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The Limited Diagnosticity of Criminal Trials

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The Limited Diagnosticity of Criminal Trials

*Dan Simon**

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INTRODUCTION

Few political institutions play as palpable, ubiquitous, and solemn a role in the U.S. public life as the criminal justice system. The task of determining the defendant's criminal liability with a high degree of certitude is performed through the ritualized and highly proceduralized adjudicative process, with the trial at its core. The United States Supreme Court has portrayed the criminal trial as a "decisive and portentous"¹ and "paramount" event.² Trials are considered "the central institution of law as we know it,"³ the "crown jewel" of the legal system.⁴ Amidst its multiple purposes, an essential objective of the criminal trial is to determine facts: which human events constitute crimes and who perpetrated them. Specifically, the trial is designed to serve the diagnostic function of distinguishing between prosecutions of guilty and innocent people, or at least between compelling prosecutions and those that do not meet the requisite certitude.

The prevailing sentiment within the American polity and legal profession is that the trial is indeed acutely diagnostic.⁵ Naturally, the potential for accurate criminal verdicts depends on the ability of the factfinders—typically juries—to ascertain the facts accurately. The Supreme Court routinely lauds the process's factfinding capabilities.

1. *Wainwright v. Sykes*, 433 U.S. 72, 90 (1977).

2. *Herrera v. Collins*, 506 U.S. 390, 416 (1993).

3. ROBERT P. BURNS, *THE DEATH OF THE AMERICAN TRIAL* 3 (2009); JAMES BOYD WHITE, *FROM EXPECTATION TO EXPERIENCE: ESSAYS ON LAW AND LEGAL EDUCATION* 108 (1999).

4. Randall T. Shepard, *The New Role of State Supreme Courts as Engines of Court Reform*, 81 N.Y.U. L. REV. 1535, 1543 (2006).

5. See JEFFREY ABRAMSON, *WE THE JURY: THE JURY SYSTEM AND THE IDEAL OF DEMOCRACY* 5 (1994) (noting that although "juries [do not] always get their verdicts right . . . [t]o get at the good, we must risk the bad"); ROBERT P. BURNS, *A THEORY OF THE TRIAL* 153 (1999) (noting that "[t]he work of juries is generally highly regarded by those in a position to know"); NEIL VIDMAR & VALERIE P. HANS, *AMERICAN JURIES: THE VERDICT* 346 (2007) ("After evaluating all of the evidence, our verdict is strongly in favor of the American jury.").

For early exceptions to the mainstream view, see EDWIN M. BORCHARD, *CONVICTING THE INNOCENT* 367 (1932) (noting that the errors that lead to false convictions are "typical"); JEROME FRANK & BARBARA FRANK, *NOT GUILTY* 31 (1957) ("The conviction and imprisonment of innocent men too frequently occur to be ignored by any of us. There are too many cases on record to prove the point, and there may be countless others of which we know nothing.").

Even for the toughest of factual questions, the Court is “content to rely upon the good sense and judgment of American juries.”⁶

This Article seeks to answer a simple question: How good are factfinders in determining facts? In other words, how well does the criminal trial serve its diagnostic function of distinguishing between factual guilt and innocence? The need to examine this question is increasing with the mounting revelations of false convictions.⁷ Although the dust has yet to settle, the newfound cognizance of the system’s capacity to err is beginning to make some cracks in the prevailing view of the criminal justice process.⁸

One of the most distinctive features of the criminal justice process is that it is operationalized predominantly through people: witnesses, detectives, prosecutors, suspects, defense attorneys, forensic examiners, judges, and jurors. These actors turn the wheels of the system through their mental operations: perceptions, memories, recognitions, assessments, inferences, judgments, and decisions—all tied in with emotions, affective states, motivations, role perceptions, and institutional commitments. As the process can perform no better than the mental performance of the people involved, it seems sensible to examine its workings from a psychological perspective. Fortunately, a very large body of germane experimental psychological research is available. For some decades now, legal-psychologists have been earnestly studying people’s performances in fulfilling their designated roles in the operation of the criminal justice process. Likewise, basic-psychologists—notably cognitive-psychologists, social-psychologists, and decisionmaking researchers—have been studying a wide range of mental processing that is implicated in the workings of the criminal justice process.

6. *Manson v. Brathwaite*, 432 U.S. 98, 116, (1977). It should be noted that informal factfinding is performed at other times by other actors, including prosecutors, judges, and even defense attorneys.

