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Publication Information & Recommended Citation

Gross, Samuel R. "False Convictions." P. C. Ellsworth, co-author. In *The Behavioral Foundations of Public Policy*, edited by E. Shafir, 163-80. Princeton Univ. Press, 2012.

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False Convictions

PHOEBE ELLSWORTH

SAM GROSS

False convictions have received a lot of attention in recent years. Two-hundred and forty-one prisoners have been released after DNA testing has proved their innocence, and hundreds of others have been released without DNA evidence. We now know quite a bit more about false convictions than we did thirty years ago—but there is much more that we do not know, and may never know.

Background

False Convictions and Exonerations

Conceptually, convicting an innocent person is a misclassification, an error caused by the difficulty of evaluating uncertain evidence about a past event. Few misclassifications, however, are as troubling. A false conviction may destroy the life of the innocent defendant and deeply damage the lives of those close to him. He is punished as cruelly as the worst among us, by the state, in public. He is deprived of the life he once led and labeled a criminal, perhaps a vicious predator. He knows that he is innocent; he tells the truth to the authorities, but they ignore him. And in the process they usually make another mistake: they fail to pursue the real criminal.

Historically, the dominant reaction to this problem has been denial. Judge Learned Hand expressed this view memorably in 1923: “Our [criminal] procedure has always been haunted by the ghost of the innocent man convicted. It is an unreal dream” (*United States v. Garsson*, 1923). Judge Hand, of course, knew that innocent people are sometimes convicted; his claim was that it is so extremely rare that the risk should not affect public policy. We still hear echoes of that view, but they are increasingly unconvincing.

The fundamental problem with false convictions is that they are extraordinarily hard to detect. By definition, we do not know when a conviction is wrong,

or we would not make the error in the first place: if we had a general test for innocence, we would use it at trial. The same ignorance that causes false convictions makes them exceedingly difficult to study. The only ones we know about are exonerations, those rare cases in which a convicted criminal defendant is able to prove his innocence after the fact.

A handful of such cases were known when Judge Hand wrote in 1923. Nine years later, Edwin Borchard published *Convicting the Innocent*, his classic collection of 65 exonerations dating back to the nineteenth century (Borchard, 1932). In the decades that followed several similar collections were released (Frank and Frank, 1957; Gardner, 1952; Gross, 1987; Radin, 1964), culminating in Radelet and Bedau’s compilation of 417 cases of American defendants who had been convicted of homicide or of other capital crimes in the nineteenth and twentieth centuries (Bedau and Radelet, 1987; Radelet, Bedau, and Putnam, 1992).

In the meantime, the rate of exonerations increased sharply, first in the mid-1970s, when the death penalty came back into use in the United States after a judicial hiatus (*Furman v. Georgia*, 1972; *Gregg v. Georgia*, 1976), and then again in 1989 when the first DNA exonerations occurred. As a result, there have been hundreds of exonerations in the United States in the past few decades. They have changed our view of the nature of the problem of false conviction and have had a substantial impact on the criminal justice system.

We focus on these recent exonerations, which fall into four sets:

- In January 1989, David Vasquez became the first of 241 American defendants to date to be exonerated by DNA evidence (Connors et al., 1996; Innocence Project, 2009).¹ Almost all of these exonerations involve rape, although in some cases the defendant was also convicted of another crime, usually murder.

- Since 1973, 135 defendants who were sentenced to death for murder have been exonerated and released. DNA evidence played a substantial role in 17 of these death-row exonerations (Death Penalty Information Center, 2009).
- From 1989 through 2003, at least 135 American defendants who were convicted of felonies but not sentenced to death were exonerated without the benefit of DNA evidence. Unlike the DNA and death-row exonerations, there is no authoritative list of such cases. The vast majority were from convictions for murder (78%) or rape (12%) (Gross et al., 2005).
- In the past ten years, between 140 and 200 innocent defendants were released in mass exonerations when three major police scandals came to light: two in Texas, in 2002 and 2003, and one in Los Angeles, in 1999. In each of these sets of cases, police officers were caught systematically framing innocent defendants for possession of illegal drugs or weapons (Gross, 2008).²

There have been other exonerations since 1973, but these four groups include the great majority of those that have been described in publicly available systematic collections. It is a small set of observations, perhaps 650 to 700 exonerations across the whole country over a 35-year period. It is not much to go on, but it is a lot more information than we had in 1990.

Before we proceed to what we have learned from these several hundred exonerations, we should say a few words about what we *do not* know.

First, since there is no test for the actual innocence of convicted defendants, we rely on a proxy: the actions of government officials when claims of innocence are raised. As we use the term, *exoneration* is an official act—a pardon, a dismissal or an acquittal—declaring a defendant not guilty of a crime for which he or she had been convicted, because new evidence of innocence that was not presented at trial required reconsideration of the case (Gross et al., 2005).

Some exonerated defendants are no doubt guilty of the crimes for which they were convicted, in whole or in part, but the number is probably very small. It is extremely difficult to obtain this sort of relief after a criminal conviction in America, and it usually requires overwhelming evidence. On the other hand, it is clear that countless false convictions are never discovered. That is true for entire categories of cases, as we will see, and even among cases where exonerations do sometimes occur, they frequently depend on blind luck.³

Second, we know next to nothing about false convictions for any crimes except rape and murder. These

two crimes—the most serious violent felonies—account for only 2% of felony convictions (and a much smaller proportion of all criminal convictions), but 95% of exonerations. The main reason is simple. Since almost all exonerations require large investments of scarce resources, they are only actively pursued in the most serious of cases. The 340 defendants who were exonerated and released from 1989 through 2003 spent, on average, more than 10 years in prison. Most had been sentenced to death or life imprisonment, and more than three-quarters to at least 25 years in prison (Gross et al., 2005). By comparison, 30% of all convicted felons in 2004 were not incarcerated at all, and the average term for those who were was just over 3 years (Durose and Langan, 2007).

The disproportionate attention to the most extreme cases explains the comparatively high number of exonerations among murder convictions, and especially death sentences. For rape, of course, the availability of DNA evidence has made exonerations much more accessible and common than for other serious violent felonies, for example, armed robbery. Even so, rape exonerations generally occur in the cases with the most severe sentences. Of 121 rape defendants exonerated from 1989 through 2003, over 30% were sentenced to life imprisonment, and the median sentence for the remainder was 30 years; for all defendants convicted of rape in 2000, 10% received probation, and the median sentence for the rest was 7 years (Gross, 2008).

What mistaken convictions have we left out? Of course we do not know, but we can make some educated guesses. For example, the number of wrongful convictions for robbery must be far greater than the few that have been discovered. Almost all wrongful convictions in rape cases involve eyewitness misidentifications, which are largely limited to cases in which the criminal is a stranger to the victim, but robberies by strangers outnumber rapes by strangers by a factor of 10 or more (Gross et al., 2005). In a study conducted before the advent of DNA testing, most of the comparatively few eyewitness misidentification cases that led to exonerations were robberies, not rapes (Gross, 1987). It stands to reason that false convictions for robbery still outnumber those for rape, but very few of them show up among the exonerations because there is no definitive evidence of innocence that is comparable to DNA.

Base rates suggest that most false convictions probably occur among the two overlapping groups that dominate *all* criminal convictions: (1) Comparatively light sentences, typically for comparatively minor charges. As we have seen, such cases are all but entirely missing from exonerations. (2) Guilty pleas. Over 95% of criminal convictions in America are based on guilty pleas, usually as a result of plea bargains—but only

about 6% of exonerations are of defendants who pled guilty, and they are more similar to other exonerations than to guilty pleas in general. The average sentence for 20 defendants who pled guilty and were later exonerated between 1989 and 2003 was 46 years in prison, which is not surprising given that all but one were charged with rape or murder and all faced the death penalty or life imprisonment (Gross et al., 2005).

Here again, we have scraps of relevant information, enough to disprove the common belief that innocent defendants virtually never plead guilty to crimes they did not commit (Hoffman, 2007). We know about false convictions for illegal possession of drugs and guns in the context of the *mass* exonerations that followed the discoveries of three systematic schemes by police officers to frame innocent defendants. Most of these defendants pled guilty in return for sentences far lighter than those that might warrant the cost and work that are usually required to have a chance at an individual exoneration (Gross, 2008). But how often do innocent defendants plead guilty in order to receive light sentences in other, more common contexts? And in what sorts of cases? We don't have a clue.

The Frequency of False Convictions

As recently as 2007, Justice Antonin Scalia wrote in a concurring opinion in the Supreme Court that American criminal convictions have an “error rate of .027 percent—or, to put it another way, a success rate of 99.973 percent” (*Kansas v. Marsh*, 2006). A highly comforting assessment, if true—but of course, it is absurd. The error was derived by taking the number of exonerations we know about—almost all of which occur in a tiny minority of murders and aggravated rapes—and dividing it by the total of all felony convictions, from drug possession and burglary to car theft and income-tax evasion. To actually estimate the proportion of erroneous convictions, we need a well-defined group of cases within which we can identify all mistaken convictions, or at least a substantial proportion of them. It is hard to imagine how that might be done for criminal conviction generally; however, it may be possible to do so, at least roughly, for the two types of crimes for which exonerations are comparatively common: rape and capital murder.⁴

For rape, there are some systematic data (not yet analyzed) on false convictions. In Virginia, the Department of Forensic Science has discovered hundreds of files on rape cases from the 1970s and 1980s with untested biological evidence that could be used to obtain DNA profiles of the rapists. A careful study of this DNA archive, or of similar sets of files elsewhere, could produce a good estimate of the rate of

false convictions for rape in that jurisdiction for the decade or so before pretrial DNA testing became routine. So far, all we have are the results of a preliminary run in Virginia: 2 false convictions out of 22 cases, or 9% of that tiny sample (Liptak, 2008).

