

Criminal evidence

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Criminal evidence is any exhibit or testimony regarding a crime. It can take many forms, and is typically used to establish that a crime has been committed and identify blame or fault in a criminal case. What constitutes acceptable criminal evidence varies somewhat between legal systems, although ideally, evidence provides reasonably reliable information that gives a more complete picture of a crime. The outcome of many criminal law cases will depend upon the strength and admissibility of evidence -- including physical proof, scientific evidence, and witness testimony. Criminal evidence law can be complex, but this section will help make sense of the different rules and concepts surrounding evidence. Below you will find information on the concept of admissibility, the use of scientific evidence in court, and more.

Case law of *Brady v. Maryland*, 373 U. S. 83 (1963), [1] was a United States Supreme Court case in which the prosecution had withheld from the criminal defendant certain evidence. The defendant challenged his conviction, arguing it had been contrary to the Due Process Clause of the Fourteenth Amendment to the United States Constitution. Maryland prosecuted Brady and a companion, Boblit, for murder. Brady admitted being involved in the murder, but claimed Boblit had done the actual killing. The prosecution had withheld a written statement by Boblit confessing that he had committed the act of killing by himself. The Maryland Court of Appeals had affirmed the conviction and remanded the case for a retrial only of the question of punishment. The court held that withholding exculpatory evidence violates due process " where the evidence is material either to guilt or to punishment"; and the court determined that under Maryland state law the withheld evidence could not have exculpated the defendant but was

material to the level of punishment he would be given. Hence the Maryland Court of Appeals' ruling was affirmed. Brady refers to the holding of the Brady case, and the numerous state and federal cases that interpret its requirement that the prosecution disclose material exculpatory evidence to the defense. Exculpatory evidence is "material" if "there is a reasonable probability that his conviction or sentence would have been different had these materials been disclosed." [1] Brady evidence includes statements of witnesses or physical evidence that conflicts with the prosecution's witnesses [2], and evidence that could allow the defense to impeach the credibility of a prosecution witness.[3] Police officers who have been dishonest are sometimes referred to as "Brady cops." Because of the Brady ruling, prosecutors are required to notify defendants and their attorneys whenever a law enforcement official involved in their case has a sustained record for knowingly lying in an official capacity.[4] Brady evidence also includes evidence material to credibility of a civilian witness, such as evidence of false statements by the witness or evidence that a witness was paid to act as an informant This article originally appeared in the FBI Law Enforcement Bulletin, December 1992. In March 1990, an unknown assailant sexually molested and fatally stabbed a young woman. At the crime scene, an investigator discovered few leads. The only evidence was a pillowcase, found adjacent to the victim's body, that exhibited several bloodstains. One stain showed some faint fingerprint ridge detail, barely visible even to the trained eye. PRELIMINARY INVESTIGATION An investigator took the pillowcase to the department's forensic unit for bloodstain pattern analysis. Technicians photographed and studied the stains, slowly extracting

information. They discovered two things. First, they confirmed that several stains were consistent with blood transfer from a knife blade, although no knife was found at the crime scene. Second, and more importantly, analysts determined that the fingerprint presented enough ridge detail to conduct a more extensive investigation. Analysts then sent the evidence to another forensic study center where scientists treated the fingerprint with DFO, a relatively new chemical (similar to Ninhydrin) that becomes fluorescent when exposed to a light source. Once processed, the DFO provided an improved ridge detail photo. However, the ridge detail still remained blurred, displaying poor general continuity and visible fabric weave in the background. All traditional photographic techniques failed to erase the distortion. Analysts subsequently concluded that the latent was unidentifiable. IMAGE ENHANCEMENT A short time later, investigators assigned to the case witnessed a demonstration of fingerprint image enhancement at a forensic conference. Faced with a dead-end murder investigation, they decided to try the technique on the unidentifiable pillowcase fingerprint from the crime scene. Investigators took the best DFO photograph and shipped it to a facility with the capability to perform image enhancement. Throughout the enhancement process, the accuracy of the print was documented through photographic records of each stage. Within 4 hours, the enhancement yielded an identifiable print. SUPPORTING EVIDENCE In the interim, the lead case investigator developed several likely suspects. The primary suspect (the victim's next door neighbor) surfaced early in the investigation. However, the prints on record from a previous arrest did not contain sufficient ridge detail for comparison. The investigator then

