context-reinstatement, focused and extensive retrieval, especially reverse order recall. Since it aimed at maximising the individual's experience, he or she is not asked to report the events from another standpoint or perspective' (Shepherd et al., 1999:130).

The available literature shows that the CI is without doubt a very useful interviewing technique with eyewitnesses. Its demonstrated merits far outweigh its limitations and it is, therefore, recommended for adoption by law-enforcement investigators and other categories of investigators whose work

includes interviewing

witnesses. The need for additional ecologically valid studies to maximise the effectiveness of the CI becomes more important when we remember the lack of usefulness of such aids to recall (such as the Identi-Kit, E-Fit, and FACE), all of which have been found to be of limited use in apprehending offenders (Clifford and Davies, 1989; Davies, 1983; Kapardis 1994). Finally, as far as mock-jurors' perceptions of the CI are concerned, Fisher et al. (1999) had 91 college subjects listen to cognitive interviews and standard police interviews of 7-year-old children who were attempting to describe an earlier session of playing the game of 'Simon Says'. While no relationship was found between the type of interview used and perceived credibility of the witness, the CI interviewer was judged to be less manipulative than the standard police interviewer.

Forensic Hypnosis

Haward (1990) defined forensic hypnosis as 'Hypnotic techniques applied to information-gathering for evidential purposes' (p. 60). Reiser (1989) is a strong advocate of the view that hypnosis could be used to enhance witness memory accuracy. Orne (1979), however, sees hypnotic techniques to be most appropriately utilised in the investigative context. Hypnosis itself, of course, has a long and impressive history as a therapeutic tool in psychiatry and clinical psychology. In the early days of hypnosis in the first half of the nineteenth century the law's interest was in controlling its use, but since the second half of the nineteenth century the law's interest has been in the field of forensic hypnosis (Evans, 1994). Hypnosis is commonly used by clinical psychologists. Poole et al. (1995) reported that 25 per cent of qualified clinical psychologists in the UK and the United States routinely use hypnosis as part of their treatment programs. In the first decade of the new millennium, an unsatisfactory state of affairs still characterises the relationship between hypnosis and the law.

Hypnosis interviews by police to assist witnesses to remember were first used in the United States in the early 1950s and by 1975 experienced detectives were being trained in hypnosis. Within one year trained Los Angeles detectives handled 70 major crime cases and the practice spread to other police departments (Reiser, 1989). In the UK⁷⁴ and in Australia⁷⁵ hypnosis is usually conducted by psychiatrists and qualified psychologists and, in stark contrast to the United States, never by police officers. In compliance with the Home Office Regulation 66/1988, it is in the most exceptional of crimes that British authorities would resort to the use of hypnosis, and hypnosis cannot be used on a murder suspect to obtain a confession (Berry et al., 1999). A number of concerns have been expressed by researchers and some of those can be found in court rulings (Freckelton and Selby, 2005:160).

Reiser (1989:151) describes a few cases to illustrate the usefulness of investigative hypnosis. In one such case in California, a 15-year-old female hitch-hiker accepted a lift from a man driving a van. The driver tied her up, raped her, cut off her forearms with an axe and forced her into a highway drainage tunnel. When

he left, the victim managed to crawl out, stopped a passing car and was taken to hospital. Because of her extremely traumatic experience her memory of the suspect and of the events was rather limited. When interviewed under hypnosis, however, she was able to recall the suspect's name, his occupation, described the van and helped a police artist construct a composite drawing of the suspect. The offender was arrested and convicted.

Haward (1981:110) points out a number of constraints on the use of hypnosis: admissibility of hypnotic evidence and the reimposition of amnesia; not all victims are willing to be hypnotised; some people are poor hypnotic subjects; age-regression requires considerable time; parents may not consent to their children (especially if female), who have been victims of crime, being hypnotised and, finally, hypnosis is powerless to obtain recall if the memory of a particular fact simply no longer exists. In addition, individuals can and do lie under hypnosis (Virgo, 1995) and some individuals are able to simulate an hypnotic trance (Wagstaff, 1993). Sheehan (1994:66–7) has also drawn attention to another major issue in forensic hypnosis, namely, the civil rights of the person who is hypnotised, especially when the individual is under suspicion of a crime. One concern is, for example, that such a person may report incriminating evidence under hypnosis that comes to the attention of the police (p. 67). On the question of whether hypnosis could interfere with a witness' memory of an event, Gudjonsson (1992a:170) points out three risks: witness' vulnerability to confabulation, to suggestibility and to overconfidence. Gudjonsson adds, however, that the experimental evidence on

confabulation, susceptibility to leading questions and overconfidence as a result of hypnosis is not unequivocal (p. 171). On the basis of his discussion of relevant studies, Ost (2006) concluded that while false memories may not be created by hypnosis itself, its use (or the use of such pseudohypnotic procedures as relaxation or guided imagery) with people who are trying to recall traumatic events earlier in their life 'may be extremely problematic' (p. 73).

Regarding the extent to which the hypnosis interview increases the accuracy of witness recall, McConkey (1995) concluded his assessment of the laboratory evidence on hypnotic hypermnnesia and hypnotic pseudomemory stating that, while there is no guarantee in the forensic context, hypnosis will result in greater witness accuracy, there is the risk of inaccurate recall and unjustified confidence (p. 2). Taking hypnotised subjects back to the scene of the crime and methodically questioning them about various aspects of the event may indeed help some witnesses to remember more details. This is not surprising because the technique involved is similar to the CI technique. However, when there is no external corroborative evidence there is the difficulty of not knowing in such a situation what is accurate and what is not (Haward, 1981b). It is, therefore, not possible to decide whether forensic hypnosis solves more problems than it creates. It is, of course, necessary that the hypnosis be carried out by a properly qualified professional such as a psychiatrist, a psychologist or medical practitioner who is trained in witness interviewing techniques and

who is not involved in the case, preferably with the whole session being videotaped continuously.

