IN DOUBT

The Psychology of the Criminal Justice Process

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INTRODUCTION

Criminal punishment is the most palpable and ubiquitous means by which the state maintains social order. However, before it unleashes its punitive powers, the state must determine with high certitude which human behaviors amounted to criminal events, and who perpetrated them. This feat requires compliance with an intricate legal regime that constitutes the criminal justice process. The workings of this process and the accuracy of the verdicts it produces are the subject of this book.

The following three cases offer a glimpse into the operation of the criminal justice process. Peter Rose, a California man, was charged with the rape of a thirteen-year-old girl. On the stand, the victim stated that she was 100 percent certain that Rose was her assailant, and a bystander witness stated that the perpetrator was either Rose "or his twin brother."[1] Bruce Godschalk of Pennsylvania was charged with two counts of burglary and forcible rape. The case against Godschalk was replete with incriminating evidence: one of the victims identified him; a jailhouse informant testified that he made inculpatory statements; and a forensic expert provided a blood-typing match. Critically, the prosecution presented a thirty-three-minute tape recording in which Godschalk confessed to the crimes, providing specific details that could not have been known to the public.[2] In his confession, Godschalk blamed his crime on his drinking problem, and added, "I'm very sorry for what I've done to these two nice women."[3] Kirk Bloodsworth was charged with the capital offense of raping and murdering a nine-year-old Maryland girl. At trial, Bloodsworth was identified by five eyewitnesses. The prosecution also provided testimony of statements he made about the rock that was used as the murder weapon, and a forensic investigator testified that the murderer's shoe print matched Bloodsworth's shoes.[4]

In all three cases, the evidence of guilt was indeed compelling, and the men were found guilty beyond a reasonable doubt. Rose was sentenced to twenty-seven years in prison, Godschalk was sentenced to 10–20 years, and Bloodsworth was given a death sentence. For years, nothing seemed out of the ordinary with these convictions, until DNA testing showed that none of these men had actually perpetrated the crime for which he was being punished. The witnesses who testified in these cases were mostly wrong, especially on the crucial aspect concerning the identity of the men who committed the crimes. By the time Rose was released, he had served eight years in prison, Godschalk had served fourteen and a half, and Bloodsworth had served eight years, two of which were on death row.

These cases raise a series of difficult questions pertaining to the functioning of both the investigative and adjudicative phases of the criminal justice processes: What caused the witnesses to provide mistaken testimony? Why did the police investigators, prosecutors, and jurors believe the witnesses? Could the mistakes have been caught? Most importantly, what can be done to prevent such occurrences in the future?

The View from Experimental Psychology

One of the obvious features of the criminal justice process is that it is operationalized mostly through people: witnesses, detectives, suspects, lawyers, judges, and jurors. The wheels of the system are turned by the mental operations of these actors: memories, recognitions, assessments, inferences, social influence, and decisions, all tied in with moral judgments, emotions, and motivations. Criminal verdicts can be no better than the combined result of the mental operations of the people involved in the process. It thus seems sensible to examine the workings of the criminal justice process from a psychological perspective. Fortunately, a large body of experimental psychological research is at our disposal. For some decades now, legal psychologists have been earnestly studying the conditions under which people tend to succeed or fail in fulfilling their designated roles in the operation of the criminal justice process. Likewise, research in a range of related fields—notably cognitive psychology, social psychology, and decision making—has accumulated a wealth of knowledge about the mental processing that is inevitably implicated in the workings of the process.

The principal endeavor undertaken in this book is to apply a part of this vast and dispersed body of experimental psychology toward a better

understanding of the operation of the criminal justice process. The overall observation that emanates from this research is that human performance on the tasks involved in the process can be exceedingly complicated and nuanced. Tasks that are generally taken for granted—such as identifying a stranger, remembering a specific detail from an event, and ascertaining the accuracy of such testimonies—are not as straightforward as they seem. The accuracy of these tasks is contingent on multitudes of factors, many of which are unknown, underappreciated, and easily overwhelmed by the harsh reality of crime investigations and the contentious legal process that ensues.