concentrated on the serology report, which noted that examiners recovered seminal fluid from the victim during the postmortem examination. This preliminary serological report proved the seminal fluid matched that of the prime suspect, placing him in less than 5% of the general population. Encouraged by this breakthrough, examiners initiated the lengthy process of DNA analysis. Using the serology report as probable cause for arrest, the investigators arrested the suspect and obtained a set of inked prints. After weeks of evaluation, comparison, and verification, the examiners achieved a positive identification comparison of the bloody pillow print with the left thumb of the suspect. Less than a week later, investigators received the DNA results, which further incriminated the suspect by matching his DNA code with that found in the stain on the pillowcase. This, in effect, placed the suspect as only 1 in 30 million people in the population with this particular DNA code. COURT PROCEEDINGS During the suppression hearing, defense attorneys launched an attack on what they believed to be the most potentially vulnerable piece of evidence, the scientific acceptance of fingerprint image processing. To counter, an analyst took the court step by step through the entire procedure using a full complement of image enhancement equipment. An expert in the field of image processing then offered supporting testimony to the court. Ultimately, the court ruled the enhanced print admissible, stating that the process did not alter the actual pattern of the print; it only made it more visible. The evidence passed the test, resulting in the first documented case where image enhancement technology withstood the challenges of a Frye hearing. 1 TRIAL RESULTS One last piece of evidence emerged during final trial preparation. Maintenance

men working in the defendant's vacant apartment discovered a military survival knife hidden in a pipe chase. Serological examination revealed traces of human blood, but no typing was possible. However, the shape and size of the sawtooth blade matched several of the blood stains on the pillowcase. Police personnel prepared a large transparent overlay for courtroom display to illustrate how the knife and the stain conformed to a single image. Faced with overwhelming physical evidence, such as the image enhanced fingerprint match, the DNA test results, the match between the body fluid found on the victim's body and that of the suspect, and the knife found in the suspect's apartment, defense attorneys entered four guilty pleas, one of which was for capital murder. On June 18, 1991, the court sentenced the accused to four life sentences for murder and related offenses.

2 CONCLUSION Five years ago, a suspect committing these types of crimes would most likely go free, due to a lack of substantial forensic evidence. However, through persistence and by applying such modern technologies as finger-print image enhancement, today's police investigators can use evidence invisible to their predecessors. On a fall afternoon in 1955, eight-year-old Janice May was found raped and beaten beside the railroad tracks near Canton, Ill. She died an hour later. Subsequently, Canton Cab Driver Lloyd E. Miller Jr., 28, was sentenced to death for the crime. Yet Janice's murder remains unsolved. Last week the Supreme Court unanimously reversed Miller's conviction because the prosecution had used false evidence with an almost incredible disregard for U. S. standards of fair trial. Gruesome Impact. Cabbie Miller became a suspect when one of his passengers reported that he had confessed to the murder. After he was

arrested, Miller was held incommunicado for 52 hours, denied counsel and told that one of his pubic hairs had been found in the child's vagina. The police assured him that he was mentally ill and would be sent to a hospital if he confessed. Soon after Miller signed a police-written confession, he recanted. The prosecution refused to let Miller's lawyer examine the physical evidence before the trial. And when a police chemist said that the hair found in the child was not Miller's, Fulton County Prosecutor Elaine Ramsey decided not to mention it. He made do with other evidence: a pair of "bloodstained" undershorts, which he said Miller had shucked off after the crime. The shorts were apparently too small for Miller, but a police chemist testified that the blood was type A, the same as the child's, while Miller's was type O. Prosecutor Ramsey brandished the shorts with what Justice Potter Stewart last week called "gruesomely emotional impact upon the jury." Paint-Not Blood. For seven years, Miller awaited execution. Seven hours before his scheduled death in 1963, a federal judge granted him a habeas corpus hearing at which he was finally allowed to have his own chemist examine the shorts. The stains were paint-not blood. Even more startling, the state conceded that the prosecutor had known the truth during the trial. That was not the only revelation. At the 1963 hearing, the prosecution lost its star witness, Betty Baldwin, the Canton passenger who had testified that Miller blurted a confession while she was riding in his cab. Now she completely recanted her story. Then there was Miller's landlady: she had refused to aid his lawyers in 1956 after the prosecution told her that she had a constitutional right to silence. Now she testified that Miller was asleep in his room at the time of the crime. The judge who granted Miller the habeas

hearing in 1963 had ordered him released or retried, but the state won a reversal in a U. S. appellate court. Last week the Supreme Court reversed that reversal: Miller must be freed or retried. Said Justice Stewart: " More than 30 years ago, this court held that the 14th Amendment cannot tolerate a state criminal conviction obtained by the knowing use of false evidence. There has been no deviation from that principle. There can be no retreat."