Despite its popularity among police investigators, especially in the United States, the use of forensic hypnosis has had a mixed treatment in psychology (see McConkey, 1995). Some authors (for example, Haward, 1981b) have attacked the practice of training police investigators on a brief course to use hypnosis. Two of the concerns expressed in this context include protection of the mental health of the witness, and the possibility of inadvertently planting items of information, pseudomemories, which become part of what a hypnotised witness will remember later (Haward, 1981b). Lloyd-Bostock (1988) concluded that: 'Hypnosis is not... the wonder tool it has been held to be. There is no video-recording faithfully stored in the brain awaiting to be uncovered and played back at the convenience of the forensic hypnotist: the appearance of full and clear recall under hypnosis can be spurious despite the best intentions of witnesses and hypnotist' (p. 19).

Kebbell and Wagstaff (1998) pointed out that while for some authors hypnotic techniques may have the potential to enhance eyewitness testimony in police investigations into criminal offences, experimental research shows that hypnosis is associated with decreases in accuracy, false confidence in incorrect information, increased suggestibility to leading questions and, finally misleading post-event information – factors that limit the usefulness of hypnosis as a witness interviewing technique.

In view of strong arguments against the admissibility of hypnotically enhanced testimony, one could argue that it should not be allowed to be used as a method for 'creating' an eyewitness whose memory has been reconstructed by hypnosis and, furthermore, that such a witness should not be allowed to testify to this new memory in the court. It is possible, of course, for one to agree to hypnosis being used selectively and under safeguards to assist during the investigation process but not to its being admitted as evidence by the courts.

Since the mid-1980s, many law-enforcement officers have embraced hypnosis as a panacea for the frailties of human memory, a tool that would greatly assist them to clear up more serious crime. However, the enthusiasm by law-enforcement agencies, some forensic psychologists and the public at large about forensic hypnosis seems to be unwarranted in the light of both the experience with crime detection and hard facts from psycholegal research.

On the basis of the existing literature it can be safely stated in conclusion that: 'Properly controlled hypnosis may be very useful in appropriate cases [with witness victims in cases where memory recall is inhibited by emotional trauma], but indiscriminate use and a false

impression of its power can do a great deal of harm' (Lloyd-Bostock, 1988:21). Evidence obtained by forensic hypnosis should, therefore, be viewed with a great deal of caution. Finally, forensic hypnosis should only be allowed to be used under strict guidelines (including the video-taping of such hypnotic interviews), like those provided in the Californian legislation regulating the admissibility of post-hypnotic evidence and approved in New Zealand in *R v. Felin* [1985] 2NZLR 750 at 753 (Freckelton, 1996).

4

Exposing Liars and Detecting Deception

Although most people tell the truth a lot of the time, deceptions do occur every now and then, such as telling that little white lie, from the highest of motives, because you want to avoid hurting your best friend's feelings. Or you may even hide the truth because life would get just too complicated if you had to explain all the details. But dishonesty isn't the default characteristic of the majority of people in most situations.

Things are a bit different though in the world of crime and criminal investigations. You can't assume that everyone is trying their best to tell the truth and nothing but the truth. Police investigators have to assume that suspects may try to weave a web of lies. They may deny guilt or, even more problematically for detectives and prosecutors, confess a guilt that's false.

Filtering out the truth and detecting deception is a major challenge for any investigation. In this chapter I take a look at the nature of lying and the ways that people set out to deceive, and the tools available to help to disentangle truth from lies. I also delve into the business of interviewing criminals, and the difficulties faced when trying to get at the truth when examining documents.

Understanding the Nature of Lying

It's not that easy to lie. So people lie in many different ways:

- ✓ The most obvious is saying something false as if it were true.
- ✓ Leaving out key facts in an account when those facts are likely to reveal the truth.
- ✓ Hiding the truth by giving misleading information.
- ✓ Providing a partial account by omitting certain facts.
- ✓ Telling the truth in an exaggerated way making it sound unbelievable.

Surprisingly, many suspects will admit to their crimes. The majority of convictions come because the culprit confesses. But you also need to understand that some suspects are *more likely* to tell lies than tell you the truth, simply because of the type of person that they are, such as:

- ✓ A psychopath telling you lies even when telling the truth isn't going to harm him or cause him any problems. Telling lies can be just a habit that he has without thinking about it.
- ✓ In extreme forms of psychosis, the person has difficulty in distinguishing between what's real and what's imaginary. This situation raises an interesting philosophical question. Can a person who believes his neighbours are reading his thoughts and poisoning his cat and complains about this to the police be regarded as a liar? This poses a challenge for investigators if they have no understanding of psychosis. It can also make legal proceedings fraught, because the defence could challenge anything the person claims even though some of it may be genuine.
- ✓ An adult with a learning or mental disability, or a young child, may not be able to tell the difference between the actual facts and what they want the facts to be. Also, as any parent can tell you, a child from a remarkably young age is quite clever at deceiving you if it serves their purpose or they think it's fun. Because of this problem, it's possible that such individuals may not be allowed to give evidence in court.
- ✓ Before my grandson was even a year old, he liked to play a game of putting out his hand to me and pretending he was giving me a present, and then pulling his hand away, giggling furiously as I tried to get hold of it. An example of deception being practised from a very early age?
- ✓ In certain social groups, there's a deep-seated fear of figures of authority. Therefore, a suspect may agree to having been in a particular place simply because a police officer is telling him that's the case. This tendency raises issues about more forceful techniques of discovering lying and deceit that I discuss later in this chapter in 'Interrogating suspects'.

Discovering the difficulties of successful deception

You may be surprised to find that being a successful liar isn't all that easy. This fact becomes clear when you think about the emotional and intellectual demands that people who are lying place upon themselves:

- ✓ A liar has to create a lie, requiring imagination.
- ✓ A liar has to hold the untruth together with the known facts.
- ✓ A liar has to develop the untruth around plausible possibilities.
- ✓ A liar has to think through how to make the deception plausible, which can be intellectually challenging.

- ✓ A liar has to be careful not to give himself away when he's believed, by some response, such as smirking, that may seem inappropriate to the interviewer.