This observation leads to the twofold claim that lies at the heart of this book: first, in nontrivial criminal cases, the evidence produced at the investigative phase—in particular, human testimony—comprises an unknown mix of accurate and erroneous testimony, and is thus not always indicative of the defendant's guilt. The following four chapters are devoted to providing insight into the prospect of error in criminal investigations. Chapter 2 explores the work of police investigators, focusing on the conditions that can facilitate and even stoke mistaken investigative conclusions. Chapter 3 deals with the topic of identification of perpetrators by eyewitnesses. Chapter 4 examines witnesses' memory of the criminal event. Chapter 5 deals with the interrogation of suspects.

The second key claim is that the ensuing adjudicatory phase is not well suited to ascertain the accuracy of the evidence, and thus cannot distinguish reliably between guilty and innocent defendants. The limited diagnostic capabilities of the adjudicatory process are the subject of the two subsequent chapters. Chapter 6 explores problems that fact finders encounter in determining the truth from the evidence presented at trial. Chapter 7 examines the efficacy of the legal mechanisms that are designed to support the fact finders in performing that task.

In sum, the research will indicate that criminal investigations are prone to produce evidence that contains substantial errors, which the adjudicatory process is generally incapable of correcting. The compounded problems with the accuracy of the investigative phase and the diagnosticity of the adjudicatory phase lead to the conclusion that the criminal justice process falls short of meeting the level of certitude that befits its solemn nature.[5] This shortfall is generally overlooked or denied by the people entrusted with designing and governing the system—notably, police personnel, prosecutors, judges, and law makers—and it is not adequately recognized in the scholarly and public debates. Chapter 8 examines the

implications of this state of affairs and explores some systemic ways to promote the accuracy of the process.

Process Breakdowns

Criminal cases can break down in two ways. A person who perpetrated a crime might escape punishment, or an innocent person might be convicted and punished for a crime he did not commit.[6] The failure to convict guilty people—which can be loosely labeled *false acquittals* (even though most such cases do not make it to a formal acquittal at trial)—is a grave problem for an ordered society. Fewer than one-half of felony crimes are ever reported to the police,[7] and only one of every five reported felonies is cleared by an arrest.[8] Crimes are unlikely to be cleared, for example, when they are not witnessed, when the witnesses refuse to cooperate with the police, or when the witnesses cannot provide the necessary information to solve the case.[9] In these instances, the criminal justice process fails because it lacks the requisite evidence to attain a conviction. The psychological research is best suited to provide insight into cases in which evidence *is* present, particularly by identifying the conditions that make that evidence more or less likely to sustain an accurate conviction. Thus, this book will focus mostly, though not exclusively, on false convictions. It is important to note that some key recommendations proposed in this book are designed to enhance the accuracy of the evidence overall and thus stand also to reduce the incidence of false acquittals.

The steady flow of exonerations in recent years has turned a spotlight onto the accuracy of the criminal justice process.[10] Many of these exonerations have resulted from the work of the Innocence Project, cofounded by Barry Scheck and Peter Neufeld. Some critics of the system describe the recent revelations of false convictions as a momentous, even revolutionary, event.[11] In contrast, proponents of the system steadfastly trivialize their import and dismiss them as "an insignificant minimum."[12] According to a data set maintained by the Innocence Project, 281 convicted inmates have been exonerated on the basis of DNA testing as of the beginning of December 2011,[13] and many more have been exonerated by other types of evidence.[14] The true number of false convictions is unknown and frustratingly unknowable. Based on exoneration data in two categories of capital homicide, the rate of error is estimated at about 3–4 percent, with a possible upper boundary of 5 percent.[15] The rate of false convictions is most likely considerably higher. Given the difficult, even tortuous, legal hurdles that stand in the way of exposing false con-