7. BRANDON GARRETT, *CONVICTING THE INNOCENT: WHERE CRIMINAL PROSECUTIONS GO WRONG* (forthcoming Apr. 2011); THE INNOCENCE PROJECT, *250 EXONERATED: TOO MANY WRONGFULLY CONVICTED 1* (2010), available at http://www.innocenceproject.org/docs/InnocenceProject_250.pdf; Samuel R. Gross et al., *Exonerations in the United States 1989 Through 2003*, 95 J. CRIM. L. & CRIMINOLOGY 523, 523–24 (2005).

8. See, e.g., Arnold H. Loewy, *Taking Reasonable Doubt Seriously*, 85 CHI.-KENT L. REV. 63, 66 (2010) (noting that “a generation ago, most of the citizenry truly believed that innocent people were rarely, if ever, convicted” while today “the citizenry must be far less at ease”). See generally Symposium, *Convicting the Innocent*, 41 TEX. TECH L. REV. 1 (2008).

This Article focuses on the performance of factfinders.⁹ Part I examines people's ability to perform the central factfinding task: the drawing of correct inferences from the types of human testimony that are typically presented in criminal trials. This examination covers people's ability to determine whether a witness's identification of the perpetrator is correct, whether her memories of the event are accurate, whether the defendant's confession offers a truthful account of her deeds, whether a proposed alibi is true, and whether a witness is lying or telling the truth. This Part goes on to examine two systemic factors that cloud the task of deciphering evidence: false corroboration and the paucity of the investigative record. Part II examines non-evidential aspects of the task that have the potential to further hinder and bias the decisionmaking process. This examination looks at the courtroom environment, notably at various forms of persuasion and the arousal of emotion. It also examines the effects of exposure to impermissible information, racial prejudice, and the possible bias borne by the decisionmaker's cognitive process itself, namely, the *coherence effect*.

The psychological research indicates that the cognitive processing involved in discovering the truth in difficult cases is more complex and fickle than generally believed. The determination of facts is influenced by a variety of factors, some of which are well known in the legal literature, while others are unknown, under-appreciated, and, at times, counterintuitive. Accurate determinations require high levels of attentiveness, meticulousness, and commitment to reaching the truth, which are often absent from the hard-hitting practices of the adversarial process. As a result, factual findings are bound to contain an appreciable level of inaccuracy, and are also vulnerable to manipulation. While faulty factual determinations lead mostly to the prosecution of innocent people, they can also result in dropped charges against truly guilty people and even in wrongful acquittals. The prospect of error is generally ignored or denied by those entrusted with governing the criminal justice system, and is not adequately recognized in the scholarly debate.

In sum, I argue that in difficult and contested criminal cases, the adjudicative process falls short of delivering the level of diagnosticity that befits its epistemic demands and the certitude that it proclaims. A primary purpose of this Article is to critically examine

9. For discussions of other actors throughout the criminal justice process, see DAN SIMON, *IN DOUBT: A PSYCHOLOGICAL INQUIRY INTO THE CRIMINAL JUSTICE PROCESS* (forthcoming; tentative title).

the predominant view of the adjudicative process, namely, the sanguine trust in its ability to accurately determine factual truth.¹⁰ Second, the Article is intended to enrich the legal debate with germane, yet mostly unfamiliar, knowledge gleaned from psychological research. Third, the piece examines possible avenues for reform. Although some of the constraints on the process's diagnosticity are rather impervious to modification, there is room for progress. Diagnosticity can be enhanced by limiting the admissibility of unreliable evidence, increasing the use of expert witnesses, and instructing jurors to refrain from relying on unreliable cues, especially the witnesses' demeanor. More importantly, the adjudicative process stands to benefit from enhancing the integrity of the evidence from which verdicts are made. This can be achieved foremost by making the investigatory process transparent to the factfinders. Any prospects of reform are contingent on a reassertion of the value of factual accuracy as its predominant desideratum and a frank acknowledgment of the limited diagnosticity of the process.

Some caveats and clarifications are in order. The following discussion applies only weakly to the large category of cases that, from a forensic perspective, can be considered easy ones. Studies of police investigations show that, in the majority of the cases that are cleared, the identity of the perpetrator and the important details of the crime were never in doubt.¹¹ While this class of cases yields a large majority of the prison population, it accounts for but a small fraction of the adjudicative procedures. These cases tend to be disposed through plea bargaining, by which more than ninety percent of felony convictions are obtained.¹² The few such cases that do go to trial tend not to tax the adjudicatory process. This Article pertains primarily to the class of difficult cases, in which the evidence is more complex, less obvious, and relies heavily on human testimony. These are the cases that

10. For an early critique, see JEROME FRANK, *COURTS ON TRIAL: MYTH AND REALITY IN AMERICAN JUSTICE* 16 (1949) (noting that there can be "no assurance" that facts as adduced by a trial court will coincide with the "actual, past facts").