Capital murder is different. It stands out from other crimes not because of any special evidentiary advantage in determining whether convictions were in error, but because far more attention and resources are devoted to death-penalty cases, before and after conviction. As a result, death sentences, which represent less than one-tenth of 1% of prison sentences, accounted for about 22% of the exonerations from 1979 through 2003, a disproportion of more than 250 to 1 (Gross and O'Brien, 2008). This suggests that a substantial proportion of innocent defendants who are sentenced to death are ultimately exonerated, perhaps a majority. If so, the rate of capital exoneration can be used as a lower bound for the rate of false conviction among death sentences. Gross and O'Brien (2008) calculated that 2.3% of all death sentences in the United States from 1973 through 1989 ended in exoneration (86/3792), and Risinger (2007) estimated that 3.3% of the defendants sentenced to death for rape murders from 1982 through 1989 were exonerated by DNA evidence; but as the researchers note, even among death sentences, the true proportion of false convictions must be higher than the observed proportion of exonerations, perhaps considerably higher.⁵

Can we generalize from the false-conviction rate for death sentences? One might suppose that the error rate for other crimes is likely to be at least as high, considering that fewer resources are devoted to less serious cases. On the other hand, Gross (1998) argued that the error rate for murder in general, and capital murder in particular, is likely to be greater than for other felonies because the authorities are under enormous pressure to solve these heinous crimes. As a result they sometimes pursue weak cases that would otherwise be dropped, cut corners, or rely on questionable evidence. Unfortunately, there are no data on this point one way or the other. What we do know is that among the most serious criminal convictions of all—death sentences—miscarriages of justice are, at a minimum, an uncommon but regular occurrence, like death from diabetes (3.1% of all deaths in the United States) or Alzheimer's disease (2.8%) (Heron, 2007).

Causes and Predictors of False Convictions

Several evidentiary and procedural factors recur among exonerations: eyewitness misidentification, false confession, fraud and error on the part of forensic analysts, perjury by jailhouse informants and other witnesses

who testify in exchange for substantial favors, misconduct by police and prosecutors, and incompetent representation by criminal defense attorneys. All of these factors have been examined by social scientists and legal researchers, some extensively.

Eyewitness error is the most common cause of false convictions. It occurs in most known cases (Garrett, 2008; Gross et al., 2005), and it is the one most thoroughly researched. Many factors that can minimize the likelihood of eyewitness error are within the control of the police (system variables, as Wells called them [1978]): obtaining an immediate detailed description of the suspect from the witness; careful choice of lineup members; instructions that caution the witness that the true culprit may not be in the lineup; presentation of the lineup by a person who does not know who the actual suspect is; carefully recording the content and timing of all communications between the police and the witness; and scrupulous refusal to communicate any information about the suspect to the witness. Laboratory studies have demonstrated that all of these factors and others can affect the testimony of the witness and the chances of misidentification (cf. Steblay and Loftus, this volume). Case studies confirm that these are the most common causes of error in false convictions that have come to light (e.g., McGonigle and Emily, 2008).

Approximately 250 false confessions have been reported since the late 1980s (Leo, 2008), and Garrett (2008) reported that they occurred in 15% of the cases of prisoners exonerated by DNA evidence. A series of laboratory studies by Saul Kassin demonstrates that ordinary people can be induced to confess to wrongdoing much more easily than is commonly believed, that tactics often used in police interrogations (such as lying about incriminating evidence) can increase the likelihood of false confessions, and that trained police investigators are not very good at distinguishing true confessions from false ones (Kassin, 2005). There is strong evidence from actual cases that suspects who are young or mentally impaired are particularly vulnerable to suggestive police tactics that encourage false confessions (Leo, 2009). Although the empirical record on false confessions is less extensive than it is for eyewitness misidentification, we know a good deal about the kinds of tactics that elicit false confessions, (Kassin, 2008), and prohibiting these tactics would certainly reduce their frequency.

Forensic error (Garrett and Neufeld, 2009), perjury by informants (Warden, 2004), and prosecutorial (Armstrong and Possley, 1999) and ineffective defense work (Scheck, Neufeld, and Dwyer, 2003) are not so subject to controlled experimentation but have frequently been found in cases of actual false convictions. Some of these problems are caused by overtaxed resources and heavy caseloads and might

be solved by spending more money. But not all. For example, forensic labs that are run by police departments are less likely to conduct unbiased analyses than fully independent labs no matter how well funded. And prosecutorial misconduct that leads to newsworthy convictions is unlikely to be punished.

There is no doubt that all these factors contribute to many, probably most, false convictions. Most innocent defendants who were misidentified, for example, would not have been convicted if no eyewitness had identified them. But information from exonerations alone is limited, even when it is reinforced by the results of controlled experimental studies. Experimental studies have identified factors that lead to evidentiary mistakes (misidentifications, false confessions), and these mistakes frequently occur in known false convictions (e.g., Scheck, Neufeld, and Dwyer, 2003). But experimental studies cannot tell us which mistakes are most important for false convictions because they do not measure false convictions. It appears, for example, that many—probably most—misidentifications (Gross, 1987) and false confessions (Drizin and Leo, 2004) do not lead to the conviction of innocent people. To really understand the significance of these factors we need to know more about the investigatory and adjudicative processes that produce false convictions.

First, we only know about the causes of those false convictions that we know about. As we have seen, that means that any generalizations we make are effectively limited to rape and murder cases that go to trial. For example, some defendants who cannot afford to post bail are offered the choice of taking plea bargains and going home on probation or insisting on their innocence and remaining in jail. That dilemma may be a major cause of false convictions for innocent defendants who plead guilty (see, e.g., PBS, 2004, the Erma Faye Stewart case), but we have no data with which to test that hypothesis. And the false convictions that are produced by this process may involve the same evidentiary and procedural factors we have discussed—or they may not: many of these cases are decided on slight evidence with little procedure.

Second, the occurrence of one of these causal elements is rarely a sufficient description of the process that led to a wrongful conviction. For example, when an innocent defendant falsely confesses after 20 hours of intensive interrogation, we must ask, Why did the police believe he was guilty and invest so much time in wringing a confession out of him? And why did they trust a confession obtained under these circumstances?

Third, while these factors are *causes* of false conviction, they are not *predictors*. For example, eyewitness misidentification appears to be the most common cause of wrongful rape convictions, occurring in nearly 90% of rape exonerations. But what does that

really tell us? With a handful of exceptions, all rape exonerations so far have occurred in cases in which there was no pretrial DNA testing. In these cases, the victim was expected to identify the defendant, unless it was physically impossible because it was dark or her face was covered. If she failed to do so, the case usually fizzled. In other words, before DNA evidence, an eyewitness identification was all but essential for a rape case to be prosecuted at all. If all rape convictions involve eyewitness identification, then all rape exonerations necessarily involve misidentification. But if we can only infer the misidentification on the basis of the exoneration, the misidentification could not have been used as a predictor of innocence.

What about police procedures that might cause an eyewitness to pick the wrong person? Experimental studies demonstrate that misidentifications can easily be caused by suggestive identification procedures: a police officer who knows which of the subjects in a lineup is the real suspect may intentionally or unintentionally make that person salient to the witness in subtle or obvious ways; or a witness may be called to the police station and shown a person in handcuffs who vaguely resembles that witness's description of the criminal; or a witness who repeatedly fails to identify the suspect's picture in different photographic lineups may eventually pick him because of a cumulative sense of familiarity (Stebly and Loftus, this volume).

But do suggestive identification procedures *predict* false convictions? That is not so clear. Suggestive tactics may be pervasive, whereas false convictions are rare. For all we know, suggestive tactics are used just as often in accurate identifications as in mistaken identifications. We know from experimental research that suggestive tactics increase the number of mistaken identifications, but suggestive identification techniques can also lead to true convictions. They may be as likely to provide the impetus that motivates an irresolute witness to declare an accurate choice as they are to produce an inaccurate one.

The same logic applies to other common evidentiary causes of false convictions. For example, as with misidentification, we know that a confession is false only after the fact, when other evidence has established the defendant's innocence. And as with suggestive identification procedures, prolonged and grueling interrogation—or controversial techniques, such as falsely telling the suspect that there is incriminating eyewitness or fingerprint evidence, or suggesting that the reason he has no memory of the crime is that he may have blacked out—might be as likely or more likely to elicit confessions from guilty suspects as from innocent ones.

To identify actual predictors of false conviction we need information about factors that can be observed in advance, before we know whether a conviction is

true or false. And we need that information not only for exonerations but also for some comparable set of true convictions as well. For the most part, such data do not exist, but a few patterns are clear enough to be apparent from comparisons between data on exonerations and statistics on rape and murder convictions in general. (1) Innocent African American men are more likely to be falsely convicted of rape than innocent white men, especially if the victim is white, probably because white Americans are much more likely to mistake one African American stranger for another than to confuse members of their own race (Meissner and Brigham, 2001). (2) Innocent teenagers accused of murder are more likely to falsely confess than are innocent adults. (3) Minority juveniles are more likely than white juveniles to be falsely convicted of rape or murder (Gross et al., 2005).