victions, there is no doubt that a large number of falsely convicted persons have not been, and will never be, exonerated. While a detailed argument on the incidence of false convictions is beyond the scope of this book, it is worth noting that an innocent defendant stands a chance of exoneration if he was convicted for murder or rape;[16] did not accept a plea bargain;[17] was sentenced to a lengthy prison term;[18] and was able to secure good legal representation and investigation in the post-conviction phases. It is essential also that the case centered upon the identity of the perpetrator;[19] physical or otherwise strongly exculpating evidence was present;[20] and that the exculpating evidence was collected,[21] properly preserved,[22] and made available to the defendant.[23] A healthy dose of luck can be very helpful,[24] and in the absence of DNA evidence, it is all but essential.[25] Innocent people for whom any of these conditions do not obtain are unlikely to be exonerated, because the errors underlying their convictions will rarely be detected.

False convictions are the joint product of breakdowns in both the investigative and adjudicative phases of the criminal process. These breakdowns call for a closer look at the system's methods of sorting out criminal responsibility in each of the respective phases.

Investigation breakdowns. An investigative process that results in a false conviction involves a combination of failures. First, the investigation failed to discover the truth, as manifested by the simple fact that the true perpetrator got away. Second, the investigation failed to discern the faulty nature of the evidence it collected, as manifested by the fact that the investigators cleared the case and recommended it for prosecution. The least familiar, though most dire, failure is that in many instances the investigation itself contributed to the mistaken conclusion.

To better understand how mistaken testimony comes about, it would be useful to propose a distinction between two types of error. First, some errors are caused by random cognitive failures that are inherent to human cognition. This category of *spontaneous error* pertains to occasional failures in human performance that cannot be attributed to any obvious external cause. Errors are taken to be spontaneous, for example, when an honest eyewitness mistakenly confuses an innocent person with the perpetrator or when he misremembers a particular detail from the crime scene. Spontaneous errors do not have a directional tendency; they are as likely to inculpate an innocent defendant as they are to exculpate a guilty one. A number of innocent people were spontaneously misidentified by witnesses while walking down the street, shopping in a store, or riding in an elevator.[26]

However serious, these cases do not begin to capture the intricate relationship between the investigative process and the occurrence of error.

Errors can also be caused or exacerbated by situational factors. In the context of the criminal justice process, such situational factors follow from the investigative procedures or from interactions with criminal justice officials and lawyers. Such is the case when a witness picks an innocent person from a skewed lineup or reports an erroneous memory as a result of a suggestive question posed by a detective. These instances represent a second type of error, which can be labeled *induced error.*[27] Induced errors have a directional tendency to coincide with their inducing influences. As discussed in the following chapters, these influences tend more often to pull the case toward conclusions of guilt.

Although law enforcement officials tend to view false convictions as caused by spontaneous errors,[28] induced errors figure more prominently in the studied DNA exoneration cases. In the three abovementioned cases, for example, we see a transformation of the witnesses' statements toward conformity with the police's case against the suspect. The evidence presented in court was considerably different from—and indeed, more incriminating than—the witnesses' initial statements given to the police. Notwithstanding her certain identification of Peter Rose in the courtroom, the victim was initially adamant that she did not see the face of the man who dragged her into an alley, raped her from behind, and fled. When presented with a photograph lineup that contained Rose's photo, she could not pick anyone out. At the lineup, the bystander witness, who later testified that Rose was either the perpetrator or his twin brother, had actually selected a photo of an innocent filler.[29] At first, Bruce Godschalk denied his involvement in the crime, and he could not provide any details about it. By the end of the interrogation, however, he confessed to horrible deeds that he had not perpetrated, and provided intricate corroborating details that he could not possibly have known.[30] Four of the five witnesses who testified against Kirk Bloodsworth had provided the police with inconsistent and unreliable statements. One witness had previously tipped the police that the suspect matched a different person whom she knew, and a second witness had initially told investigators that she did not see the face of the perpetrator. At the lineup, one of the two child witnesses picked an innocent filler and the other failed to choose anyone.[31] Similar transformations of evidence were observed in the cases of Walter Snyder,[32] Edward Honaker,[33] Darryl Hunt,[34] William O'Dell Harris,[35] Ronald Cotton (discussed in Chapters 2 and 3), and numerous others.[36]

These cases illustrate that criminal investigations can overwhelm the often weak and vague remnants of the truth, and thus shape the testimony to substantiate a prosecution.