11. The well-known RAND study on police investigations concludes that a majority of the serious crimes that get cleared are solved by the time the crime is first reported to the responding patrolman. PETER W. GREENWOOD ET AL., *THE CRIMINAL INVESTIGATION PROCESS VOLUME III: OBSERVATIONS AND ANALYSIS* 66 (1975). Likewise, in the United Kingdom, it has been estimated that some seventy percent of homicide cases can be considered "self-solvers." Martin Innes, *The "Process Structures" of Police Homicide Investigations*, 42 *BRIT. J. CRIMINOLOGY* 669, 672 (2002).

12. MATTHEW R. DUROSE & PATRICK A. LANGAN, U.S. DEP'T OF JUSTICE, *FELONY SENTENCING IN STATE COURTS*, 2004, at 1 (2007), available at <http://bjs.ojp.usdoj.gov/content/pub/pdf/fssc04.pdf>.

consume most of the adjudicative resources. These are also the cases that put the diagnostic capabilities of the trial to the test.

The following discussion focuses almost exclusively on determinations of facts that are, at least in principle, discernable—notably, the identity of the perpetrator and the physical acts and circumstances of the criminal event. This Article has little to say about value judgments that factfinders are called to make, such as the reasonableness of an act, the morality of a behavior, or the fairness of the law. The Article will focus mostly on the performance of lay people, who serve the factfinding function in the large majority of criminal trials. Its purpose, however, is not to question the suitability of juries for the task, nor to compare them to judges. A mounting body of studies finds that judges do not perform much differently than lay people in many factfinding tasks.¹³ The limitations of human cognition observed in the research appear to exceed any possible differences between the two decisionmaking entities. The suitability of the jury as the preferred factfinding body is left for another day. Finally, the Article focuses on decisions made by actors who honestly believe that they are fulfilling their roles properly. Deliberate dishonest conduct raises different sets of issues, which lie beyond the scope of this project.

Applying experimental research to any practical context raises concerns over the external-validity of the research, that is, the appropriateness of generalizing laboratory findings to the real world. Indeed, legal psychological research has been criticized on these grounds.¹⁴ This concern places a serious burden on researchers'

13. For example, federal magistrate judges did not perform better than lay subjects in tasks involving anchoring effects, hindsight bias, and egocentric bias, but did perform better in tasks involving framing effects and the representativeness heuristic. Chris Guthrie, Jeffrey J. Rachlinski & Andrew J. Wistrich, *Inside the Judicial Mind*, 86 CORNELL L. REV. 777, 826–27 (2001). Bankruptcy judges were found to be susceptible to anchoring and framing effects, but appeared uninfluenced by the omission bias and some emotional factors. Jeffrey J. Rachlinski, Chris Guthrie & Andrew J. Wistrich, *Inside the Bankruptcy Judge's Mind*, 86 B.U. L. REV. 1227, 1256–57 (2006). On the Cognitive Reflection Task, which tests people's ability to override erroneous intuitive judgments, judges performed better than undergraduate students from some colleges, but poorer than students from four elite universities. Chris Guthrie, Jeffrey J. Rachlinski & Andrew J. Wistrich, *Blinking on the Bench: How Judges Decide Cases*, 93 CORNELL L. REV. 1, 14–15 (2007). Amongst other findings, judges performed rather poorly at ignoring evidence which they themselves determined was inadmissible.

14. See, e.g., Vladimir J. Konečni & Ebbe B. Ebbesen, *Courtroom Testimony by Psychologists on Eyewitness Identification Issues: Critical Notes and Reflections*, 10 LAW & HUM. BEHAV. 117, 121 (1986) (noting that “[v]irtually none of [psychologists’] simulations have been validated in terms of the real-world situations . . . either in general, or in reference to a particular trial, defendant, and crime” (citation omitted)); Michael McCloskey et al., *The*

shoulders. It does not, however, warrant an unreflective dismissal of the research.¹⁵ Though imperfect, the psychological research offers a wealth of sorely needed insight into the workings of the criminal justice system.