For death sentences, it is possible to make direct comparisons between true and false convictions because the available records (while far from perfect) are much more complete than for other criminal convictions. Gross and O'Brien (2008) compared death-row exonerations to a sample of executed capital defendants, with the assumption that almost all of those who were executed were guilty. They found that false capital convictions are more likely (4) if the defendant had little or no prior criminal record, (5) if the defendant did not confess, and (6) if the police investigation took a long time.

Social and Institutional Context

Overview

The common image of a false conviction is derived from the murder and rape exonerations that we know about: after a difficult and troubled investigation, an innocent defendant is convicted at trial for a heinous crime of violence and sentenced to death or life in prison. There is every reason to believe that few false convictions bear any resemblance to this picture. Ninety-eight percent of felony convictions, and a larger proportion of all criminal convictions, are for lesser crimes, mostly property crimes, drug crimes, and assaults. Ninety-five percent of felony convictions are based on guilty pleas, usually after perfunctory investigations. In that mundane context, false convictions are not dramatic errors caused by recklessness or serious misconduct but rather are commonplace events: inconspicuous mistakes in routine criminal cases that never get anything close to the level of attention that sometimes leads to exonerations.

What is more, even the most disturbing false convictions may have ordinary histories (Lofquist, 2001). Consider the case of Antonio Beaver. In 1996 a white

woman was the victim of a carjacking in St. Louis (Innocence Project, 2009). She described the criminal as a black man wearing a baseball cap with a gap between his front teeth and helped the police draw a composite sketch. Beaver was picked up a week later because he resembled the composite: he had chipped teeth. He was placed in a lineup with three other men, where he was one of two men in the lineup wearing a baseball cap and the only one with visible dental defects. He was picked by the victim, convicted at trial—even though his fingerprints did not match those on the rear view mirror of the victim’s car—and sentenced to 18 years in prison. Beaver was exonerated by DNA in 2007, after serving more than 10 years, because the victim wounded the real criminal with a screwdriver and he bled on the car seat. The actual robber was identified by his DNA and fingerprints; he was serving time for other crimes.

We tend to think that causes should be proportional to their consequences (Ross and Nisbett, 1991), so when a terrible disaster strikes, we search for a cause as dramatic as the tragedy that followed. That instinct is often false. After the Challenger space shuttle exploded in 1986, the official investigation concluded that the immediate cause was a decision by NASA managers—under bureaucratic and budgetary pressure—to proceed with the launch and override warnings from engineers of a potentially catastrophic risk. But as Vaughan (1996) demonstrated, there was nothing unusual about the launch decision. The managers decided to carry on in the face of a known danger, with the concurrence of the engineers, as they had on many other occasions. They broke no rules and followed the established practices of an organization in which it was common to classify some risks as “acceptable.” Similar patterns of routine behavior may cause most false convictions, big and small.

This sort of everyday behavior was probably behind Antonio Beaver’s tragedy. The lineup was obviously biased, but casual and suggestive lineups are common, perhaps the rule. Most likely, they only infrequently lead to false convictions. In many, if not most, cases the police do have the right guy; if they do not, the witness may not pick the innocent suspect despite the suggestive procedure, or the real criminal may turn up with the victim’s wallet in his pocket, or the false suspect may have an iron-clad alibi (e.g., he was in jail at the time of the crime). In Beaver’s case, the police ignored physical evidence from the scene—fingerprints from an unidentified person and DNA that was not tested for a decade—but that, too, is commonplace and usually harmless. The upshot was a case that drew no attention: a black man who claimed to be innocent was convicted of aggravated robbery on the basis of a single cross-racial identification at

an imperfect lineup. Most such defendants are guilty, and when they are not, we almost never find out. Beaver lucked out: the real robber bled on the car seat, the car was recovered, and a blood swab was collected and preserved.

We are not suggesting that nothing can be done about false convictions. Common practices can and often should be changed. But there are costs, and choosing the most effective reforms is not easy, especially when there is so little information about the underlying problem.

The Structure of Criminal Investigation and Adjudication

Criminal cases in America proceed through several stages.

IDENTIFYING THE CRIMINAL

The first task in any criminal investigation is to identify the criminal. This can take any amount of time or none at all. At one extreme, identification may be instantaneous (as when a killer reports a homicide and confesses) or it may precede the crime: in a sting, for example, the suspect is identified *before* the crime is committed. At the other end of the continuum, some criminals—like the notorious *Zodiac Killer*, who terrorized northern California in the late 1960s—are never identified. However long it takes, at this stage the authorities are still trying to answer the question, Who did it? The answer, whenever it comes, marks a fundamental shift in focus: from an investigation of the crime to the pursuit and prosecution of the suspect; from figuring out what happened to building a case against the person who they believe did it.

ARREST AND CHARGING

Once the criminal is identified he must be apprehended and arrested. This usually happens soon after identification, but occasionally a suspect may remain at large for a long time, or forever. Arrest triggers another set of changes. Typically, this is the point at which a prosecutor first learns about the crime. (In a minority of cases prosecutors are involved earlier, either because the crime is unusually conspicuous or because the arrest is the product of a proactive investigation rather than an after-the-fact response to a reported crime.) The prosecutor decides what charges to file, if any, and presents them in court, at which point the formal process of American criminal litigation begins. The case becomes a lawsuit with the prosecutor as plaintiff and the suspect as defendant. The defendant appears in court and hears the charges; he

may be released pending trial, or he may be detained, usually because he cannot afford to post bail; and he gets a lawyer to defend him, usually an appointed lawyer paid by the state. The adversarial structure is now complete.

PRETRIAL SORTING

The next stage of criminal proceedings is often called pretrial bargaining, but that is misleading. It suggests that trial is the expected mode of resolving a criminal case, which is false. For example, of defendants charged with felonies in 2002 in the 75 largest American counties, only 4% went to trial whereas 65% pled guilty, overwhelmingly to felonies (Cohen and Reeves, 2006). Overall, about 95% of all felony convictions in the United States are obtained by guilty pleas, usually as a result of plea bargaining between defense attorneys and prosecutors; in 2002 the proportion of guilty pleas for state-court felonies ranged from 68% of murder convictions to 98% of drug possession convictions (Durose and Langan, 2004). In some unknown proportion of these guilty pleas, the defendants are innocent.

Plea bargains are not the only cases that end before trial. Nearly a quarter of all felony cases are dismissed by prosecutors, usually because they do not have enough evidence to get convictions in court (Durose and Langan, 2003). Some of these dismissals (again, we do not know how many) happen to benefit innocent defendants. In other cases, the charges are dropped before trial because of affirmative evidence of innocence. Judging from two studies that focus on specific causes of false convictions, an innocent defendant who is arrested is more likely to be discovered and let go before trial than to be acquitted at trial or exonerated after conviction. Gross (1987) collected data on 60 misidentification cases in the United States from 1967 through 1983; in 35 cases, the charges were dismissed before trial, and in 25, the defendants were exonerated after conviction at trial; there were no acquittals. And Drizin and Leo (2004) reported on 125 suspects who falsely confessed to felonies (overwhelmingly to murder) between 1971 and 2002: 10 were arrested but never charged, 64 had their charges dismissed before trial, 7 were acquitted at trial, and 44 were exonerated after conviction.

TRIAL

Trials are uncommon among criminal cases in America but are heavily overrepresented among exonerations: they account for about 5% of felony convictions but 94% of the exonerations we know about, a disproportion of more than 350 to 1. Trials are more frequent

for the crimes that account for the great majority of exonerations—murder (32%) and rape (16%) (Durose and Langan, 2004)—but those charges may be more likely to produce exonerations in part *because* they are more likely to go to trial. The common image of an American criminal trial includes a jury, but about 60% are conducted by judges sitting alone. Either way, 80%-90% of felony defendants who go to trial are convicted.

Trial, of course, is a highly formal and adversarial affair. It is a show run by lawyers, and in criminal cases the dominant lawyer is the prosecutor, the official who represents the state, decides whether to file charges and for what crime, makes the plea offer that usually determines whether a case goes to trial or ends in a plea bargain, and, if a case does go to trial, presents the evidence gathered by the police. A prosecutor is legally and ethically bound to “seek justice,” and in particular to avoid convicting the innocent, but her main role at trial is more concrete. Like the defense attorney (who has no general obligation to the cause of justice), she is an advocate whose goal is to win. Both sides are expected to follow the rules of ethics and procedure, but within those forgiving limits, their job is to present evidence and argument and to undercut their opponents’ evidence in whatever manner seems most likely to succeed.

REVIEW

After trial, a convicted defendant may appeal, but the review he will get is limited. The basic form of review, direct appeal, is generally restricted to claims that the lower court committed procedural error. New evidence may not be presented. The appellate court may only consider evidence that was presented at trial and may not reevaluate the factual accuracy of the judgment of the judge or jury. Its sole role is to decide whether there were procedural errors at trial that were serious enough to require trying the case over again.⁶ Appellate courts reach that conclusion in only a small fraction of criminal appeals, perhaps 5%–7% (Davis, 1982; Scalia, 2001). Despite the formal rules, there is a wealth of anecdotal evidence that judges are more likely to reverse a criminal conviction on “procedural” grounds if they have doubts about the defendant’s guilt (Davis, 1982; Mathieson and Gross, 2004), but the effect on defendants who actually are innocent, if any, may not be large. Garrett (2008) looked at a sample of 121 noncapital DNA exonerations that had produced written opinions on appeal at some earlier stage of review. He found a comparatively high reversal rate, 9%, but it was essentially the same as the reversal rate for a matched group of noncapital murder and rape appeals, 10%, and, whatever the comparison,

91% of these innocent defendants had lost their appeals.⁷

Almost all exonerations occur outside the structure of direct appeal. Appellate review is not designed to deal with new evidence (Davis, 1982), and in most cases, the exonerating facts are discovered only years after the appeals have run their course. At that point the defendant may file a petition for discretionary *extraordinary relief*, asking a court to reopen his case in light of the newly discovered evidence, or he may ask the prosecutor to join him in such a petition and then dismiss the charges, or he may apply to the governor for a pardon. All of these options require substantial resources that are rarely available, since criminal defendants, who are almost always poor, have no right to appointed counsel after their direct appeal.