Another observation that has come to light from the studied exoneration cases is that the inculpating evidence presented at trial often hinged not just on a single mistaken evidence item. Rather, as seen in the cases of Rose, Godschalk, and Bloodsworth, prosecutions are typically based on an array of seemingly independent pieces of evidence, all of which connect the defendant to the crime.[37] An analysis of DNA exoneration cases shows that 71 percent of the cases involved mistaken identification, 63 percent involved forensic science errors, 27 percent involved false or misleading testimony by forensic scientists, 19 percent involved dishonest informants, 17 percent involved false testimony by lay witnesses, and 17 percent involved false confessions.[38] These evidentiary causes sum to 214 percent of the cases, which means that on average, each case was afflicted by more than two types of bad evidence.[39] In reality, the number of mistaken evidence items is much greater. For example, many misidentification cases contain erroneous testimony from multiple witnesses, and each mistaken identification typically includes numerous additional incorrect corroborating statements.

Given that these convicted persons were ultimately found to have not perpetrated the crimes, it follows that the bulk of the evidence used to convict them, if not all of it, was wrong. While it is theoretically possible that all the errors just happened to coincide, there is strong reason to suspect that they were induced by the investigative process. As discussed in Chapter 2, due to the dynamic nature of police investigations, errors can beget more errors. By way of illustration, a mistaken fact suggested by one witness can lead the detective toward a mistaken conclusion, which can then induce the forensic examiner to confirm the hypothesis, and so on. This *escalation of error* can transform even a flimsy mistake into a full-blown case replete with overwhelming evidence strong enough to support the conviction of an actually innocent person.

Adjudication breakdowns. Mistaken verdicts also entail a breakdown of the adjudicative phase. The failure to distinguish between guilty and innocent defendants typically follows from the failure to tell apart accurate and erroneous testimony. Virtually every exoneration follows a conviction by a jury or judge who believed that the faulty evidence was true beyond a reasonable doubt. Some prosecutions of innocent defendants

failed to raise even the slightest suspicion from the fact finder. One jury, for example, took no more than seven minutes to convict an innocent man for a crime that resulted in a life sentence.[40] By the same token, the limited diagnosticity of the adjudicative process can also lead to false acquittals. Indeed, some juries have refused to convict defendants in the face of compelling evidence of guilt.[41] Hence jury verdicts are often perceived to be unpredictable, even by professionals who sit through the whole trial and see all the evidence.[42]

Case Typologies

Easy and difficult cases. Not all criminal events are born equal, nor are the ensuing investigations. Police studies show that the majority of serious criminal events that get cleared are solved quite easily. In fact, most of them are solved at the first encounter with the responding patrol officer, that is, without any investigatory effort by detective units.[43] For example, crimes are solved easily when a witness identifies the perpetrator by his name, address, vehicle, or place of employment. Solving cases is also relatively straightforward when the perpetrator is caught in the act, in possession of the contraband, or singled out by means of forensic tests, surveillance cameras, or telecommunication records. This category of *easy cases* accounts for a large majority of the people sitting in prisons, but it tends to account for only a small fraction of the investigative and adjudicative resources expended. Habitually, these cases are disposed through plea bargaining, and when they do go to trial, they hardly challenge the adjudicative process. At the other extreme, there is a large category of crimes that are exceedingly difficult to solve because of a dearth of evidence, lack of resources, or noncooperation by victims and witnesses. Although some of these cases consume heavy investigative resources, most are readily abandoned. Either way, these cases tend not to be cleared, and thus do not evolve into prosecutions, not to mention convictions.