The Article should not be taken to stand for the proposition that the legal system is entirely insensitive to the psychological aspects involved in the production of criminal verdicts. The legal process contains a considerable amount of psychological intuitions.¹⁶ Still, the law's psychological sensibilities are often limited and inaccurate, and are frozen at the pre-experimental state of knowledge that prevailed at the time these common law rules were forged. There is good reason to update the legal system with more reliable and nuanced knowledge of human behavior.

I. DECIPHERING THE TESTIMONY

This Part examines people's ability to draw inferences from types of evidence that are typical of criminal trials. The focus is on human testimony, which is an essential ingredient in almost every trial. The discussion examines situations where the factfinder does not have verifiable information that originates from external sources, such as a DNA match or surveillance camera footage. The task, then, is to

Experimental Psychologist in Court: The Ethics of Expert Testimony, 10 LAW & HUM. BEHAV. 1, 2 (1986) ("The need to examine the ethics of expert testimony by experimental psychologists is underscored by the fact that this sort of expert testimony is rapidly increasing in frequency.").

15. Brian H. Bornstein, *The Ecological Validity of Jury Simulations: Is the Jury Still Out?*, 23 LAW & HUM. BEHAV. 75, 88 (1999); Shari Seidman Diamond, *Illuminations and Shadows from Jury Simulations*, 21 LAW & HUM. BEHAV. 561, 567 (1997). The response to this concern lies in the power of convergent validity, that is, the combined empirical support derived from replicating the results, testing different stimuli on different populations and in different laboratories, and focusing on different facets of the issues. The research is validated also by triangulating a variety of methodologies, including basic and legal psychological experimentation, survey data, field studies, and archival research. To be sure, not every finding mentioned in this Article has been subjected to the complete panoply of external-validity verification, though the available data indicate that the findings are typically consistent and resilient. Undoubtedly, some of the findings will be altered by future research. See Dan Simon, *In Praise of Pedantic Eclecticism: Pitfalls and Opportunities in the Psychology of Judging*, in THE PSYCHOLOGY OF JUDICIAL DECISION MAKING 131, 143 (David Klein & Gregory Mitchell eds., 2010) (discussing the application of experimentation to judicial decisionmaking).

16. For example, the legal regime manifests a certain awareness of the possible effects of leading questions, biased identification lineups, and coercion in the interrogation room. A psychological sensibility also underlies the limitations on admissibility of prejudicial evidence, bad character, and criminal record. See FED. R. EVID. 403-04; MCCORMICK ON EVIDENCE 742 (Kenneth S. Broun et al. eds., 6th ed. 2006) ("[J]urors may regard personality traits as more predictive of individual behavior than they actually are . . .").

draw correct inferences directly from the witnesses' testimony itself. An overarching objective of the adjudicatory process is to ensure that the inferences drawn comport generally to a standard of rationality.¹⁷

Three preliminary issues are worthy of note. Foremost, it is crucial to acknowledge that the factfinder does not have at her disposal the witnesses' unadulterated account of the events, which I will call *raw evidence*. For one, courtroom testimony is usually proffered months, sometimes years, following the criminal event.¹⁸ Moreover, the investigation itself can induce erroneous testimony.¹⁹ Over the course of the investigation and preparation for the adversarial contest, the evidence often undergoes editing,

17. The dominant standard is encapsulated in what William Twining has labeled the "rationalist tradition of adjudication." *E.g.*, WILLIAM TWINING, *RETHINKING EVIDENCE: EXPLORATORY ESSAYS* 32–91 (1990). This tradition dates back to Bentham and can be traced through the writings of James Fitzjames Stephen, James Bradley Thayer, John Wigmore, and Lon Fuller. Fuller described adjudication as "a device which gives formal and institutional expression to the influence of reasoned argument in human affairs. As such it assumes a burden of rationality not borne by any other form of social ordering." Lon L. Fuller, *The Forms and Limits of Adjudication*, 92 HARV. L. REV. 353, 366 (1978). This theme is echoed by the Supreme Court. *See, e.g.*, *Taylor v. Kentucky*, 436 U.S. 478, 485 (1978) (noting that the presumption of innocence "cautions the jury to put away from their minds all the suspicion that arises from the arrest, the indictment, and the arraignment, and to reach their conclusion solely from the legal evidence adduced"). A model of adjudication based on the "rationalist tradition" does not imply that jurors employ formal mathematical models, such as Bayes's Theorem, in evaluating evidence. Rather, it assumes that the process is performed in a generally rational manner and free of systematic biases. *See* Reid Hastie, *Algebraic Models of Juror Decision Processes*, in *INSIDE THE JUROR* 84, 86 (Reid Hastie ed., 1993) ("The juror arrives at a degree of belief that the defendant is guilty based on the implications of relevant information . . .").