Sticking fast to the lie is the most difficult aspect of lying. For example, if someone offers you a vast sum of money in exchange for doing nothing, you don't need any sophisticated lie-detecting equipment to know there's a catch. You simply know that the world doesn't work like that, providing free lunches willy-nilly!

Experienced fraudsters know that people may be suspicious of what they're offering, which is why the fraudster couches his claims in plausible scenarios (such as, 'Your address came up in a lottery that you didn't know about'). In the later section 'Plausibility' I describe the procedures you can follow for testing the truth and reliability of a statement being given in court.

Summarising why detecting deception is so difficult

Any lie-detection procedure takes into account the intellectual and emotional demands that lying requires (as I describe in the preceding section 'Discovering the difficulties of successful deception'). The nitty-gritty of detecting a lie is in testing the plausibility of the claims the suspect is making. But if a liar truly believes he's telling you the truth none of the intellectual or emotional aspects of lying exist and the usual procedures for detecting deception are unlikely to work.

Hardened liars are experts in using strategies to reduce the likelihood of being detected:

- ✓ The lie is rehearsed so that there's no need to invent a lie on the spot with all the associated risks of getting details wrong or saying something implausible.
- ✓ The lie is built upon something that actually happened, so that most of the details are true and don't need to be invented and are plausible. Only some crucial aspects of the lie are untruthful.
- ✓ The liar avoids giving any details to cut out the risk of tripping himself up.



You can make things much harder for a suspect you think is lying by asking for as much detail as possible. The more the liar has to invent, the more chance he's going to reveal inconsistencies in his story.

Detecting Lies: Some Attempted Procedures

Lie-detection procedures have been developed for interviewing suspects in a criminal investigation, helping to weed out the lies, and leave the truth exposed.

You have to bear in mind that none of the lie-detection procedures that I describe in this section are completely accurate or foolproof. Indeed, some procedures can mislead you into thinking that you've detected lying when the opposite is the case.

There are four general approaches you can take in detecting lying or deceit:

- ✓ **Physiological approach**, which records the physiological changes in a person's body when answering specific questions.
- ✓ **Behavioural approach**, looks at the way a person is behaving to see whether the person is showing any of the emotional or stressful aspects of lying (see the earlier section 'Discovering the difficulties of successful deception').
- ✓ **Semantic assessment**, which carefully examines the words the person is using and the possible meanings in the answers the person is giving under questioning.
- ✓ **Legal approach**, where a person is being questioned in a court of law and being put through a detailed examination of the plausibility of his statement.

Lie-detector procedures like the physiological, behavioural, semantic and legal approaches are concerned with testing the truthfulness of what the person is saying while he's giving his account of the event. These procedures don't include a careful investigation that can show that a person's *alibi* – the claim not to have been at the crime scene – is false. Nor do these procedures have the means of examining the impossibility of the person doing what he claims to have done or not done – for example, because that person has a physical disability, or the journey he claims to have taken could not have been completed in the time available. You need to test the credibility of what the person is claiming independently to find out if the person's story is true.

Testing the validity of a lie-detector procedure can be problematical. For example, you set up an experiment in which you get a person to simulate committing a crime. Then the person is questioned using a lie-detection procedure. But in an artificial situation, the reactions of the suspect and the truthfulness or otherwise of the suspect's statement doesn't carry the same high stakes as in real life where not being believed could mean a long prison sentence.

Getting true-life examples of the validity of lie-detector procedures can throw up many ethical and legal problems. In the real world, getting adequate comparisons with what is likely to have happened in a criminal investigation if the lie-detector procedure hadn't been used is often impossible. Companies selling lie-detection equipment or software typically avoid providing important comparison data. So although the company claims their product can show that a lot of deceptions were uncovered using their (often expensive) system, no-one can tell you if the lie-detector system really did add value. I discuss this anomaly in more detail, later in this chapter, in the section 'Combating insurance fraud'.

Using physiological approaches

Monitoring the physiological reactions of a suspect to detect whether he's telling the truth or lying has been in use for some years (something I talk about in Chapter 1). The aim of the physiological approach

is to pick up on what's technically known as *arousal*: a heightened energising of the nervous system and muscles. Arousal is shown by an increase in heart rate and the rate of breathing, as well as by a change in the skin's ability to conduct electricity because of an increase in sweating. The person's voice can also become higher pitched and more erratic.

The problem for the forensic psychologist is that the heightened responses can also be a sign of a general emotional reactions produced by the anxiety of being questioned, especially if the person fears he's wrongly being thought of as a liar.

Recently, a TV show demonstrated the unreliability of the physiological approach for testing lying. Celebrities were asked tricky questions to find out if the answers they were giving were true or false. The interrogator maintained that his lie-detection system showed that some of the celebrities were lying – but the celebrities hotly denied the accusation.

Likely the celebrities were reacting emotionally to the crassness of the questions being asked – in front of millions on live TV. The experiment was dropped from further shows.

Companies selling physiological lie-detector tests often claim that the lie-detector can tell the difference between testing normal anxiety and the anxiety associated with lying. For example, the claim is that as the test continues normal anxiety disappears and the emotions associated with lying show at particular points when lies are being told. But variations between individuals in their response to the questioning can mask such subtleties.

Displaying heightened emotional responses isn't the same as lying. All physiological lie-detection procedures are in fact detecting only emotional responses, such as the anxiety of the person being interviewed thinking that he isn't going to be believed. Because a physiological lie-detector can be unreliable in detecting whether a person is lying, few courts allow their findings as evidence. (For more on the physiological approach see the section 'The polygraph'.)

The polygraph

The polygraph is a machine used for measuring small physiological changes in the body at one and the same time: heart rate, breathing, sweating and so on. It's the best known procedure for detecting lying (and is usually just called a *lie-detector*). Originally, the polygraph recorded these physiological changes using pens running across a moving sheet of paper, which is where the name *polygraph* comes from, meaning many lines. Polygraph machines have since been computerised: so the magic of pens bouncing across paper with a dramatic, crunchy upsurge when a 'lie' was being told is no more.