The criminal justice process is brought to bear mostly in the middle category of *difficult cases,* where solving the case is neither easy nor impossible. In these instances, the initial information made available to the responding officer falls short of enabling her to clear the crime or to single out the perpetrator. The investigative effort required to overcome this evidentiary shortfall is what makes these cases difficult. This relatively narrow category of cases consumes the bulk of the investigatory and adjudicatory resources, and it also puts the criminal justice process to the test. This category of cases is the focal point of this book.

Identity cases and culpability cases. At the most general level, criminal cases center upon two types of questions. Some cases are concerned primarily with figuring out who committed the crime, the *whodunit* question. These can be labeled *identity cases*. Accurate verdicts in this category mean that the true culprit was convicted, whereas false convictions typically mean that an innocent person was found guilty. *Culpability cases* center upon determining the criminality of a suspect whose identity is not in question. Accurate verdicts in these cases mean that the perpetrator was appropriately convicted for his criminal actions. False convictions in this category mean that the defendant's innocent behavior was mistakenly taken to be guilty, or that he was convicted on a charge that was more severe than warranted by his conduct.

This book is concerned primarily with the factual accuracy of verdicts, and thus focuses on case outcomes that can, in principle, be determined as being correct or incorrect. As such, the book pertains straightforwardly to almost all identity cases, which can be resolved by showing that the defendant was or was not the person who committed the crime. The vast majority of exonerations stem from identity cases, where subsequent evidence demonstrated that the inmate did not perpetrate the crime for which he was convicted. The book does not apply directly to questions of culpability that hinge on value judgments, such as the morality of a behavior, the reasonableness of an act, or the fairness of the law. It does, however, apply to culpability cases that revolve around determinations of factual questions such as the defendant's actions and mental states. It should be noted that culpability cases rarely result in exonerations. Culpability questions tend to hinge on subtle and elusive aspects of the criminal event, and thus are not readily subject to objective confirmation or refutation. It follows that mistaken determinations of the defendant's culpability are rarely traceable. The dearth of culpability cases among the exoneration cases should not be taken to suggest that these mistakes do not occur.

Some Caveats and Qualifications

It is imperative to keep this book's claims and objectives in perspective. While the book attempts to provide a relatively broad application of legal psychology to the criminal justice process, it necessarily leaves out some important aspects of the research. For one, it does not examine differences in performance among people, which are bound to influence verdicts under some conditions.[44] Rather, it seeks to capture broader

phenomena entailed in legal procedures and practices, and thus focuses on the overall performance of legal actors. Nor does the book deal with the performance of special populations, such as children, the elderly, and people affected by mental disease, retardation, drug dependence, and the like. By concentrating on healthy adults, the book examines the performance of the criminal justice process as it is operationalized by well-functioning actors.

The book does not offer an examination of the ubiquitous practice of plea bargaining, the process by which some 95 percent of felony convictions are obtained.[45] Plea bargaining is one of the most obscure and troubling aspects of the criminal justice system,[46] but it does not readily lend itself to psychological experimentation. Still, it warrants noting that the problems with the integrity of the evidence discussed in the following chapters are bound to affect plea negotiations no less—and, probably, even more—than they do criminal trials. Effectively, defendants' decisions to plead guilty are based on sparse, uncertain, and questionable evidence that will rarely be subjected to any meaningful scrutiny.

A substantial number of known mistaken verdicts have been caused at least in part by conscious and deliberate efforts to distort the truth. The culprits in these transgressions have been people with a stake in the outcome, such as codefendants, and overreaching or corrupt detectives, prosecutors, and forensic examiners.[47] Numerous convictions that resulted in DNA exonerations were driven by police misconduct,[48] prosecutorial misconduct,[49] and misleading or fraudulent forensic testimony.[50] Deliberate distortions are the most egregious type of miscarriage of justice, especially when perpetrated by state officials. This book, however, focuses primarily on the working of the process when all the actors seek to fulfill their roles honestly and dutifully.