18. Based on data from the seventy-five largest counties in the nation, the median time from arrest to adjudication for various felonies, including rape, robbery and, assault, is in the range of four to six months, and just over a year for murder. Invariably, the periods are considerably longer in the cases that actually go to trial. TRACEY KYCKELHAHN & THOMAS H. COHEN, DEPT OF JUSTICE, *FELONY DEFENDANTS IN LARGE URBAN COUNTIES, 2004 – STATISTICAL TABLES* tbl.18 (2008), available at <http://bjs.ojp.usdoj.gov/content/pub/html/fdluc/2004/fdluc04st.pdf>.

19. As discussed in detail elsewhere, the evidence produced by the investigation is not an unadulterated reproduction of reality and oftentimes is not even a faithful reproduction of the witnesses' original accounts. Police investigations are effectively conducted in a quasi-adversarial manner, at least after the suspect has been identified and often placed under arrest. Detectives are prone to engage in hypothesis-confirming search strategies, expose themselves mostly to confirmatory information, scrutinize the facts in a selective manner, and selectively determine the stopping point of the inquiry. Importantly, the research shows that witnesses are sensitive to a host of inducing behaviors, which usually results in testimony that conforms to the investigators' beliefs and their quasi-adversarial motivations. *See* SIMON, *supra* note 9, chs. 2–5; Keith A. Findley & Michael S. Scott, *The Multiple Dimensions of Tunnel Vision in Criminal Cases*, 2006 WIS. L. REV. 291, 314–16 (discussing the effect of confirmation bias on criminal investigations); D. Michael Risinger, Michael J. Saks, William C. Thompson & Robert Rosenthal, *The Daubert/Kumho Implications of Observer Effects in Forensic Science: Hidden Problems of Expectation and Suggestion*, 90 CAL. L. REV. 1, 1 (2002) (same).

embellishment, and alteration.²⁰ Thus, by the time the memorial account is presented at trial, it has both decayed and been subjected to conditions that are conducive to contamination. The transformation of evidence also guts some of the traces of accuracy that occasionally accompany the testimony. Determining the facts accurately from this *synthesized evidence* is a daunting task. This is one of the most serious impediments to accurate factfinding in the criminal justice process.

The process's ability to distinguish between guilty and innocent defendants is further hindered by the extensive case selection that precedes adjudication. Guided primarily by the twin goals of reducing caseloads and obtaining favorable verdicts, both prosecutors and defense attorneys are disposed to plea bargain cases that they prefer not to try.²¹ The strategic calculus that underlies the selection of cases is driven to a large extent by the attorneys' predictions of the jury's

20. While the primary purpose of human testimony is supposedly to convey sensory information, in practice witnesses are oftentimes intricately entangled in the social tragedy surrounding the criminal event and at times also vested in the outcome of the case. Defendants who testify in their own defense are habitually motivated to save themselves from punishment. Victim-witnesses too can be motivated towards a particular outcome, typically, to see their perceived perpetrators suffer punishment. A witness's motivation can strengthen her persuasiveness and thus affect the outcome of the case. Cf. Craig A. Anderson, *Motivational and Performance Deficits in Interpersonal Settings: The Effect of Attributional Style*, 45 J. PERSONALITY & SOC. PSYCHOL. 1136, 1142–43 (1983) (analyzing the effect of motivation on the likelihood of success).