In an attempt to separate normal heightened emotional responses from the responses associated with lying, the polygraph is used alongside the *guilty knowledge procedure*. Under the guilty knowledge procedure the suspect is asked simple 'yes' or 'no' questions that contain a mixture of information that only the suspect can possibly know, together with unbiased questions that act as a sort of basis for a truthful answer. The comparison between the physiological responses to the questions containing the guilty knowledge and the unbiased questions is used to detect if the person is lying.

Scientific studies show that the guilty knowledge procedure is the most reliable procedure on the market for detecting lying, although not always giving valid results. Importantly, the

guilty knowledge procedure is much better at showing when a person *isn't* lying than showing when he is.

Primitive lie-detectors

In early societies, some curious practices were followed in order to test if a person was being false. For example, it was the custom to use 'magic rice' to find out if a person was lying. The suspected person was deemed a liar if he wasn't able to swallow the magic rice, but if he did he was pronounced innocent. Anyone in a highly emotional state was almost bound to have a dry mouth and be unable to swallow, spelling doom for the suspect. Then there was the bizarre ritual of the witch-finder – a woman suspected of being a witch was dunked in the pond – with the idea that if she was innocent she drowned and if she survived it proved without doubt she was a witch. Doing little for the cause of justice!

As long as the guilty knowledge procedure spots no suspicious reactions, that person is likely to be telling the truth. So, although most courts don't allow a polygraph test to be presented as evidence of guilt, it can sometimes be a useful way of eliminating a suspect from the investigation because of the person being shown to be telling the truth.

When setting up a polygraph test using the guilty knowledge procedure you need to know a lot about the circumstances of the crime as well as understanding how much only the suspect can possibly know (difficult if a lot of information about the crime has become public knowledge). Also, the suspect has to be carefully briefed about what happens during a polygraph test and how the procedure works.

There may not be much that only the suspect would know so other types of polygraph tests are sometimes used. For example, a suspect's physiological reactions when presented with incriminating information may be compared with his reactions when asked innocent questions about things that many people do wrong. This is far less reliable than the guilty knowledge test. What is your likely reaction to being wired up to a polygraph and being asked bluntly 'Have you ever lied to avoid being found out about something you did wrong?' Like me, I think your heart is likely to start thumping and you're gasping for breath, even though most people would be expected to say 'yes' to this question. And yet, a hardened criminal is quite capable of responding in a relaxed manner: 'Yeah. Sure. Haven't you?'

There are many ways of cheating on the polygraph test (websites are devoted to telling you how to do so). In general, if a person's emotional responses are haphazard, or they set up some distraction such as having a stone in their shoe that's hurting them, or because they're having difficulty in focusing on the question, the polygraph machine is unable to detect the difference in responses to crucial questions.

Anyone making a living out of polygraph testing tells you that the key to a valid test is in establishing a working relationship with the person being tested. Having rapport with your subject determines how much he believes in the result of the procedure, sometimes to the point of admitting to his guilt without even needing to read the output.

Voice stress analysis

Voice stress analysis is a recent computer product on the market for detecting if a person is telling you the truth while speaking on the phone. The product is controversial and mostly used by companies dealing with insurance claims for detecting if the customer is making a false claim.

The idea behind voice stress analysis is that any sound has measurable *frequency*. A sound with a high pitch has a rapid frequency; a low pitch a much slower frequency. So, an analysis of the frequency picks up any heightened emotional responses in the caller's voice.

Voice stress analysis faces lots of problems (hence the controversy). You know yourself that the pitch of your voice changes if you have a cold, or at different times of day. And, women generally have higher pitched voices than men, as well as pitch changing with age. As yet, I haven't been able to get any answers to how voice stress analysis deals with these matters.

My concern is that voice stress analysis can be used by inexperienced and untrained call handlers, who simply watch the indicator on their screen (that's supposedly indicating whether a person is telling the truth or not) instead of the call handler listening carefully to what the customer's saying and how plausible they sound. In other words, does the use of voice stress analysis distract from the less hi-tech approach of carefully challenging what the person is claiming?

Truth drugs

Administering *truth drugs* (making the subject under questioning less wary in his replies because he's in a highly relaxed state, induced by special drugs) to detect lying and deceit was popular for a short while in the second-half of the 20th century. The favoured drugs were sodium amytal or sodium pentothal, which are essentially sedatives. However, the reliability of truth drugs is questionable as a person in a dreamlike state is just as likely to be fantasising as telling the truth.

Under international law, using truth drugs to detect lying is regarded as a form of torture. Judges forbid evidence gained from using truth drugs.

Brain 'fingerprinting'

Scientists are now able to produce a map of the electrical and related activity in the different parts of the brain, which commercial companies call *brain fingerprinting*. Mapping electrical activity in the brain is a more sophisticated lie-detection procedure than those I've already talked about (see the earlier sections 'The polygraph' and 'Voice stress analysis'). Brain fingerprinting consists of putting a number of electrical detectors on a suspect's head and mapping the pattern of electrical activity across the brain while the person is answering questions during a crime investigation.

The technique of brain fingerprinting is similar to the guilty knowledge procedure used with polygraph testing, except that this time the person being interviewed is shown pictures relevant to the crime mixed up with unrelated images, with the technique picking up on the images the suspect is particularly sensitive to.

Brain fingerprinting doesn't require the suspect to speak. The procedure is claimed to work without the person needing to make a verbal statement, in which he may be lying or telling the truth.

There's a lot of scepticism about using brain fingerprinting as a way of determining guilt or innocence. Some experts believe that commercial organisations are being misleading by naming it 'fingerprinting', using the term as a way of claiming similarities to the different and accurate fingerprinting procedure used in criminal investigations.

Yet, growing evidence suggests that, under carefully controlled conditions, brain-mapping has a part to play in determining a suspect's innocence or guilt because of the suspect's trust or faith in the procedure which as a result can produce a confession. Brain-mapping is an advanced version of physiological testing and is likely to be used more and more as the equipment becomes cheaper and less cumbersome.