The book should not be taken to stand for the proposition that the legal system is entirely insensitive to any psychological aspects involved in the production of criminal verdicts. Indeed, the criminal justice system embodies a considerable amount of psychological insight. For example, the law recognizes the possible effects of leading questions, coercion in the interrogation room, and prejudicial evidence.[51] Still, law's psychological sensibilities are mostly frozen at the state of the pre-experimental psychological knowledge that prevailed at the time these common-law rules were forged. Law's intuitions tend to overestimate the strengths of human cognition and to underappreciate its limitations. There is good reason to update the system with more reliable and nuanced knowledge of this complex matter.

The book's focus on psychological causes of mistaken verdicts should not obscure the fact that the criminal justice process is plagued by a host of other factors, which have not been the subject of substantial psychological experimentation and are thus not discussed here in any detail. The late William Stuntz repudiated the system for the excessive discretion awarded to prosecutors, inconsistent policing, the infrequency of jury trials, and the inordinate reliance on plea bargaining.[52] Other factors include insufficient access to appropriate legal representation and investigation,[53] inadequate training and lack of discipline of law enforcement personnel, improper forensic procedures, and the frequent reliance on unreliable evidence such as informants.[54]

Methodological Concerns

It must be acknowledged that the research that underlies this project is naturally susceptible to methodological concerns. No single study, body of research, or experimental method is devoid of methodological limitations. Most notably, applying psychological research to the legal world raises concerns over its *external validity,* that is, the degree to which the findings can be generalized beyond the experimental setting to the naturalistic environment.[55] Psychologists, who are habitually attuned to situational influences on human behavior,[56] are the first to acknowledge that experimental findings are sensitive to the specifics of the experimental design.[57] Critics of legal-psychological research observe that the controlled environment of the laboratory differs from the real world in important ways. The research has been criticized for overstating the import of experimental results, and more specifically, for the nonrepresentativeness of the participants, the disconnectedness from institutional contexts, and the inconsequentiality of the tasks.[58] This critique places a serious burden on researchers' shoulders. It does not, however, warrant a wholesale dismissal of the research.[59]

The concerns over the external validity of this body of research are largely allayed by its *convergent validity*.[60] The convergent validity of this research refers to the combined empirical support derived from replications of the results from studies that test different stimuli, on different populations, in different laboratories, and focusing on different facets of the issues. The convergent validity is enhanced also by triangulating a variety of methodologies, namely, basic- and legal-psychological experimentation, survey data, field studies, and archival research.[61] To be sure, not every finding mentioned in this book has been subjected to the

complete panoply of external-validity verification, though the available data invariably indicate consistency and convergence in the findings.

One valid criticism of the experimental method is that it cannot fully capture the richness of human performance, which is invariably multi-determined. By design, psychological experiments focus on only one or two aspects of the task, while keeping all the other dimensions under tight control. The research, then, is not capable of explaining how any of its observations would fare if the focal aspect were allowed to interact with each of the numerous other aspects that were controlled in the particular study. This limitation must be acknowledged, but it does not lead to the conclusion that this body of experimentation necessarily exaggerates the problems with the criminal justice process. In fact, it seems more likely to underrepresent them because many of the hidden interactions actually detract from the accuracy of the process.[62] The experimental environment tends to block out biasing factors such as the actors' motivations, incentives, subcultures, and personalities, as well as adverse social dynamics, emotional arousal, prejudice, and the like.[63] Moreover, many of the human processes involved in operating the criminal justice process are basic-psychological phenomena. People's performance on these tasks is barely amenable to improvement, but is very susceptible to contamination from poor procedures.