Obtaining relief on a claim of factual innocence is very difficult. The structure of appellate review in our legal culture reflects a deep reluctance to reconsider trial-court verdicts even in the light of substantial new evidence of error, a bias that is often justified by reference to the high value we place on the finality of judgments. In many cases a posttrial investigation has so thoroughly undermined a criminal conviction that it is clear that the defendant would be acquitted at a new trial, but no court is willing to exercise its discretion to reexamine the original conviction (see, e.g., Wells and Leo, 2008, describing the notorious Norfolk Four cases).

Other systems of appellate review may be more forgiving. In civil-law countries on the European continent the search for factual accuracy is considered an ongoing process, from trial through appeal. New evidence may be considered on appeal, trial witnesses may be recalled to provide additional testimony, and the factual conclusions of the trial court may be reconsidered and revised (Damaska, 1986). We do not know whether this more open system of review is more successful at identifying miscarriages of justice at trial.⁸

Wrongful Convictions and the Adversary System

False accusations occur in all legal systems, and all legal systems require some means of discovering them and preventing them from leading to false convictions. From the time the police identify a person as the criminal and make an arrest, the American criminal justice system is adversarial. Judges have little power to direct the investigation, call witnesses, or ask for additional evidence if they feel that what the attorneys have presented is ambiguous or incomplete. There is no official comparable to the *juge d'instruction* in France, whose sole task is to find the truth by searching for both incriminating and exculpatory evidence.

Instead, the prosecutor focuses on incriminating evidence, and the defense on exculpatory evidence.

Proponents of the adversary system argue that when each side has a vested interest in finding every scrap of evidence that favors its position, the sum of the evidence is greater than if a single person investigated the case (Fuller, 1961; Thibaut and Walker, 1975). If the case reaches trial, all of the evidence the judge or jury hears is presented by the two adversaries, the prosecutor and the defense attorney. The role of the defense attorney is relatively straightforward: to get the best possible outcome for the client. The prosecutor has a dual role: first to decide whether the evidence is sufficient to charge the suspect with the crime, and then to organize the information into a winning case. Some scholars have argued that the motivation to win the case may interfere with the motivation to find the truth (Givelber, 2001; Strier, 1996). There are no useful data on rates or discovery of false convictions in adversarial versus nonadversarial legal systems—doubtless both could be improved. But the adversary system is the one we use in the United States, and in this section, we will describe several of its psychological and structural features that may undermine the successful discovery of innocent defendants.

CONFIRMATION BIAS

When we read news stories about the exoneration of innocent people, we are often disturbed by the flimsiness of the evidence that got them convicted in the first place. A single eyewitness identifies a man, and the case proceeds to trial and conviction even though nine coworkers testify that he was on the job fifty miles away, and they would be unlikely to make a mistake since he was the only black person in the work group and “stood out like a raisin in a bowl of rice” (the Lenel Geter case, described in Gross, 1987). In another case, a boy whose mother had just been murdered was detained for more than 24 hours and grilled for 8 hours by interrogators who told him, falsely, that he had failed a lie-detector test and that the reason he had no memory of committing the crime was that he probably blacked out; he came to think it might be true and confessed (Connery, 1977, the Peter Reilly case). If the evidence in these cases looks so implausible to us, why did the prosecutors believe it?

In other cases, even after apparently incontrovertible evidence proves that the defendant could not have committed the crime (e.g., a time-coded videotape shows him somewhere else; *Schlup v. Dello*, 1995) or a DNA match shows that the perpetrator was someone else (Frisbie and Garrett, 2005, the case of Rolando Cruz and Alejandro Hernandez), police

and prosecutors continue to insist that the men they arrested and convicted are guilty. How does this happen?

At some point in every successful case, investigators must identify a prime suspect and form a theory of the case. When this happens, police and prosecutors begin to make a commitment to their theory, and they become subject to confirmation bias—the tendency to notice, believe, seek, and remember evidence consistent with their theory, while overlooking, doubting, forgetting, and reinterpreting evidence to the contrary (Findley and Scott, 2006; Nickerson, 1998). Confirmation bias is not deliberate misconduct, nor is it the conscious preparation of an argument designed to persuade a jury. It is a normal tendency to construe the world according to one's preconceptions, and it has been found in average citizens, students, doctors, accountants, and other professionals. In criminal investigations, it can lead the investigator to interpret ambiguous evidence as consistent with the prime suspect's guilt, to explain away evidence that points to someone else, and to concentrate on the suspect when searching for additional evidence. "The prime suspect becomes the only suspect" (Tavris and Aronson, 2007, p. 137). As the investigation proceeds from seeking information to building a case, it becomes possible to ignore increasingly powerful indications that the prime suspect is the wrong person.

In a series of experimental studies, O'Brien (2009) gave participants a lengthy police file and, after they had reviewed the first half of the material, asked half of them to write down the name of their prime suspect. The other participants were not asked to state a hypothesis. The second half of the file included several pieces of information that raised doubts about the guilt of the prime suspect, as well as information that was consistent with guilt. After reading the entire file, participants were given a chance to ask for additional information. Those who had named a suspect were more likely to ask for information focused on that suspect rather than other possible suspects and to interpret ambiguous or inconsistent evidence so as to make it compatible with the suspect's guilt.

Confirmation bias affects investigators even when their sole task is to discover the truth—doctors, scientists, and no doubt, *juges d'instruction*. But the task of the police and prosecutor in an adversary system is not so simple and creates contradictory demands that exacerbate this bias. As the case proceeds from initial investigation to trial, their task shifts from finding the truth to building a case against the defendant that will persuade a judge or a jury. A persuasive case requires a coherent story (Pennington and Hastie, 1992), one without loose ends, gaps, or inconsistencies. Thus

inconsistencies may be explained away or considered too trifling to communicate to the defense attorney or the jury, loose ends may be tied up, and in some cases gaps may be filled. Confident that they have caught the criminal, the authorities may inadvertently exert pressure on an eyewitness who is reluctant to make an identification or on a lab technician who cannot quite reach a conclusion. In the case of a suspect who refuses to talk, this pressure may be more intentional.

O'Brien followed up her studies of confirmation bias with a study that examined the effects of this dual role. Some participants simply named a suspect, while others were put in the role of prosecutors and were told that they would later have to persuade people that their prime suspect was in fact the criminal. Knowing that they would have to convince others that they were right led to an even stronger tendency to focus exclusively on the prime suspect, to interpret ambiguous evidence as consistent with his guilt, and to explain away inconsistent evidence.

FALSE CLAIMS OF INNOCENCE

As we have said, we do not generally know whether a criminal defendant is guilty or innocent—with one important qualification. In nearly every case, the defendant knows the truth. This private knowledge explains the special status we accord to confession, which has been called the queen of evidence. It makes it possible for our system of criminal adjudication to run almost exclusively on guilty pleas. And it means that innocent defendants can identify themselves to the authorities, and they do—all the time. Unfortunately, many guilty defendants also say they are innocent. Since we have strong reason to believe that the great majority of criminal defendants are guilty, true claims of innocence get lost in the crowd.

It is difficult to separate true claims of innocence from false ones in any context, but some features of the adversarial system make it worse. Once defense attorneys enter the picture they stop their clients from confessing—or from talking to the authorities at all; they take over all communication with the state. In that role they are expected to present their clients as innocent, if at all possible. But everybody who works in the system—prosecutors, police officers and judges—knows that this is playacting, that defense attorneys rarely believe their clients are innocent. Their job is to obtain the best outcomes for their clients, acquittal or dismissal if possible, even if the clients are guilty, and they usually are. Defense attorneys who succeed in saving "obviously guilty" clients from conviction are considered stars by their colleagues.

But what if the defendant really *is* innocent? The defense attorney, faced with dozens of spurious claims

of innocence, may not be able to detect the few that are true and rarely has the resources to conduct the sort of investigation necessary to provide convincing evidence. So defense attorneys frequently see their job as getting the best deal they can for the defendant without worrying too much about actual innocence.

PREPARATION FOR ADVERSARIAL TRIALS

We face a similar problem when it comes to presenting evidence at trial. We require witnesses to testify in public, in the presence of the defendant, following strange rules of procedure. To perform this tricky and unfamiliar role, a witness requires guidance, preparation by the lawyer who calls her. Such prepping is particularly important because her testimony includes cross-examination by an opposing lawyer whose job is to discredit her, whether or not she is telling the truth. Even truthful witnesses must be taught how to look and sound truthful; that is one of a trial attorney's most important tasks.