Brain-mapping research

Early research studies show that some parts of the brain are particularly active during lying – for example, when a group of people were told they could keep £20 if they were successful in lying about the cards they were holding in their hands. The results of these studies allowed the researchers to decide with a high degree of accuracy whether a person was lying. Studies since then claim 100 per cent accuracy in detecting lying. Brain-mapping evidence has been used to support the guilt of a person accused of murder, as well as the innocence of others.

Observing carefully: Behavioural approaches

You can find out a lot about what a person's thinking and saying from the way they're behaving. In the game of poker, where you have to decide whether another player is bluffing or has a great hand, such non-verbal clues are called a 'tell' (such as, a person shuffling their legs or scratching their ear showing that they're lying). Using these clues to detect deception is fraught with difficulties. Studies show that looking at the way a person is behaving, and what he's saying, as a means of determining whether he's lying is more complicated than it first appears.

Non-verbal leakage (body language)

You can't help thinking the term *non-verbal leakage* sounds a bit rude (conjuring up the image of a young child squirming because of needing the toilet but denying it furiously – although come to think of it the squirming *is* a form of non-verbal leakage and if correctly understood can indeed stop other forms of leakage!). The idea is that people show you what they're feeling from the way that they behave, but they are not doing this consciously – as when a person threatens you by waving his fist in your face – they are doing it inadvertently. It's unconsciously 'leaking' from them.

This non-verbal leakage is an aspect of *body language*. You express many things without the use of words, sometimes deliberately: a shrug of the shoulders, looking away, glaring into

someone's eyes. There are claims that some aspects of this non-verbal communication can be used to indicate lying.

Using body language to determine lying is unreliable in that everyone has their own way of behaving when telling a lie and that behaviour can change from situation to situation. Even poker players are aware that not every player has the same 'tell'; you have to watch a person playing over time to spot if the 'tell' is special to that individual.

How do the experts do?

Studies show that professionals, such as police officers, are no better at detecting deception than the man in the street. Typically both groups have success in detecting truth or lying accurately in just over half the cases studied (only marginally better than guessing by tossing a coin). The only professional groups that do significantly better at detecting lying are members of the Secret Services. Spies seem to get it right in nearly three out of every four cases.

Some people assume that a guilty person is likely to be more nervous when lying and shows his stress through displaying more hand movements, slower speech and general fidgeting. But studies show that the opposite is the case. A person under pressure of maintaining the lie is concentrating harder on the lie, with the result that he displays *less* non-verbal leakage than you may expect. On the other hand, a person who's telling the truth is so often concerned to show that he's telling the truth that his body language may become more animated and exaggerated.

Body language is a gripping metaphor for communicating through gestures, facial expressions and other bodily movements. But these movements are not a **language** in the same way the written and spoken word is. They can add emphasis, as when people thump the table, but these movements and gestures do not provide an account of what is claimed that can be open to logical scrutiny of how plausible it is.

\ Micro-twitches

Paul Ekman, has spent over 40 years studying how people express emotions, focusing on the small changes in facial muscles that go with what a person's feeling. These *micro-twitches* often last only a fraction of a second and you can see them best from watching a slow-downed video recording. Ekman claims that micro-twitches show what a person is feeling even when trying to hide their emotions. They are not really part of body language because they are only visible under very special scrutiny.

Giving a false smile to hide what you're really feeling is the most obvious micro-twitch. Ekman's theory claims that although the muscles round the mouth are indicating pleasure the facial muscles around your eyes are showing the opposite.

As a result of Ekman's research micro-twitches are now being used for detecting lying and deceit. The problem is that these tiny facial muscles can only show strong emotions, such as anger, fear or surprise. If strong emotions can be proved to link directly to truthfulness or lying, micro-twitches can be valuable in detecting deception. For example, the suspect may be asked how he feels about his victim, and says that he liked her, while his wrinkling nose is indicating disgust. Or, when the suspect is asked directly if he's lying and he denies it, but the micro-twitches around his mouth are showing that he himself doesn't believe in what he's saying.

Paul Ekman warns against the danger of ignoring the value of micro-twitches as a way of detecting lying, calling it the 'Othello Error'. Remembering how Othello in Shakespeare's play refuses to believe Desdemona's protestations of innocence, totally ignoring her anguished face, and then killing her out of jealousy – so the investigator needs to bear in mind that the workings of the facial muscles have a part to play in helping get at the truth when you're interviewing a suspect in a crime investigation. The practice of observing micro-twitches as a way of detecting malicious intent is now being used in public places such as airports. However, this practice is being questioned on the grounds that a particular facial expression can be because of a person's culture in which such expressions are normal, as much as being a sign of what the person's thinking and feeling. There are also people who have a general dislike of authority and show this dislike in their facial expressions despite being innocent of any crime.

Aldert Vrij and his colleagues carried out an experiment for observing the rate of blinks before and after a person was telling a lie. Vrij found that the relative differences in the rates were much larger for liars than truth-tellers. As the experiment was small, having only 13 people in each group, the results are open to question.

Paralinguistic cues

What a person's telling you, and the actual meaning of what they're saying, is often less to do with *what's* being said than *how* it's being said. Because these aspects of speech run parallel to one another, they're called *paralinguistic cues*, such as:

- ✓ Indulging in pauses, of varying length and frequency.
- ✓ The number of mispronunciations or inappropriate words.
- ✓ Speed of delivery, either very fast or very slow.
- ✓ Inappropriate non-verbal utterances, such as laughter.
- ✓ Filled pauses, for example, 'eh', 'erm' and so on.

Computer programs have been set up to measure the frequency of paralinguistic cues and the relationship to a person's emotional state. Researchers have found that big differences exist between people in their paralinguistic characteristics. If these variations are allowed for, paralinguistic cues can produce results that give a reasonably accurate indication of a person's emotional response, most notably fear. But whether or not this relates to lying, depends on the individual and whether or not the circumstances of their utterances are so demanding that these cues will be revealing.

Studying semantic assessment

When you're looking closely at a suspect's statement and you believe that he's deliberately setting out to deceive, you're dealing with what I call the *semantic assessment* of deception. Semantic assessment

involves examining each significant word in the statement for meaning and how that word is being expressed. In this section, I look at what you need to do when you're carrying out a semantic assessment, the difficulties you can come up against when trying to get to grips with what's being said, and the plausibility of the statement.