Still, there are reasons to guard against overstating the conclusions that can be drawn from the research results. First, the prevalent criterion for the validity of experimental findings is the statistical probability that they are attributable to the experimental treatment, as opposed to mere chance. This criterion does not speak to the strength of the treatment or to its absolute values.[64] Second, difficult cases contain an unspecifiable fraction of the array of factors that have the potential to skew the process. These factors vary in strength, and they do not all sway the process in the same direction. With the exception of extreme cases, the net effect of the biasing factors is unknowable. Thus, the experimental findings are best understood as heightened propensities, or tendencies. It would be imprudent to attempt to determine unequivocally the exact effect of any factor or whether a particular outcome was accurate or mistaken. The research can, however, enrich our understanding about which factors present a risk of error and how best to avoid them.

Toward Reform: Accurate and Transparent Evidence

The primary objectives of this book are to energize the debate about the accuracy of the criminal process and to suggest reforms that would enable it to better meet its exacting goals. Given the depth of the foregoing critique, one might well be tempted to advocate a thoroughgoing restructuring of the criminal justice system. A fundamental institutional redesign, however, is not a proximate objective of this book. Deep institutional reforms would relinquish much of the reformative potential of the psychological research. Unlike most other disciplines that are employed in the analysis of the legal system, experimental psychology operates at a granular level that enables offering direct and immediate solutions to specific problems. It would be a mistake to forego the benefits that these solutions can yield. Over the years, a number of scholars have proposed profound institutional changes to the criminal justice process. Most of these proposals have entailed adopting elements from the inquisitorial system practiced in continental European countries.[65] These proposals warrant serious consideration, but they run against the grain of the current Anglo-American legal culture,[66] and would likely require deep legislative changes and perhaps also constitutional amendments.[67] Hence, these proposals seem unlikely to be implemented in the foreseeable future. In the vein of pragmatism, the recommendations offered in this book will be limited to reforms that are practical, feasible, and readily implementable in the short or medium term. Most of these reforms are targeted directly at law enforcement officials, lawyers, and judges, and they could be adopted at the departmental level and even by the individuals themselves.[68]

The reasons for reducing the incidence of false acquittals hardly need mentioning: escaping a deserved criminal sanction negates the very purpose of the criminal justice system, and thus can undermine the foundation of an ordered society. There are also strong reasons for reducing the incidence of false convictions to the lowest feasible level. Most obviously, inflicting punishment on innocent people constitutes a grave moral transgression, and it can also devastate that person's family and dependents. Preventing false convictions also serves a public safety interest, in that every conviction of an innocent person effectively averts the pursuit and incapacitation of the true perpetrator. By the same token, uncovering false convictions can lead to the apprehension of the actual perpetrators. In almost one-half of the DNA exonerations, the evidence that cleared the innocent suspect also inculpated the true perpetrator.[69] In the

long run, minimizing false verdicts is bound to enhance the legitimacy of the criminal justice system.

Reforming the criminal justice system is a delicate and complex endeavor, particularly given the pointed adversarialism that tends to pervade all things related to criminal justice. Reforms must be designed not to reduce the overall rate of convictions or acquittals, but should be targeted as narrowly as possible at *false* convictions and acquittals.[70] Accurate evidence and correct verdicts, rather than partisan advantage, should be the goal. The two central recommendations made throughout the book are designed to address the most serious problem that affects the accuracy of criminal verdicts, namely, the problematic quality of the evidence presented in many criminal trials.

First, criminal investigations ought to be conducted meticulously according to best-practice procedures. Best-practice investigative procedures will ensure that criminal verdicts and plea bargains will be based on the most accurate account of the criminal event that can be obtained. Specific recommendations for some best-practice procedures will be offered at the end of each chapter.

In determining which procedures ought to be considered "best practice," one ought to think through the implications of the proposed reform for both false convictions and false acquittals. Contrary to widely held beliefs, criminal justice reform is not always a zero-sum game in which reducing one type of error necessarily increases the opposite one. Indeed, some of the key recommendations proposed in this book are designed to improve the quality of the evidence across the board and thus reduce both types of error at once. These win-win reforms include the use of computerized systems in eyewitness identification procedures, resorting to sophisticated interviewing protocols such as the cognitive interview, and, as discussed below, the creation of a complete record of the investigative process. A proposed reform should be noncontroversial also when it reduces one type of error substantially while causing a marginal increase, or none at all, in the opposite error. Reforms should be deemed justified also when they entail a moderate increase in the opposite error, when the marginal cases are based on evidence that is nominally correct, but unreliable.[71] It is, however, inescapable that some policy decisions entail tradeoffs between the two types of error, where the respective evidence is of similar reliability. The calculation of such tradeoffs is a complex undertaking because of the unknown distribution of truly guilty and innocent defendants in the mix of the cases and the