Adversarial preparation may produce coherent and convincing testimony, but it can also undercut accurate evaluation of the evidence at trial. A vague or uncertain witness is less persuasive than one who answers all questions without hesitation (Wells, Lindsay, and Ferguson, 1979); therefore, testimony is rehearsed and confidence is bolstered, sometimes beyond what is warranted. This process is particularly dangerous when it begins in the early stages of the investigation. The prosecutor and the police officers who work with an eyewitness are expected to help the witness identify the defendant in court with conviction and clarity. It seems in keeping with that role for an officer to tell a witness who has just tentatively picked the suspect from a lineup—"Congratulations, you got him!"—but the end result may be a misleadingly confident identification in court six months later (Wells and Bradfield, 1998).

So far what we have described is permissible witness preparation, as our system runs. But if your role as a police detective includes helping an eyewitness testify effectively, why not help her identify the defendant in the first place? It is a short step from shaping the identification *testimony* that a witness will give in court to helping that witness *make the identification* in a precinct station by steering her toward the defendant, especially if the detective has no doubt that the defendant is guilty but worries that the witness may ruin the case by failing to say so.

The same logic applies to other police procedures, such as interrogation, gathering information from snitches, and interpreting forensic evidence. If the police or prosecutors believe that they already know who the criminal is, the purpose of these procedures is not

to find anything out but instead to produce evidence that will convince a judge and jury. Reforms designed to protect the innocent will seem misguided to law enforcement officials who use these procedures not to discover the criminal but to build a case that will convict him. If they see the reforms as obstacles to convicting the guilty, they are likely to resist them or try to circumvent their effects.

GENERATING FALSE NEGATIVES

A false positive is the inclusion of an object in a category where it does not belong: diagnosing a healthy person as depressed or diabetic, for example. A false negative is the exclusion of an object from a category where it does belong: diagnosing a depressed or diabetic person as healthy. In any classification system there is a tradeoff between false positives and false negatives. Procedures that reduce one type of error often increase the other. If there are twelve major symptoms of depression—insomnia, loss of interest, suicidal tendencies, and so on—a doctor who diagnoses a patient as depressed if she shows any one of the symptoms will mistakenly include many people who are not depressed: there will be too many false positives. A doctor who requires that a patient exhibit all twelve symptoms before prescribing treatment will mistakenly miss many people who are seriously depressed: there will be too many false negatives.

Those who seek to reduce wrongful convictions—false positives—must recognize that the same reforms might also reduce the number of convictions of suspects who are actually guilty. Misleading a suspect into believing that he has been identified by an eyewitness may cause an innocent person to make a false confession, but at least as often it may cause a guilty person to give up and confess the truth, thereby increasing the probability of an accurate conviction. Many of the proposed reforms may make all convictions more difficult to accomplish, not just convictions of innocent people.

Some innovations increase the identification of the innocent without diminishing the identification of the guilty—scientifically conducted DNA analysis is the shining example—but for most there is likely to be a tradeoff. Not even the excellent safeguards against suggestive lineup procedures proposed by the American Psychology-Law Society (Wells et al., 1998) are immune from this problem. These recommendations include blind lineups, informing the witness that the culprit might not be there, and fairly constructed lineups. But they could cause a hesitant but accurate witness to fail to identify a suspect, even though the same witness might have made the identification if suggestive procedures had been employed.

For a few reforms, such as sequential lineups (Wells, 2006), preliminary evidence indicates that the likelihood of increasing false negatives is small, but so far there is little research.

There are many policy reasons to forbid suggestive identification practices, but we cannot assume that an unbiased procedure always leads to the right result. If the police actually do know who committed the crime and can get a witness to identify the person, the resulting conviction is a true conviction. Videotaping interrogations and lineups is also an excellent idea, but not foolproof: an aggressive defense attorney may find pieces of the tape that would shake the jury's confidence in the result, whether or not that result is accurate. These reforms are important, and we endorse them, but they are not cost free.

The adversary system exacerbates this problem. Good defense lawyers will exploit any weaknesses or irregularities in the prosecution to cast doubt on the guilt of the truly guilty: their job is to generate false negatives, as the prosecutors well know. Witnesses shown a blind, unbiased lineup may be less confident than witnesses shown a biased lineup, may express uncertainty, or may not identify anyone at all. The defense attorney will make the most of these weaknesses, emphasizing the witness's failure to make a confident identification. The same is true for other reforms designed to minimize false convictions: the defense will use them to cast doubt on the guilt of all defendants. Most police and prosecutors prefer to keep their investigations confidential and resist reform efforts because they may provide ammunition to the defense. An adversary system is a contest, and the search for truth is often eclipsed by the desire to win.

Policy Implications

Basic Issues

The most dramatic development in the provision of intensive medical care in the past ten years is probably the use of checklists. The best known is a simple form that requires doctors to note that they have taken several time-honored steps to prevent infections when inserting bloodstream catheters: wash hands, clean patient's skin with disinfectant, cover patient with sterile drapes, and so forth. In a pilot project in Michigan hospitals in 2004 and 2005, the use of this checklist decreased the rate of infection by 66% over 3 months; in 18 months it saved \$75 million and more than 1,500 lives (Pronovost et al., 2006). It seems that the best way to prevent bloodstream infections in intensive care units is not a new drug or better equipment but a procedure that greatly increases the odds

that doctors and nurses will do what they are already supposed to do.

Almost every reform we suggest is some version of trying to get police, prosecutors, and defense attorneys to do what they are already supposed to do. But doing that effectively is far more difficult for false convictions than for infections. For one thing, we are crippled by our ignorance. We know that checklists reduce deaths in hospitals because we can observe that outcome directly and compare mortality rates across different treatment regimes, but (by definition) we never recognize false convictions when they occur, and we only occasionally discover them later on. For example, we have no idea how many innocent defendants plead guilty or which ones do so and under what circumstances, so we are unlikely to identify the variables that matter. And we cannot learn much from field experiments. We might test a plausible technique for reducing false guilty pleas, but since we still will not be able to tell which defendants are guilty and innocent, we will not know whether it works.

The fundamental reason for our pervasive ignorance is that guilt is a classification based on imperfect information. Classifications can be wrong in more ways than one. As we have noted, reforms that reduce false positives—convicting the innocent—may increase false negatives—failing to convict the guilty. As usual in this area, we can only guess at the effects of this tradeoff, but the adversarial nature of criminal litigation makes it much more complicated. Everybody in an intensive-care unit—doctor, nurse, or technician—has the same objectives: the survival and health of the patient. In court, the defendant and his lawyer do what they can to undermine the work of the prosecutor and the police—to get a dismissal or an acquittal—whether the defendant is innocent or guilty.

And then there is the question of cost. The American medical system is famously well funded. It accounts for 16% of our gross domestic product. There are, of course, huge problems of inefficiency, lack of access, and uneven distribution of medical services, but they occur in an overall context of adequate, if not excessive, funding. The criminal justice system is starved. Few cases get anything like the attention they deserve. A plausible reform, like providing trials to 25% of felony defendants, is unattainable, and even basic good practice—for example, collecting and preserving all physical evidence in all felony cases—cannot be done on existing budgets.⁹

The Production of Evidence

When the wrong person is arrested, prosecuted, and convicted, it usually means that the evidence against

him was defective. The most important kinds of evidence for the prosecution are eyewitness testimony about what was done and who did it; physical evidence such as fingerprints, DNA, or stolen goods; and confessions. Most reforms designed to reduce the number of false convictions involve improving the collection, interpretation, and preservation of these kinds of evidence. That applies even when the focus seems to be elsewhere. For example, careful scrutiny of jailhouse snitches is important, in large part because they generally claim to report confessions by defendants, and pseudoscientific expertise, such as handwriting analysis, can provide dangerously misleading interpretations of critical items of physical evidence.

To maximize the amount of high-quality evidence, investigations should be scrupulous and thorough, even when the case against a suspect already seems to be convincing. This is most obvious with regard to physical evidence such as fingerprints, blood, semen, surveillance tapes, weapons, and other objects related to the crime. Many physical traces are ephemeral. Rain obliterates footprints, friends carry off incriminating objects, the scene of the crime is compromised, and evidence that could throw light on the crime is irretrievably lost. It is crucial that the initial search be comprehensive—rather than focused exclusively on collecting evidence against the identified suspect—and the evidence that is collected should be carefully preserved for future analysis. If DNA testing of critical evidence is possible, it should always be done. Forensic testing should be done in laboratories that are held to high standards, operate independently from police departments, and are regularly monitored (National Research Council, 2009). Unfortunately, many American crime labs fall far short of this ideal. All this will cost money, but it would be money well spent since it would increase the likelihood both of finding the true criminal in the first place and of discovering mistakes after the fact.

The use of DNA identification in rape cases illustrates the benefits of careful attention to physical evidence. Twenty-five years ago, a rape trial in which the defendant claimed to be misidentified was usually a battle of credibility: the jury had to decide whose story to believe, the victim's or the defendant's. Now, if semen is recovered, DNA testing decides most of these cases, and they rarely go to trial. And in old cases, an innocent man serving time for rape may be exonerated, and the real rapist may be identified, by comparing the sample to profiles in DNA databases—but only if semen from the crime scene was collected and preserved. In the years to come, new technologies may extend this scenario to other tests and other crimes, if the collection and preservation of the physical evidence is conscientious.

In principle, the same logic applies to interrogations, eyewitness testimony, and physical evidence that cannot be tested by means as definitive as DNA identification. If an interrogation is recorded and the recording is preserved, it is easier to tell whether the incriminating facts were provided by the suspect or by the interrogator. Recording interrogations may reduce false confessions because the police will be less likely to coerce or mislead the suspect if they know that the defense attorney and possibly the judge or jury will be able to see how the confession was obtained. If, later on, new evidence suggests that a defendant who was convicted on the basis of a confession might be innocent, the tape can be reviewed in order to reassess the authenticity of the confession.