Experts have drawn up useful checklists setting out the valid points you need to keep in mind when carrying out a semantic assessment of a suspect's statement. Some countries, notably Germany, use these checklists for examining children's accounts of sexual abuse. The idea behind these checklists is that what you describe from actual experience will contain information that is usually not present when you invent a description.

Here are the sorts of things that you should look for to determine if a statement is an imaginative creation or the truth:

- ✓ Is there an overall logic to the account in which each aspect makes sense with every other aspect?
- ✓ Is the way the statement is given disorganised or does it have a clear unfolding structure to it?
- ✓ Does it have enough convincing detail?
- ✓ Is the context in which the event occurred clear?
- ✓ Where other people are present, how well are the interactions with them described?
- ✓ Is any conversation reproduced in a plausible way?
- ✓ Are unexpected complications described?
- ✓ Are there any unusual details?
- ✓ Are some of the details given superfluous to the main account?
- ✓ Does the person giving the statement describe aspects of what they were thinking or feeling at the time?
- ✓ Are there spontaneous corrections?

✓ Is there an admission of lack of memory?

✓ Does the person making the statement raise doubts about what happened?

This list of questions isn't without its critics and certainly isn't foolproof. It doesn't, for example, show the difference between a partially truthful account from an untruthful one, especially if the untruthful version is built upon something that actually happened, but not to the suspect or witness or not at the time claimed. As I discuss in Chapter 4, memory fades quickly over time and so the lack of clarity in what a liar says can be mistaken for a sign that he's telling the truth. Plus, memories of a traumatic event can leave an indelible mark and can be much sharper than the answers to these questions may lead you to expect.

Don't do that, do this!

Aldert Vrij and his colleagues have been looking into ways of exploiting the intellectual demands made on a person when inventing and maintaining a lie. Vrij claims that if you ask a suspect to carry out two separate tasks at the same time, putting pressure on his thought processes, more signs of lying become apparent – for example, asking the suspect to play a computer game while making his statement, or giving an account of what happened in reverse chronological order. By putting on this additional pressure many of the weaknesses in the plausibility of what is being said can come to the surface.

Looking at legal approaches

For the forensic psychologist the most common way of finding out the truth of a suspect's statement and detecting deception is during the court proceedings. Courts rely heavily on their own tried and tested approaches to getting at the truth, despite research showing the many difficulties associated with detecting lying and deceit.

Power of court proceedings

Lawyers have great confidence in the ritual of the court as the best way of extracting the truth from the person standing in the witness box. The witness or defendant has to swear an oath and is then examined closely in front of the judge, jury (if one is present), members of the public and sometimes even victims. This confidence comes partly from the belief that if a ritual is powerful enough, a person feels compelled to tell the truth. Indeed, the swearing of an oath comes from times in which a belief in God's wrath was so strong that a person feared divine punishment if he lied under that oath.

Getting to the truth in a court of law relies on the effectiveness of the questioning of witnesses and the defendant. In many jurisdictions, the defendant may not be open to questioning, which was the case in British courts until quite recently, because of the belief that a defendant can't be expected to be telling the truth.

In the US the view that a person is never put in a position where he can incriminate himself is enshrined in the Fifth Amendment to the US Constitution: ‘nor shall be compelled in any criminal case to be a witness against himself’.

Plausibility

The court proceeding puts a great deal of emphasis on the plausibility of a person’s statement. To establish the truth of a statement the court has to refer to what’s generally expected to be possible or typical for a person’s lifestyle or set of circumstances. Forensic psychologists therefore look at statements in terms of what the person may be expected to know and how ready the person is in giving that information, including:

- ✓ Assessing the clarity or vagueness of the evidence.
- ✓ Working out if the evidence is being presented in a logical sequence.
- ✓ Deciding whether the witness or defendant is willing to answer questions directly.
- ✓ Considering how the evidence relates to the general pattern of similar events.
- ✓ Assessing whether irrelevant information is likely to distract from the central issue.
- ✓ Looking at whether the evidence contains too many references to people in general rather than specific persons.
- ✓ Checking if the witness or defendant’s evidence contains a lot of modifiers, such as ‘sometimes’, ‘probably’ and so on.

Ways in Which Lying Is Used to Commit Crime

Some crimes depend a lot on lying and deceit. In this section I take a look at three criminal activities that make full use of misrepresenting the truth – insurance fraud, false allegations and extortion – and how forensic psychology can help to get at the truth.

Corroborative evidence

A lawyer often looks for additional evidence that supports, or *corroborates*, the claims of those persons involved in the court case. If this additional evidence is only indirect, such as finding a weapon that can be related to a crime rather than having evidence that the defendant used the weapon, it’s known as *circumstantial* evidence. However, such evidence can be strong enough to gain a conviction, even in very serious cases.

Combating insurance fraud

Have you ever been in a position of making an insurance claim that wasn't strictly accurate? For instance, claiming items on your insurance after being burgled, and then to your horror finding the items later on, and leaving it at that. Of course, you're more likely to be one of the majority of citizens who'd never do anything so underhand, but sadly, otherwise totally law-abiding people do sometimes break the law by defrauding on insurance claims.

Many reasons exist why generally honest people lie in this way. A person may, wrongly, justify an insurance claim by saying he's been paying insurance premiums for years and now it's time for payback. Or he may argue that it doesn't hurt anyone (untrue because everyone suffers by paying higher premiums as a consequence) and the insurance company makes lots of profits. A dishonest claim can even be a sort of revenge for another claim that was turned down in the past.

Many of the excuses you find yourself giving for having committed insurance fraud – denial, justification, minimisation and rationalisation – are similar to those that the hardened criminal gives for his actions.

Committing insurance fraud is often seen as easy pickings: too many people think that they can get away with it. Over recent years insurance companies have tried to improve their ability to detect fraudulent claims (such as the method I describe in the earlier section 'Voice stress analysis'). Companies also use more direct approaches, like asking for original copies of documents and sending inspectors round to check out claims. But an insurer's business is dependent partly on how willing and ready the company is in dealing with a claim, so many would rather not check the claim too thoroughly and just bump up the premiums instead.