HOW DNA EVIDENCE WORKS Technology has changed many aspects of the criminal justice system, and the use of DNA evidence represents one of the best examples of how technology has altered the criminal justice landscape. DNA, or deoxyribonucleic acid, is the basic building block of life. The information encoded in an organism's DNA acts as a blueprint for the organism's biological development and functioning. DNA exists in the cells of all living organisms, and by testing the DNA found in a person's cell, scientists can come up with a DNA profile for that individual. DNA profiling of individuals didn't even exist, however, until the mid-1980s, when an English scientist, Dr. Alec Jeffreys, discovered that certain areas of the DNA strand contain patterns that repeat many times. The number of these repetitions varies between individuals (except for identical twins, who have the exact same DNA), and Dr. Jeffreys developed a test to measure the variation in length of these repetitions. Using this test, Dr. Jeffreys found that he was able to identify individuals by comparing samples of their DNA. This test that Dr. Jeffreys developed became known as restriction fragment length polymorphism (RFLP). RFLP is an accurate and reliable test, but it requires a relatively large amount of DNA to work. Laboratories now use tests based on the polymerase chain reaction (PCR) method, which allows for testing on

very small amounts of DNA from biological samples. Investigators can collect DNA evidence from a number of different sources. Almost any biological evidence can contain DNA, although not every sample contains sufficient amounts of DNA to enable DNA profiling. Forensic investigators will analyze the biological samples to get a DNA profile of the individual(s) that the samples came from. If investigators already have suspect(s) in mind, they can collect samples to compare to the evidence collected at the scene. There are also databases of DNA profiles that investigators can use to identify suspects by comparing the database information to the DNA profile obtained from the biological evidence. Assuming that investigators properly collect and handle biological evidence and that the forensic scientists employ accepted methods and conduct the analysis correctly, DNA evidence is extremely accurate. The chances of one individual's DNA profile matching another person's are extremely small — about one in a billion. Compared to fingerprinting or eyewitness testimony, which both have inherent flaws and inaccuracies, DNA evidence is a highly effective way to match a suspect to biological samples collected during a criminal investigation. Because of its accuracy, criminal lawyers increasingly rely on DNA evidence to prove a defendant's guilt or innocence. DNA evidence has also exonerated people through postconviction analysis of biological samples. Since DNA analysis didn't exist until recently, a reexamination of evidence collected during older investigations can reveal that the DNA profile of the person convicted of the crime does not match the DNA profile from biological samples collected at crime scenes. DNA evidence is not unassailable, however. Errors in the collection and/or handling of the biological samples used for the DNA

analysis can result in the exclusion of DNA evidence at trial. Similarly, if a lab contaminates the biological sample or is found to use unreliable methods, a judge may reject the DNA evidence at trial. When challenging DNA evidence, defense attorneys will usually focus on the behavior of the investigators and forensic analysts in an attempt to cast doubt on the results of DNA profiles, rather than attack the reliability of DNA profiling as a whole. A well-known example of this is the defense strategy used in the O. J. Simpson trial. Additionally, each state has different rules regarding evidence, and any failure to comply with the particulars of each state's requirements can result in a refusal of the court to examine DNA evidence. The rise of DNA analysis has enabled a level of accuracy in criminal identification not possible before the development of certain technologies, and shows how technology is shaping, and will continue to shape, how the criminal justice system operates.

GREATER ACCURACY ON DNA

The use of DNA (deoxyribonucleic acid) as a method of identification is relatively new, but it has proven an effective means of identifying criminals and perhaps more important, eliminating people as crime suspects. A fingerprint is the only unique identification source (identical twins have the same DNA). But if a criminal leaves no prints behind, law enforcement officials must rely on minute DNA samples from blood, saliva and other bodily fluids, hair, or skin. DNA testing is also used in paternity disputes to determine the identity of the actual father in custody, inheritance, or child support suits. DNA testing can be done by standard techniques such as restrictive fragment length polymorphisms (RFLP), polymerase chain reaction (PCR), short tandem repeat (STR), and mitochondrial analysis. In RFLP testing, a DNA sample is