Yet even seemingly disinterested witnesses can become swayed towards a particular side of the case. Lawyers routinely prepare witnesses prior to the trial; indeed, failing to do so can amount to a breach of the professional responsibility owed to the client. Professional ethics standards permit lawyers to engage in serious discussions with the witnesses about their testimony. RESTATEMENT (THIRD) OF THE LAW GOVERNING LAWYERS § 116 (2000). The concern is that this process can mold the witness's testimony to fit a particular result, thus weakening its correspondence to the true facts. One study found that after being interviewed by a simulated lawyer, witness testimony became skewed in favor of the side of that lawyer. Blair H. Sheppard & Neil Vidmar, *Adversary Pretrial Procedures and Testimonial Evidence: Effects of Lawyer's Role and Machiavellianism*, 39 J. PERSONALITY & SOC. PSYCHOL. 320, 321–25 (1980). Another study found that forewarning a prosecution witness about an expected hostile cross-examination by the defense attorney resulted in a strengthening of the witness's inculpatory testimony and in higher conviction rates. The effect was most pronounced for witnesses whose testimony was actually mistaken. Gary L. Wells, Tamara J. Ferguson & R. C. L. Lindsay, *The Tractability of Eyewitness Confidence and Its Implications for Triers of Fact*, 66 J. APPLIED PSYCHOL. 688, 693 (1981). Moreover, the mere summoning a witness to testify for one of the parties can create an affiliation and even camaraderie between the witness and that side. One study found that the mere assignment of bystander witnesses to testify for one side or the other swayed their testimony towards the assigned side. Neil Vidmar & Nancy MacDonald Laird, *Adversary Social Roles: Their Effects on Witnesses' Communication of Evidence and the Assessment of Adjudicators*, 44 J. PERSONALITY & SOC. PSYCHOL. 888, 893–95 (1983).

21. In some instances, such as murder charges and third-strike prosecutions, prosecutors might not offer a plea deal, and defendants might be inclined to proceed to trial even in the face of strong inculpatory evidence.

reactions to the evidence. Thus, cases are more likely to go to trial when the expectations of the jury's decision are not easily predictable, that is, where the evidence is least clear. Moreover, anecdotal data indicate that some innocent defendants prioritize proving their innocence over the cost-benefit calculations that generally dictate plea bargains.²² Likewise, laboratory data show that innocent defendants are less likely to strike a plea bargain than guilty ones.²³ Thus, innocent defendants are more inclined to go to trial than guilty ones.

Finally, the manner in which verdicts are impacted by an error depends on the particular constellation of the case. Some errors bear nondirectional, random effects, thus resulting in a stochastic distribution of false convictions and false acquittals. Other types of error, however, harbor systematic biases towards either one of the sides, and will naturally tend to sway the verdict in the respective direction. Yet, even nondirectional factors can have systematic effects on adjudicative outcomes, as astute attorneys can leverage these factors in plea negotiations or deploy them to their advantage at trial.

A. Eyewitness Identification Testimony

About three-quarters of the known false convictions were caused primarily or exclusively by a misidentification of an innocent suspect.²⁴ A key feature of identification evidence is that the accuracy of identifications of strangers varies widely. In one study, changes in the witnessing conditions of the same person resulted in swings of

22. See, e.g., Jim Vertuno, *Judge Clears Dead Texas Man of Rape Conviction*, AUSTIN AM.-STATESMAN, Feb. 7, 2009, at B1 (discussing the case of Timothy Cole, who refused to plead guilty to rape charges; Cole was exonerated ten years after he died in prison while serving his sentence); Phoebe Zerwick, *Murder, Race, Justice: The State vs. Darryl Hunt*, WINSTON-SALEM J., Nov. 16–23, 2007, <http://darrylhunt.journalnow.com/frontStories.html> (discussing the case of Darryl Hunt, who refused to plead guilty to murder and rape charges; Hunt was exonerated nearly twenty years later).

23. W. Larry Gregory et al., *Social Psychology and Plea Bargaining: Applications, Methodology, and Theory*, 36 J. PERSONALITY & SOC. PSYCHOL. 1521, 1521 (1978); Avishalom Tor et al., *Fairness and the Willingness to Accept Plea Bargain Offers*, 7 J. EMPIRICAL LEGAL STUD. 97, 99–100 (2010).

24. Brandon L. Garrett, *Judging Innocence*, 108 COLUM. L. REV. 55, 78 (2008); Gross et al., *supra* note 7, at 542–43; *Eyewitness Misidentification*, THE INNOCENCE PROJECT, <http://www.innocenceproject.org/understand/Eyewitness-Misidentification.php> (last visited Nov. 11, 2010). The prevalence of misidentifications amongst the known wrongful convictions stems from the fact that a disproportionate number of exonerations are for crimes of rape, which tend to be based on identification evidence.

accuracy levels from fourteen to eighty-eight percent.²⁵ Many thousands of naturalistic and experimental observations reveal a relatively stable pattern. Data from real-life cases show that about forty-five percent of witnesses pick the suspect, thirty-five percent decline to make a choice, and twenty percent pick an innocent filler.²⁶ Similar data are observed in the laboratory.²⁷ In other words, about one out of every three positive identifications is wrong. Much of the psychological research that has been acknowledged in legal debates concerns the accuracy of witnesses' identifications.²⁸ The following discussion focuses rather on the adeptness of jurors in assessing those identifications, that is, in distinguishing between accurate and mistaken witnesses. The research indicates that people are not particularly adept at this task. Studies find that simulated jurors are just as likely to believe accurate and inaccurate identifications.²⁹ The

25. D. Stephen Lindsay, J. Don Read & Kusum Sharma, *Accuracy and Confidence in Person Identification: The Relationship Is Strong When Witnessing Conditions Vary Widely*, 9 PSYCHOL. SCI. 215, 216 (1998).