In order to eliminate intentional or inadvertent suggestive police pressure on eyewitnesses, the officer who conducts the lineup should not know which person is the actual suspect. Several other procedures that can improve the accuracy of lineup identifications are currently used by some police departments. First, the other people in the lineup are chosen on the basis of the witness's description of the suspect, making sure that the suspect has no identifying feature that makes him stand out: a person who did not witness the crime but who read the witness's initial description should not be able to pick out the suspect (Doob and Kirschenbaum, 1973). Second, the witness is told that the criminal may not be in the lineup. Third, as soon as the witness has made a choice, she is asked how confident she is about that choice (cf. Wells et al., 1998). Fourth, if there are several witnesses, they are shown the lineup one at a time, with no information about how the others responded. All of these are good practices, and future technology may provide further improvements. For example, it may be possible to create a photo lineup on a laptop soon after a possible suspect is apprehended and show it to witnesses while their memories are still fresh.

Finally, as with police interrogations, video recording the identification procedures may inhibit police bias at the time of the identification and will create a record that can be reviewed in case of later doubts about its accuracy. Recordings of interrogations and identifications will rarely provide evidence as strong as a DNA sample, but they are far better than what we have now—inconsistent recollections of police, suspects, and witnesses.

Like extra care in collecting and preserving physical evidence, these reforms will cost money. There are other costs as well. A clear DNA match or mismatch does not raise the problem of false negatives, of letting guilty people go free. With these less conclusive forms of evidence, the very tactics that lead to false convictions may increase the number of true convictions,

and preventing the police from using these tactics will likely reduce the number of true convictions. Misleading a guilty suspect about the strength of the evidence against him may induce him to confess. Directing a witness's attention to the suspect in the lineup or urging her to make an identification may give her the confidence to identify the guilty person. Reporting an ambiguous fingerprint as a clear match might provide the extra evidence necessary to secure the conviction of the true criminal.

Recordings of interrogations or lineups may also provide powerful ammunition for shrewd defense attorneys, who could peruse them for any irregularities that may raise questions in the mind of the judge or jury, even if these irregularities should seem trivial in the context of the whole procedure. That is an inevitable consequence of the adversarial system and probably the major reason that police so often resist proposed reforms.

Big Cases and Small Cases

Almost all of the false convictions we know about—those that end in exoneration—are big cases: murders and rapes for which innocent defendants were convicted at trial and sentenced to death, life imprisonment, or decades behind bars. A case of this scope consumes hundreds or thousands of hours of effort by police officers and lawyers on both sides. Big cases are fertile ground for confirmation bias: there are many stages, many pressures, and many opportunities for investigators to become committed to their theories. Perhaps as a result, these cases also frequently involve serious misconduct by the attorneys or the officers involved. The most common type of government misconduct that we know about is the suppression of exculpatory evidence (Armstrong and Possley, 1999), but some cases include perjury by police officers (for example, forensic analysts), procuring perjury by civilian witnesses, and planting physical evidence (Gross et al., 2005). When such misconduct is discovered, it is rarely punished (Ridolfi, 2007). On the defense side, the main failing is incompetence—lawyers who do nothing to prepare for trial, never talk to their clients, or ignore alibi witnesses and exculpatory physical evidence. Here, too, the rules are unenforced (Possley and Seargeant, 2011). Even egregious neglect rarely results in reversals of convictions or sanctions against the offending lawyer.

Addressing the problems of big cases is comparatively straightforward, at least in the abstract. They are already time-consuming, uncommon, expensive enterprises, and it would not take much more time and money to do things right. Government misconduct and incompetent defense should not be tolerated.¹⁰ It

would not take a substantial increase in resources to collect and preserve physical evidence, conduct careful identification procedures, record interrogations, or conduct systematic internal review within prosecution and police agencies to identify investigative errors before trial. O'Brien (2009) found that confirmation bias was greatly reduced if the subjects were asked to list evidence against, as well as in favor of, their theory of the case. Perhaps some version of that procedure would reduce false convictions, or a prosecutor or a police officer with no other role in the investigation could review the case as a devil's advocate, looking for unexplored theories and evidence of possible errors (see also Findley and Scott, 2006).

The overwhelming majority of all criminal convictions, however, are comparatively small, routine cases: guilty pleas after cursory investigations. In the usual case, nobody—neither the defense nor the prosecution, and certainly not the court—collects any evidence once charges have been filed; as a practical matter, the initial police report, however sketchy, forms the only factual basis for a negotiated plea bargain. Some of these cases may involve affirmative misconduct—perjury, intimidation, concealing exculpatory evidence—but the nearly universal problem is simply inattention. An innocent defendant in a small case is likely to have two unattractive choices: take a bargain and plead guilty or hold out for trial, perhaps in pretrial custody, and hope that by then someone will come up with evidence of his innocence.

Inevitably, most false convictions happen in small cases, but we very rarely spot them. A global reform of plea bargaining in ordinary cases—for example, requiring an independent factual investigation by the defense attorney—would involve a basic restructuring of the system of criminal litigation and a huge infusion of money. Some reform of this sort might be worth the cost, but it is unlikely to happen in the foreseeable future and we do not know enough about false convictions in run-of-the-mill cases to know what sort of change is most likely to help. Eliminating plea bargaining entirely and providing trials to all or most defendants is out of reach, and there is no reason to believe that doing so would improve the accuracy of convictions. The alternative to a guilty plea is usually a trial, and the main reason that innocent defendants plead guilty is fear that they might be convicted at trial and receive much longer sentences. In most cases that fear is probably justified. For example, of the 35 defendants in the Tulia mass exoneration, 8 went to trial, were convicted of drug dealing, and received sentences that averaged nearly 47 years and ranged up to life imprisonment. The other 27 Tulia defendants pled guilty: 1 was not sentenced, 11 received some combination of probationary terms and fines, and 15

were sentenced to terms that averaged about 7 years (Gross, 2008).

Our only suggestion for preventing false convictions in comparatively small criminal cases is the most basic and amorphous: those who handle such cases should remain alert to the possibility that the defendant might be innocent. This applies to everyone, from police officers to judges, but it is especially important for defense attorneys, who have unlimited access to the defendants and whose job it is to protect them.

Conclusion

This chapter began with a famous quotation from Judge Learned Hand. As we conclude, it may be instructive to read it again, but in the context in which it was written (*United States v. Garson*, 1923). The question before the court was whether the defendant was entitled to see the evidence considered by the grand jury that indicted him. Judge Hand held that he was not:

Under our criminal procedure the accused has every advantage. While the prosecution is held rigidly to the charge, he need not disclose the barest outline of his defense. He is immune from question or comment on his silence; he cannot be convicted when there is the least fair doubt in the minds of any one of the twelve. Why in addition he should in advance have the whole evidence against him to pick over at his leisure, and make his defense, fairly or foully, I have never been able to see. No doubt grand juries err and indictments are calamities to honest men, but we must work with human beings and we can correct such errors only at too large a price. Our dangers do not lie in too little tenderness to the accused. Our procedure has been always haunted by the ghost of the innocent man convicted. It is an unreal dream. What we need to fear is the archaic formalism and the watery sentiment that obstructs, delays, and defeats the prosecution of crime.

In short, procedures that help criminal defendants are far more likely to obstruct the conviction of the guilty than to protect the innocent. On the specific issue that Judge Hand decided, his argument is unconvincing. In most states, grand jury records are now routinely turned over to defendants, along with many other types of prosecutorial evidence, with no apparent harm. But the fear that Hand expressed remains a basic argument against many possible reforms.

Sometimes (as with grand jury records) this reaction is nothing more than anxiety about change. Many police chiefs, for example, complain in advance that if they are required to record all station-house

interrogations, there will be a steep drop off in confessions and convictions; but in jurisdictions where this rule is implemented, the police soon switch sides and become advocates for recording (Sullivan, 2004). On other issues the problem is more complicated.

In theory, we guarantee every indigent criminal defendant an effective legal defense at state expense. But if we actually provided high-quality defense in every case (and we do not, not nearly), it would be harder to get convictions. Defense lawyers who actually investigate their cases will spot some false charges, but more often they will make the state work harder to convict the guilty. The state may have to find more evidence, do more legal work, and perhaps take more cases to trial rather than resolve them with guilty pleas. Even if the defense attorneys do not succeed in getting acquittals or dismissals for their guilty clients, the prosecutors and the police will have less time to pursue other criminals. That is Judge Hand's basic complaint.

Extreme versions of this argument are ugly. It may be cheap to convict defendants by manufacturing perjured evidence, or there may be no other way to nail a murderer you *know* is guilty, but nobody advocates perjury as a policy. On more mundane issues, however—conducting thorough investigations, providing effective defense attorneys, disclosing evidence that is unfavorable to the state, there is a serious problem. Our criminal justice system cannot possibly function as the rules say it is supposed to with the funds that we provide. Instead, we take shortcuts, of which the most common is plea bargaining, which papers over all holes in the work that precedes the guilty plea. If we actually require our public servants to do careful work, many fewer crimes will be prosecuted, unless we also greatly increase their budgets. Police and prosecutors must be forgiven for not believing that any increase in the work demanded of them will be matched by an increase in funding.