mixed with a chemical substance that helps examiners isolate and identify specific key fragments of the sample that can be used in comparison analysis. A drawback of RFLP is that it requires a fairly large DNA sample. With PCR, a series of chemical reactions helps generate copies of a minute DNA sample, thus amplifying a small or degraded piece of information. In STR, various DNA regions in a sample are compared with other samples for similarities. The FBI uses STR using special software that can identify thirteen of these regions in a DNA sample. Mitochondrial DNA analysis is often used for extracting samples from bones and teeth, for which the other methods are not effective. The FBI keeps a computerized databank of DNA samples called CODIS (Combined DNA Index System), which contained about 1.7 million DNA profiles as of 2003. The profiles stored in CODIS can be used to convict criminals, and also to exonerate innocent people. There are numerous examples of criminals whose DNA matched a profile from an earlier crime and who were then charged with the crime; likewise, there are examples of individuals whose innocence was confirmed when DNA found at a crime scene turned out to belong to another person identified through the profiles DNA as an Exoneration Not only can DNA be used to convict criminals, it has successfully been used to exonerate individuals, some of whom were wrongly imprisoned for more than two decades. Often, the person who is wrongly convicted of a serious crime such as murder or rape has a criminal record for petty crimes, which means a record already exists. These individuals are frequently convicted on eyewitness testimony, but without any physical evidence tying them to the crime. The Innocence Project, created in 1992 by Peter Neufeld and Barry Scheck at the Benjamin

Cardozo School of Law in New York, works to exonerate people by use of postconviction DNA, in which DNA from the crime scene is tested against the accused's DNA. Often, physical evidence from a crime is kept for many years. If the evidence includes samples of blood, hair, skin, or other evidence that can include DNA, it can often be used to prove that the person accused could not have committed the crime. Moreover, if it turns out that the DNA matches a profile in a database such as CODIS, the real criminal can be located and tried. From 1992 to the beginning of 2006, the Innocence Project helped exonerate 173 prisoners. Opponents of capital punishment have pushed for DNA testing to be used more regularly, and many of those who favor capital punishment agree that those convicted for a capital offense should be allowed to make use of all evidence. One of the fears that come with capital punishment is that the wrong person could be executed for a crime. A case involving a man who was executed in 1992 gained national attention in 2005 when Governor Mark Warner of Virginia ordered DNA testing on a 24-year-old DNA sample to determine whether Roger Keith Coleman had murdered his sister-in-law in 1981. Coleman had proclaimed his innocence, and although his DNA had been tested before his execution, lawyers said the examiner might have misinterpreted the results. Using more advanced technology, Coleman's DNA was tested in January 2006, and the results confirmed that he was in fact the killer. Although supporters of capital punishment said that claims of the death penalty's fallibility were unfounded, but opponents noted that the danger of a wrongful execution still existed, and called for increased use of DNA as an identification tool. The 4th Amendment: Protecting Your Privacy The Fourth Amendment to the U. S.

Constitution reads as follows: " The right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated, and no Warrants shall issue, but upon probable cause, supported by Oath or affirmation, and particularly describing the place to be searched, and the persons or things to be seized." The search and seizure provisions of the Fourth Amendment are all about privacy. To honor this freedom, the Fourth Amendment protects against " unreasonable" searches and seizures by state or federal law enforcement authorities. The flip side is that the Fourth Amendment does permit searches and seizures that are considered reasonable. In practice, this means that the police may override your privacy concerns and conduct a search of you, your home, barn, car, boat, office, personal or business documents, bank account records, trash barrel, or whatever, if: the police have probable cause to believe they can find evidence that you committed a crime, and a judge issues a search warrant, or the particular circumstances justify the search without a warrant first being issued

When the 4th Amendment Doesn't Protect You

The Fourth Amendment applies to a search only if a person has a " legitimate expectation of privacy" in the place or thing searched. If not, the Fourth Amendment offers no protection because there are, by definition, no privacy issues. Courts use a two-part test (fashioned by the U. S. Supreme Court) to determine whether, at the time of the search, a defendant had a legitimate expectation of privacy in the place or things searched: Did the person actually expect some degree of privacy? Is the person's expectation objectively reasonable -- that is, one that society is willing to recognize? For example, a person who uses a public restroom expects not to be spied upon

(the person has an expectation of privacy) and most people -- including judges and juries -- would consider that expectation to be reasonable (there is an objective expectation of privacy as well). Therefore, the installation of a hidden video camera by the police in a public restroom will be considered a "search" and would be subject to the Fourth Amendment's requirement of reasonableness. On the other hand, when the police look for and find a weapon on the front seat of a car, it is not considered a search under the Fourth Amendment because it is very unlikely that the person would think that the front seat of the car is a private place (an expectation of privacy is unlikely), and even if the person did, society is not willing to extend the protections of privacy to that particular location (no objective expectation of privacy)