Those insurance companies that are aware of the importance of detecting lying immediately a claim is made have started using procedures like the one I've developed: the *Fraud Indicating Behaviours System* (FIBS). (Yes, you're likely thinking the acronym's the best part.) The following FIBS list gives you a framework for detecting deception. You can see from the list how I've turned my ideas about lying (including those I discuss in the earlier sections 'Understanding the Nature of Lying' and 'Detecting Lies: Some Attempted Procedures') into a simple system that you can use with only a little training. Insurance companies using FIBS are reporting a dramatic reduction in fraudulent insurance claims.

FIBS asks the following questions (I don't tell you how the responses are used to determine fraud, so as not to give the game away):



Reaction: What is the claimant's reaction to the event?

- How emotional was his reaction?
- Does his reaction seem unusual?

- Did he carry out his own investigation?



Detail: What sort of detail does the claimant give about the event?

- Are there gaps in the time of his account?
- Does he put the event in context?
- Is irrelevant information offered?
- Does his account have an obvious chronological sequence?
- Were there unexpected complications?
- Is there possible corroboration, say from other people?



Style: How does the claimant communicate the information?

- Does he avoid answering?
- Are his answers consistent?
- Are his answers hesitant?
- How co-operative is he?
- How inquisitive is he about what he's being asked?
- Does he spontaneously correct what he's saying?

Discovering false allegations

Bringing a false allegation against a person is a particularly pernicious form of deception, especially when someone is accusing another person of a heinous crime such as sexual abuse or rape. Some evidence shows that false accusations of rape may occur in at least one out of every ten allegations.

In the case of rape, making a false allegation is quite a separate problem from determining whether consent to sexual activity took place. A false allegation is the dishonest claim that unwanted sexual activity occurred when there's clear evidence that both parties consented to the activity or that the activity never took place at all.

Reasons for making false allegations of rape can be because the person is:

- ✓ Looking for financial gain: for example, compensation.
- ✓ Seeking to gain support from other people by being seen as a 'victim' who needs help.
- ✓ Needing to excuse inappropriate behaviour, such as getting drunk and having a fling that's later regretted.
- ✓ Hoping the authorities can change the person's circumstances (one example may be when wanting to get different welfare housing).
- ✓ Wanting to hurt or discredit a person or institution.
- ✓ Creating difficulties in a relationship or as part of a job (as a form of blackmail).
- ✓ Claiming false (as in recovered) memory.

The major problem with rape investigations is that victims are often reluctant to come forward. A high proportion of rape victims never report that they have been sexually assaulted. They may fear that they will not be believed. Being aware that only a small minority of rape allegations are false helps the police to take all allegations seriously. In fact, in many jurisdictions, the police assume the allegation is true unless there is overwhelming evidence that it isn't.

Tackling extortion

Extortion is illegally getting hold of money by compulsion. For example, a well-known company receives an anonymous letter threatening to poison the company's products, unless money is paid or some other action taken. The threat can have a major impact on the company if any hint that the company is being threatened reaches the public.

This situation falls under the category of *extortion*. Therefore, careful examination of the threatening communication is crucial in deciding what steps to take.

Fortunately, the majority of people writing threatening letters never follow through on their threats. Often the act of writing is just an expression of anger or frustration, malice or spite. Against that backdrop, the task is to detect the minority of letters indicating a real determination to put the threat into action.

I've been involved in several cases of threatening letters and now know the signs to look for in establishing whether the threat is genuine or false. Clearly, making these signs available to the general public is inappropriate, but I can say that the signs draw upon a careful analysis of the credibility of the threat and the benefits and costs to the writer of carrying out the threat. Meticulous study of the form of words in which a threat is expressed can be of great value in understanding the sort of person the writer is, his background and knowledge. For instance, consider what the writer's really trying to achieve. Is it really money he's after or to cause havoc? What sort of person the writer's likely to be can also be gleaned from the way he writes. The crucial question, though, is the probability of the person actually carrying out the threat (check out the later section 'Examining Documents to Help Solve Crimes' for more information).

Interviewing Suspects to Sort Truth from Lies

Witnesses are generally in the habit of trying to tell the truth as they understand it when being interviewed. However, you can't make that assumption when interviewing suspects. Interviewing procedures are established in some places that make it easier to find out if the suspect is telling the truth. However, you need to keep in mind that such interviewing procedures can be fraught with problems.

Dealing with false confessions

A suspect confessing to a crime he didn't commit is a serious problem for police investigators. You have to get at the truth to avoid the person being wrongly imprisoned (often the person is vulnerable and needing help such as psychiatric treatment rather than custody) and, of course, wrongful imprisonment means letting the guilty person go free.

In 1980, when Sean Hodgson was 30 years old he told a prison chaplain that he'd murdered a barmaid. He withdrew the confession at his trial a year later, saying he was a 'pathological liar' who'd falsely confessed to countless crimes. But Hodgson spent nearly 30 years in prison until DNA evidence cleared him.

You may think that a person who's being tortured or coerced is more than likely to confess to a crime of which he's innocent. But many examples exist of people confessing without any such pressures. Police investigators have to be on the alert all the time for such possibilities in even fairly common crimes such as burglary. False confessions can happen because the person is:



Craving attention, believing that he can gain notoriety or glory from admitting to a crime.

- ✓ **Feeling confused about what he did** and/or where he was at the time of the crime, especially if he's a habitual criminal and was under the influence of alcohol or drugs.
- ✓ **Suffering from a serious mental condition** and may not be aware of the real situation as against something he imagined or interpreted wrongly.
- ✓ **Accepting what he's being told.** Ghisli Gudjonsson, a forensic psychologist who has made a special study of how some people will accept what they've been told, calls this tendency *suggestibility*. He has developed a special way of measuring how prone someone is to suggestibility. It consists of asking people questions, then giving them suggestions in relation to their answers and seeing if they accept them. This procedure has been used in court cases to support the innocence of people who initially confess.
- ✓ **Wanting to get out of an awkward situation**, like having been put in a cell and just wanting to get home, possibly not realising the serious consequences of confessing.