26. Most of the naturalistic data on this effect comes from police records in the United Kingdom, where identification procedures are generally superior to those used in the United States and where police data are more accessible to researchers. Cases reviewed by Valentine and colleagues covering 584 witnesses found rates of forty-one percent identifications of the suspect (closest approximation of correct identifications), thirty-nine percent no-choice decisions, and twenty-one percent foil identifications. Tim Valentine et al., *Characteristics of Eyewitness Identification That Predict the Outcome of Real Lineups*, 17 APPLIED COGNITIVE PSYCHOL. 969, 974 (2003). Wright and McDaid examined identifications involving 1,569 witnesses and found rates of thirty-nine percent, forty-one percent, and twenty percent, correspondingly. Daniel B. Wright & Anne T. McDaid, *Comparing System and Estimator Variables Using Data from Real Line-Ups*, 10 APPLIED COGNITIVE PSYCHOL. 75, 77 (1996). The limited available data from the United States shows similar distributions: police records of identifications performed in Sacramento County in 1987–1998 show that fifty percent of the witnesses chose the suspect, twenty-six percent declined to pick anyone, and twenty-four percent pointed the finger at innocent fillers. In total, this study covered 271 cases that involved 623 identification procedures. Bruce W. Behrman & Sherrie L. Davey, *Eyewitness Identification in Actual Criminal Cases: An Archival Analysis*, 25 LAW & HUM. BEHAV. 475, 479–84 (2001).

27. A meta-analysis of ninety-four laboratory experiments shows that forty-six percent of the witnesses chose the perpetrator correctly, thirty-three percent declined to choose, and twenty-one percent chose innocent foils. These numbers pertain to procedures where the target was present in the lineup. Steven E. Clark, Ryan T. Howell & Sherrie L. Davey, *Regularities in Eyewitness Identification*, 32 LAW & HUM. BEHAV., 187, 192 (2008).

28. For reviews of the research, see 2 HANDBOOK OF EYEWITNESS PSYCHOLOGY (R.C.L. Lindsay et al. eds., 2007); SIMON, *supra* note 9, ch. 3.

29. For example, a study conducted in an Ontario courthouse found no differences in the believability of accurate and inaccurate identifications (sixty-eight percent and seventy percent, respectively). R.C.L. Lindsay et al., *Mock-Juror Belief of Accurate and Inaccurate Eyewitnesses: A Replication and Extension*, 13 LAW & HUM. BEHAV. 333, 336 (1989). Another study found comparable belief in witnesses who provided accurate (fifty percent) and inaccurate (forty-nine percent) identifications. Margaret C. Reardon & Ronald P. Fisher, *Effect of Viewing the Interview*

causes for this performance are that people overtrust identifications, are insensitive to accuracy factors, and overweigh witness confidence. To make things worse, factfinders are also presented with substandard identification testimony.

Overtrusting Identifications. A starting point for evaluating people's ability to assess identification testimony is to gauge their trust in human capabilities of identification in general. General beliefs are important in that they affect specific judgments: jurors who tend to trust identification generally are more likely to believe a specific identification. For one, people overestimate their own capabilities. Unrealistic beliefs were manifested in a large survey of jury-eligible citizens in Washington, D.C. Two-thirds of the respondents endorsed the statement "I never forget a face," and three-quarters agreed with the statement "I have an excellent memory." Only one-half of the respondents disagreed with analogizing memories of traumatic events to video recordings.³⁰ People also overestimate their capabilities when asked to predict how they would perform on various experimental tasks. For example, ninety-seven percent of respondents estimated that they would succeed in an identification task in which fifty percent of the actual participants failed.³¹ Misjudgments of performance were observed also in studies of face recognition under suboptimal viewing conditions. Participants believed that they would succeed in recognizing faces in conditions under which they themselves had failed to do so successfully on a prior test.³²

People also tend to overestimate the performance of others. In one study, one of every six participants estimated that the witnesses would pick an innocent filler at a lineup, while the actual rate of identifying an innocent filler was almost eighty percent.³³ Another

and Identification Process on Juror Perceptions of Eyewitness Accuracy, APPLIED COGNITIVE PSYCHOL. (forthcoming).