There are more than a million felony convictions a year in the United States, mostly for property or drug offenses, and millions of misdemeanor convictions. The sentences most defendants receive are comparatively light, but only comparatively. A year in jail is a harsh punishment by ordinary standards, and arrest, pretrial detention, and criminal conviction are severe punishments in themselves even if there is no post-trial incarceration. The laboratory research on factors that increase or decrease false convictions is irrelevant to most of these cases. There is often no eyewitness other than the arresting officer, no lineup, no formal interrogation. In some small cases the suspect is innocent, but our knowledge is so limited that we can offer little in the way of recommendation except to say that the problem of false convictions in this context is potentially very serious and deserves research.

Our main suggestion is distressingly vague: everyone involved in processing such routine criminals should be on the lookout for cases of possible innocence.

For major crimes, especially the murders and rapes that dominate known exonerations, we have mentioned a variety of possible reforms throughout this chapter. Most are costly, but we believe that they are worth the money. We will not achieve accuracy, either in identifying and convicting criminals or in protecting innocent suspects, by continuing to give in to our penchant for handling criminal investigations and prosecutions on the cheap.

In a world of adequate funding, we would simply say that the police and the lawyers should do what they are supposed to do and follow the practices we and others recommend. In the system that exists, we need to set priorities. We see two, and they bracket the criminal process:

First, if the initial investigation by the police is careless or incomplete, information is lost forever. Physical evidence that is lost or destroyed cannot be replaced. An interrogation that is not recorded cannot be reconstructed. Eyewitness memory that is altered by a suggestive lineup or suggestive questioning cannot be retrieved. All of these steps happen before any defense investigation can possibly begin. That means that the state has a critical responsibility to collect and preserve physical evidence, record interrogations, and conduct and record careful nonsuggestive eyewitness identifications.

Second, we should be less rigid about reopening criminal cases after conviction. No legal system can function if court judgments are subject to open-ended review, but that principle has limits. It is uncommon for substantial evidence of innocence to emerge after conviction, but when that happens, there is a real possibility that the defendant is innocent. The most efficient way to limit the harm caused by convicting the innocent is to reconsider convictions with an open mind when new evidence calls them into doubt, rather than reject the possibility because it is too late.

Notes

1. The case of Gary Dodson, who was exonerated in Illinois in August 1989 (Connors et al., 1996), is sometimes mistakenly described as the first DNA exoneration in the United States (e.g., Gross et al., 2005).

2. Unless we specify that we are discussing mass exonerations, we use the term *exoneration* to refer to cases of innocent defendants who were released as a result of proceedings that affected only their individual cases.

3. Our definition of *exoneration* also excludes known defendants who are almost certainly innocent but who have not been *exonerated*—frequently because they pled guilty to

reduced charges in order to obtain freedom. For example, in 1978 Terry Harrington and Curtis McGhee were convicted of murder in Iowa. In 2003, twenty-five years later, the Iowa Supreme Court reversed the convictions because the police had concealed evidence about another suspect. By then all the key prosecution witnesses had recanted their testimony. Both defendants were offered a deal: plead guilty to second-degree murder and go free. Harrington turned down the deal, and charges were later dismissed after the state's star witness recanted once more; he was exonerated. McGhee decided to play it safe, took the deal, and was released. He does not count as exonerated since the final outcome of his case was a conviction, even though he is just as likely to be innocent as his codefendant (Gross et al., 2005).

4. Some researchers have attempted to estimate the rate of false convictions indirectly. Huff et al. (1996) surveyed officials who work in the criminal justice system and report that the great majority believe that wrongful convictions are rare—in the range of 1%. As Gross and O'Brien (2008) pointed out, that estimate is just collective guess work—and self-serving optimism to boot. Poveda (2001) tried to balance Huff's low estimate with data from surveys of prisoners, about 15% of whom claim to be innocent, but two unreliable and biased estimates are no better than one. Other researchers have used statistical models that build on the frequency of disagreements on verdicts between trial judges and juries, as reflected in surveys of criminal trial judges, to estimate that up to 10% of criminal convictions in jury trials are erroneous (Gastwirth and Sinclair, 1998; Spencer, 2007). These models, however, do not.

5. As Gross and O'Brien (2008) pointed out, most death-sentenced inmates are removed from death row and resentenced to life imprisonment, frequently within a few years of conviction, after which they are unlikely to receive the extraordinary attention and scrutiny that are devoted to reinvestigating and reviewing the cases of prisoners who may be put to death. And, of course, some false convictions must remain undetected even for defendants who are executed or die on death row from other causes.

6. A defendant who pleads guilty may also have the right to appeal, but the appeal is usually limited to procedural issues that concern the entry of the guilty plea or the legality of the sentence.

7. The effect of appellate review may be much greater among capital cases, where the rate of reversal of death sentences, if not the underlying convictions, is far higher than the reversal rate for any other category of criminal judgments (Liebman et al., 2000). If judges are more likely to reverse death sentences when they think the defendant may be innocent—and there is strong anecdotal evidence to that effect—this would mean that most innocent capital defendants are removed from death row for procedural reasons even if they are not exonerated.

8. We are aware of a couple of recent attempts to open the process of factual review in adversarial systems of litigation but have insufficient information to evaluate their

efficacy: (1) In 1997, Great Britain, which has an adversarial common-law system that is similar in many respects to that in the United States, created a Criminal Cases Review Commission, which has the power to investigate complaints by prisoners that they were wrongfully convicted and to refer claims it deems meritorious to the appellate courts. In its first ten years, the courts took action on 313 referrals from the commission and exonerated the defendants in 187 cases, 68% of those referred (Criminal Cases Review Commission, 2009). (2) In 2007, the State of North Carolina created an Innocence Inquiry Commission that has some of the features of the British Criminal Cases Review Commission (North Carolina Innocence Inquiry Commission, 2009).

9. The federal government is an exception. The federal criminal justice system is far better financed than the state systems, from investigative agencies and prosecutors through defense attorneys and courts. There are very few exonerations in federal cases, which might in part reflect the impact of better funding, but federal cases differ sharply from state cases in many other respects as well. For example, federal cases account for about 6% of felony convictions and about 12.5% of prison inmates, but only about 1.7% of convicted murderers are in federal prisons, and murder cases account for the majority of all exonerations in the past 30 years.

10. Part of the reason for lax enforcement of the professional rules against prosecutorial misconduct and defense attorney incompetence is the belief by courts and disciplinary authorities that defendants are guilty, so no harm, no foul. The defendants usually are guilty, but that is no justification for ignoring constitutional requirements and rules of professional conduct. One way or the other, enforcing these rules cannot depend on discovering miscarriages of justice. Most are never detected, and even when they are, the time lag is so long that the offending attorney has probably forgotten all about it, or has retired, or died—or become a judge.

References

- Armstrong, K., and Possley, M. (1999, January 10–14). Trial and error. How prosecutors sacrifice justice to win. *Chicago Tribune*.
- Bedau, H. A., and Radelet, M. L. (1987). Miscarriages of justice in potentially capital cases. *Stanford Law Review*, 40, 21–179.
- Borchard, E. M. (1932). *Convicting the innocent: Errors of criminal justice*. New Haven: Yale University Press.
- Cohen, T. H., and Reeves, B. A. (2006). *Felony defendants in large urban counties, 2002* (NCJ 210818). Washington, DC: U.S. Department of Justice, Bureau of Justice Statistics.
- Connery, D. (1977). *Guilty until proven innocent*. New York: G. P. Putnam's Sons.
- Connors, E., Lundgren, T., Miller, N., and McEwen, T. (1996). *Convicted by juries, exonerated by science: Case studies in the use of DNA evidence to establish innocence after trial* (NCJ 161258). Washington, DC: U.S. Department of Justice, National Institute of Justice.
- Criminal Cases Review Commission. (2009). *Annual Report and Accounts 2008/09*. London: The Stationery Office. Retrieved from http://www.ccrc.gov.uk/CCRC_Uploads/ANNUAL_REPORT_AND_ACCOUNTS_2008_9.pdf
- Damaska, M. R. (1986). *The faces of justice and state authority*. New Haven, CT: Yale University Press.
- Davis, T. Y. (1982). Affirmed: A study of criminal appeals and decision-making norms in a California court of appeal. *American Bar Foundation Research Journal*, 7, 543–648.
- Death Penalty Information Center. (2009). Innocence and the death penalty. Retrieved from <http://www.deathpenaltyinfo.org/innocence-and-death-penalty>
- Doob, A. N., and Kirschenbaum, H. (1973). Bias in police lineups—Partial remembering. *Journal of Police Science and Administration*, 1, 287–293.
- Drizin, S. A., and Leo, R. (2004). The problem of false confessions in the post-DNA world. *North Carolina Law Review*, 82(3), 891–1007.
- Durose, M. R., and Langan, P. A. (2003). *Felony sentences in state courts, 2000* (NCJ 198821). Washington, DC: U.S. Department of Justice, Bureau of Justice Statistics.
- . (2004). *Felony sentences in state courts, 2002* (NCJ 206916). Washington, DC: U.S. Department of Justice, Bureau of Justice Statistics.
- . (2007). *Felony sentences in state courts, 2004* (NCJ 215646). Washington, DC: U.S. Department of Justice, Bureau of Justice Statistics.
- Findley, K. A., and Scott, M. S. (2006). The multiple dimensions of tunnel vision in criminal cases. *Wisconsin Law Review*, 2, 291–397.
- Frank, J., and Frank, B. (1957). *Not guilty*. Garden City, N.Y.: Doubleday.
- Frisbie, T., and Garrett, R. (2005). *Victims of justice revisited*. Evanston, IL: Northwestern University Press.
- Fuller, L. (1961). The adversary system. In H. Berman (Ed.), *Talks on American law* (pp. 10–22). New York: Vintage Books.
- Furman v. Georgia, 408 U.S. 238 (1972).
- Gardner, E. S. (1952). *The court of last resort*. New York: William Sloane Associates.
- Garrett, B. (2008). Judging innocence. *Columbia Law Review*, 108, 55–142.
- Garrett, B., and Neufeld, P. (2009). Invalid forensic science testimony and wrongful convictions. *Virginia Law Review*, 95, 1–97.
- Gastwirth, J. L., and Sinclair, M. D. (1998). Diagnostic test methodology in the design and analysis of judge-jury agreement studies. *Jurimetrics*, 39, 59–78.