In many parts of the world today, and in the past in most places, the main cause of false confessions was physical or mental intimidation or torture. The whole basis of the Inquisition in the Middle Ages was to torture people until they confessed their sins. This is less so now in the UK since the introduction of the PEACE interview process (described in Chapter 4) and the tape-recording of interviews of suspects.

Curiously, in high-profile murder cases or other crimes hitting the headlines, you find people confessing to the crime who couldn't possibly have done it. For example, in 1932 when the son of the famous aviator Charles Lindbergh was kidnapped, nearly 200 people confessed to the crime. More recently in 1986 more than 100 people confessed to the murder of the Swedish Prime Minister Olaf Palme.

Police investigators are aware of this phenomena, which is why crucial facts about a case are kept secret so that anyone confessing to the crime is required to show his knowledge of these decisive facts.

Encountering the IEE approach in the US

Paul Ekman and his colleagues in the US have drawn up a set of pointers called 'Improving Interpersonal Evaluations for Law Enforcement and Evaluations' – better known as the IEE approach – for helping the police interviewer decide the truthfulness of what's being said. A simple ABC list summarises what's involved in IEE:

- ✓ **Awareness:** Knowledge of ways in which information can be inaccurate.
- ✓ **Baselines:** Study of the normal mode of behaviour of the respondent.
- ✓ **Changes:** Note reactions of the respondent that are different from the baseline.

- ✓ **Discrepancies:** Observe variations in reactions in different channels of communication.
- ✓ **Engagement:** Create a comfortable context for continuing rapport.
- ✓ **Follow-up:** Explore corroborating evidence from other sources.

The IEE is a set of guidelines for establishing the truth in a police interview and draws on Ekman's work of how people reveal their emotions while under stress, which I describe in more detail in the earlier section 'Micro-twitches'.

Confessions around the world

People being presented with (false) evidence are sometimes willing to confess; teenagers are particularly vulnerable to this pressure. Although not exactly coercion, such subterfuge isn't allowed under UK law but is acceptable in the US.

In many countries, corroborative evidence is required before a confession is acceptable in the court. One notable exception is China where a large number of convictions are based on confessions.

In India, for many years, it was common practice by the police to beat or threaten a confession out of a suspect. But now a law has been passed whereby no confession obtained in the presence of a police officer is allowed as evidence in court.

The nearest equivalent UK police interview guidelines to the IEE is the English and Welsh PEACE, created with the help of forensic psychologists to improve the quality of interviews and combat false confessions.

Interrogating suspects

In the US, there are fewer constraints on police practice when obtaining a confession or getting vital information out of a suspect than in the UK. Certain US police procedures would raise eyebrows if they were tried out in a British court. For

example, in the US you have *interrogations* as well as the more benign sounding *interviews*, the difference being:

- ✓ An interrogation aims at obtaining a confession or evidence leading to a conviction.
- ✓ A police interview aims at revealing the truth in as much detail as possible.

Before the introduction of the PEACE procedure that I describe in Chapter 4 the UK police also had a ‘confession culture’ in which the purpose of interviewing a suspect was to gain a confession.

During an interrogation the interviewer works at persuading the suspect that it’s in his best interests to confess, by direct challenges or using spurious techniques (like trying to uncover lies by using lies) which can include:

- ✓ Using undercover police officers for obtaining a confession. In Britain, it’s illegal for undercover police officers to entrap people or force a confession, but in Canada such undercover operations are often used to force a confession from a suspect.
- ✓ Underplaying or even lying on the part of the police about the seriousness of the offence. For example, saying the murder victim survived, or offering the possibility that the killing was an accident.
- ✓ Telling downright lies, such as saying that uncontroversial evidence of guilt exists or that a co-defendant has already confessed.

The Reid interrogation technique

Fred Inbau and John Reid, two experienced US law enforcement officers, have developed a procedure now widely used in North America, laying out nine steps for carrying out a persuasive interrogation:

1. Being confrontational: The suspect is told positively that he committed the alleged crime. The idea is that an innocent person immediately and without hesitation denies the offence, whereas a guilty person is evasive.

2. Developing a theme: The suspect is given reasons for thinking that the crime is less serious than he believes. This is an attempt to let the suspect 'off the hook' psychologically, making him feel more secure and less intimidated.

3. Handling denials: Denials are stopped short in their tracks and the suspect is told to listen to what the interrogator has got to say. This is a way of preventing the suspect thinking his denials carry any weight or of getting into his stride in advancing those denials.

4. Overcoming objections: The interrogator overcomes the objections the suspect is giving as an explanation or reason for his innocence and so undermines the suspect's confidence in his own innocence, making him more vulnerable to the assertions of the interrogator.

5. Getting hold of and keeping the suspect's attention: When the suspect shows signs of fatigue, the interrogator reduces the psychological (and if necessary physical) distance between himself and the suspect to regain the suspect's full attention.

6. Handling suspect's passive mode: When a suspect's resistance looks about to break down, the interrogator focuses on the suspect's main reasons for committing the crime, in order to show signs of understanding and sympathy. The interrogator appeals to the suspect's sense of decency and honour and possibly religious convictions, using the well-established psychological principle of rewarding behaviour that you want to encourage.

7. Presenting an alternative question: The suspect is presented with two possible alternatives for committing the crime, one face-saving and the other a repulsive or callous motivation.

8. Having the suspect tell in his own words various details of the offence: When the suspect accepts one of the alternatives he's asked to go into the story in further detail.

9. Converting an oral confession into a written confession:

This gives a further opportunity for ensuring the confession is clear and legally watertight.

There's a lot of controversy surrounding the use of the Inbau and Reid technique. Some challenges relate to the legality of the whole process of misleading a suspect. Others relate to its likelihood of inducing false confessions. But perhaps the greatest challenge to its usefulness is the claim by some who have studied the technique closely that it just doesn't work.