perplexing weighting of the social costs of the respective errors. A full discussion of all possible costs and benefits of each of the recommended reforms lies beyond the scope of this book. While even the more controversial of these recommendations seem to strike a correct balance, they could benefit from further analysis and debate.[72]

Second, all encounters with witnesses should be recorded in their entirety and the recordings should be made openly available to all parties. In other words, the goal is to make the evidence as transparent as possible. It is important to appreciate that courtroom testimony is usually proffered months, sometimes years, following the criminal event.[73] During this time, witnesses typically have numerous encounters with the legal process. They interact with investigators, cowitnesses, lawyers, and other people who have a stake in the outcome of the case, and they are subjected to procedures that have the potential to induce error. Over the natural course of the process, testimony often changes, as previously unreported details come to be included in witnesses' statements, narratives are crystallized, gaps get filled, ambiguity fades away, and tentativeness is replaced by certitude. In other words, the *synthesized* testimony that is presented at trial often differs from—and is invariably stronger than—the witnesses' *raw* statements they initially gave the police. Although raw testimony is usually the best approximation of the truth, verdicts are invariably based on the inferior synthesized version.[74]

Enhancing the transparency of the evidence should have a very favorable impact on the process. Creating a reliable record of the criminal investigation stands to improve the investigation itself. The record will provide law enforcement agencies with a tool for training, oversight, and quality assurance. This should promote adherence to best practices and deter misconduct. The record could also serve as an informational tool by capturing forensic details that would otherwise be missed. Importantly, the record will provide access to the witnesses' raw statements and thereby offer a way around the effects of memory decay, contamination, and any biases or distortions arising from the investigative and pretrial processes. The availability of a record should also have a direct effect on the witnesses themselves because their testimony could be checked against their statements to the police. Effectively, courtroom testimony will be given under the shadow of the witnesses' own raw statements. The availability of the record should also reduce any pressures applied on the witnesses to alter their testimony, and when necessary it could be used to supplement or replace the testimony given in court. Transparent procedures will

enable fact finders to focus on drawing correct inferences from the evidence, rather than conjecturing about its reliability. Greater transparency should also help jurors determine whether the testimony might have been induced or otherwise biased by the investigation itself.

The combined effect of heightened accuracy and transparency has tremendous potential to improve the performance and enhance the integrity of the process. More accurate and transparent evidence is bound to improve the ability of all decision makers—investigators, prosecutors, defense attorneys, judges, defendants, and jurors—to make more informed and well-reasoned decisions. Most notably, criminal verdicts are bound to be more accurate, and plea bargains are expected to be fairer and better calibrated with the defendant's actual guilt. Greater accuracy and transparency are bound to increase the legal actors' trust in the evidence and limit their ability to distort and hide it, which should lead to a reduction in the distrust between the adversarial parties and a softening of the contentiousness of the process. The range of plausible claims will be curbed, narrowing the opportunities for both unjust prosecutions and frivolous defenses. Greater accuracy and transparency should reduce the need to sort out murky facts through the costly, cumbersome, and imprecise process of litigation. One can also expect that the heightened level of factual clarity will result in fewer appeals, *habeas* proceedings, civil suits, and damage payouts.

However promising, the proposed recommendations should be constantly subjected to reassessment. Future research may yield somewhat different findings and contribute new insights to the policy debate. While the available psychological literature is neither perfect nor fixed in stone, it offers a wealth of sorely needed insight into the workings of the criminal justice system and it can show the way toward important reforms.