- Givelber, D. (2001). The adversary system and historical accuracy: Can we do better? In S. D. Westervelt and J. A. Humphrey (Eds.), *Wrongly convicted: Perspectives on failed justice* (pp. 253–268). Piscataway, NJ: Rutgers University Press.
- Gregg v. Georgia, 428 U.S. 153 (1976).
- Gross, S. R. (1987). Loss of innocence: Eyewitness identification and proof of guilt. *Journal of Legal Studies*, 16, 395–453.
- . (1998). Lost lives: miscarriages of justice in capital cases. *Law and Contemporary Problems*, 61(4), 125–152.
- . (2008). Convicting the innocent. *Annual Review of Law and Social Science*, 4, 173–92.
- Gross, S. R., Jacoby, K., Matheson, D. J., Montgomery, N., and Patil, S. (2005). Exonerations in the United States 1989 through 2003. *Journal of Criminal Law and Criminology*, 95, 523–560.
- Gross, S. L., and O'Brien, B. (2008). Frequency and predictors of false conviction: Why we know so little, and new data on capital cases. *Journal of Empirical Legal Studies*, 5, 927–962.
- Heron, M. (2007). Deaths: Leading causes for 2004. *National Vital Statistics Reports*, 56(5), 1–96.
- Hoffman, M. (2007, April 26). The 'innocence' myth. *Wall Street Journal*, p. A19.
- Huff, C. R., Rattner, A., and Sagarin, E. (1996). *Convicted but innocent: Wrongful conviction and public policy*. Thousand Oaks, CA: Sage.
- Innocence Project. (2009). Know the cases. Retrieved from <http://www.innocenceproject.org/know/Browse-Profiles.php>
- Kansas v. Marsh, 126 S. Ct. 2516 (June 26, 2006).
- Kassin, S. (2005). On the psychology of confessions: Does innocence put innocents at risk? *American Psychologist*, 60, 215–228.
- . (2008). False confessions: Causes, consequences, and implications for reform. *Current Directions in Psychological Science*, 17, 249–253.
- Leo, R. (2008). *Police interrogation and American justice*. Cambridge, MA: Harvard University Press.
- Leo, R. A. (2009). False confessions: Causes, consequences, and implications. *Journal of the American Academy of Psychiatry and the Law*, 37(3), 332–343.
- Liebman, J. S., Fagan, J., and West, V. (2000). A broken system: Error rates in capital cases, 1973–1995. Retrieved from <http://www2.law.columbia.edu/instructionalservices/liebman/>
- Liptak, A. (2008, March 25). Consensus on counting the innocent: We can't. *New York Times*. Retrieved from <http://www.nytimes.com/2008/03/25/us/25bar.html>
- Lofquist, W. S. (2001). Whodunit? An examination of the production of wrongful convictions. In S. D. Westervelt and J. A. Humphrey (Eds.), *Wrongly convicted: Perspectives on failed justice* (pp. 253–268). Piscataway, NJ: Rutgers University Press.
- Mathieson, A., and Gross, S. R. (2004). Review for error. *Law, Probability and Risk*, 2, 259–268.
- McGonigle, S., and Emily, J. (2008, October 10). 18 Dallas County cases overturned by DNA relied heavily on eyewitness testimony. *Dallas Morning News*.
- Meissner, C. A., and Brigham, J. C. (2001). Thirty years of investigating own-race bias in memory for faces: A meta-analysis. *Psychology, Public Policy, and Law*, 7, 3–35.
- National Research Council. (2009). *Strengthening forensic science in the United States: A path forward*. Washington D.C.: The National Academy Press.
- Nickerson, R. S. (1998). Confirmation bias: A ubiquitous phenomenon in many guises. *Review of General Psychology*, 2, 175–220.
- North Carolina Innocence Inquiry Commission (2009). Retrieved from <http://www.innocencecommission-nc.gov/>
- O'Brien, B. (2009). A Recipe for bias: An empirical look at the interplay between institutional incentives and bounded rationality in prosecutorial decision making. *Missouri Law Review*, 74, 999–1050.
- PBS. (2004, June 17). *The Plea*. Frontline. Retrieved from <http://www.pbs.org/wgbh/pages/frontline/shows/plea/four/stewart.html>
- Pennington, N., and Hastie, R. (1992). Explaining the evidence: Tests of the story model for juror decision making. *Journal of Personality and Social Psychology*, 62, 189–206.
- Possley, M., and Seargeant, J. (2011). Preventable error: Prosecutorial misconduct in California 2010. Northern California Innocence Project. A Veritas Initiative Report. Retrieved from http://www.veritasinitiative.org/wp-content/uploads/2011/03/Prosecutorial_Misconduct_FirstAnnual_Final8.pdf
- Poveda, T. G. (2001). Estimating wrongful convictions. *Justice Quarterly*, 18(3), 698–708.
- Pronovost, P., Needham, D., Berenholtz, S., Sinopoli, D., Chu, H., Cosgrove, S., et al. (2006). An intervention to decrease catheter-related bloodstream infections in the ICU. *New England Journal of Medicine*, 355, 2725–2732. Retrieved from <http://content.nejm.org/cgi/content/full/355/26/2725>
- Radelet, M. L., Bedau, H. A., and Putnam, C. (1992). *In spite of innocence*. Boston: Northeastern University Press.
- Radin, E. D. (1964). *The innocents*. New York: Morrow.
- Ridolfi, K. (2007). *Prosecutorial misconduct: A systematic review*. Preliminary Report prepared for the California Commission on the Fair Administration of Justice.
- Risinger, D. M. (2007). Innocents convicted: An empirically justified factual wrongful conviction rate. *Journal of Criminal Law and Criminology*, 97, 761–806.

- Ross, L. D., and Nisbett, R. (1991) *The person and the situation*. New York: McGraw Hill College.
- Scalia, J. (2001). *Federal criminal appeals, 1999, with trends 1985–99* (NCJ 185055). Washington, DC: U.S. Department of Justice, Bureau of Justice Statistics.
- Scheck, B., Neufeld, P., and Dwyer, J. (2003). *Actual innocence: When justice goes wrong and how to make it right*. New York: Signet.
- Schlup v. Delo, 513 U.S. 298 (1995).
- Spencer, B. D. (2007). Estimating the accuracy of jury verdicts, *Journal of Empirical Legal Studies*, 4, 305–329.
- Strier, F. (1996). Making jury trials more truthful. *University of California at Davis Law Review*, 30, 142–151.
- Sullivan, T. P. (2004). *Police experiences with recording custodial interrogations*. Report presented by Northwestern School of Law, Center on Wrongful Convictions. Retrieved from http://www.jenner.com/system/assets/publications/7965/original/CWC_article_with_Index.final.pdf?1324498948
- Tavris, C., and Aronson, E. (2007). *Mistakes were made (but not by me)*. New York: Harcourt.
- Thibaut, J., and Walker, L. (1975). *Procedural justice: A psychological analysis*. Mahwah, NJ: Lawrence Erlbaum.
- United States v. Garsson 291 F. 646 (L. Hand J.) (1923).
- Vaughan, D. (1996). *The Challenger launch decision*. Chicago: University of Chicago Press.
- Warden, R. (2004). The snitch system. Chicago: Northwestern School of Law, Center on Wrongful Convictions. Retrieved from <http://www.law.northwestern.edu/wrongfulconvictions/issues/causesandremedies/snitches/SnitchSystemBooklet.pdf>
- Wells, G. L. (1978). Applied eyewitness testimony variables: System variables and estimator variables. *Journal of Personality and Social Psychology*, 36, 1546–1557.
- . (2006). *Does the sequential lineup reduce accurate identification in addition to reducing mistaken identification?* Retrieved from www.psychology.iastate.edu/faculty/gwells/SequentialNotesonlossofhits.htm
- Wells, G. L., and Bradfield, A. L. (1998) “Good, you identified the suspect”: Feedback to eyewitnesses distorts their reports of the witnessing experience. *Journal of Applied Psychology*, 83, 360–376.
- Wells, G. L., Lindsay, R. C., and Ferguson, T. J. (1979). Accuracy, confidence, and juror perceptions in eyewitness identification. *Journal of Applied Psychology*, 64(4), 440–448. doi:10.1037/0021-9010.64.4.440
- Wells, G. L., Small, M., Penrod, S., Malpass, R. S., Fulero, S. M., and Brionacombe, C.A.E. (1998). Eyewitness identification procedures: Recommendations for lineups and photospreads, *Law and Human Behavior*, 22, 603–647.
- Wells, T., and Leo, R. A. (2008). *The wrong guys: murder, false confessions and the Norfolk Four*. New York: The New Press.