30. Richard S. Schmechel et al., *Beyond the Ken? Testing Jurors' Understanding of Eyewitness Reliability Evidence*, 46 JURIMETRICS J. 177, 196 (2006).

31. Daniel T. Levin et al., *Change Blindness Blindness: The Metacognitive Error of Overestimating Change-Detection Ability*, 7 VISUAL COGNITION 397, 402 (2000).

32. Erin M. Harley et al., *The "Saw-It-All-Along" Effect: Demonstrations of Visual Hindsight Bias*, 30 J. EXPERIMENTAL PSYCHOL.: LEARNING, MEMORY, & COGNITION 960, 964-65 (2004).

33. For these and other estimation studies, see Gary L. Wells, *How Adequate is Human Intuition for Judging Eyewitness Testimony?*, in EYEWITNESS TESTIMONY: PSYCHOLOGICAL PERSPECTIVES 256, 264 (Gary L. Wells & Elizabeth F. Loftus eds., 1984). While most estimation studies show a consistent pattern of overestimation, one study found both over- and underestimation. A. Daniel Yarmey, *Eyewitness Recall and Photo Identification: A Field Experiment*, 10 PSYCHOL. CRIME & L. 53, 62 (2004).

study found that eighty percent of jury-eligible members of a Florida community overestimated the accuracy of identifications made by the store clerks who actually participated in a field study. Based on these results, in about seven juries out of ten, at least ten jurors would be prone to overbelieve an identification.³⁴

Overtrusting identification performance has been found also in studies of simulated trials. For example, a Canadian study found that simulated jurors judged the identifications to be accurate and voted to convict in sixty-eight percent of the cases, when the actual rate of accuracy was only fifty percent.³⁵ The rate of belief was particularly high (seventy-seven percent) for witnesses who expressed high confidence.³⁶

Insensitivity to Accuracy Factors. As mentioned above, identification accuracy is highly susceptible to the specific factors of the case, resulting in remarkable swings from very low to very high levels of accuracy. It follows that to distinguish between accurate and inaccurate identifications, factfinders need to be aware of these factors and the impact they bear on identifications. Thus, a key question in determining people's diagnostic capabilities is the extent to which they are knowledgeable about and sensitive to these factors.

Survey data show that people have limited knowledge of the accuracy factors. In one survey, students and jury-eligible citizens recognized accuracy factors between one-third and one-half of the time. This performance was significantly better than chance (twenty-five percent), but overall rather poor.³⁷ Another series of studies found that jury-eligible citizens and experts agreed on only four out of thirty accuracy factors.³⁸ Poor appreciation for accuracy factors was revealed

34. The mean overestimation level was eighty-four percent. John C. Brigham & Robert K. Bothwell, *The Ability of Prospective Jurors to Estimate the Accuracy of Eyewitness Identifications*, 7 LAW & HUM. BEHAV. 19, 28 (1983).

35. R.C.L. Lindsay et al., *Can People Detect Eyewitness-Identification Accuracy Within and Across Situations?*, 66 J. APPLIED PSYCHOL. 79, 83 (1981).

36. *Id.*

37. Kenneth A. Deffenbacher & Elizabeth F. Loftus, *Do Jurors Share a Common Understanding Concerning Eyewitness Behavior?*, 6 LAW & HUM. BEHAV. 15, 17 (1982).

38. All four items concerned *incident factors*, that is, factors that are related to the viewing of the perpetrator by the witness. There was no agreement on any *system factors*, which pertain to the investigative procedures conducted by the police. Tanja Rapus Benton et al., *Eyewitness Memory Is Still Not Common Sense: Comparing Jurors, Judges and Law Enforcement to Eyewitness Experts*, 20 APPLIED COGNITIVE PSYCHOL. 115, 119 (2006). People's lack of familiarity with system factors was most apparent in a study that asked respondents to generate their own list of factors, which they believed influence identification accuracy. Only one percent of the generated factors pertained to system factors. John S. Shaw III et al., *A Law Perspective on the Accuracy of Eyewitness Testimony*, 29 J. APPLIED SOC. PSYCHOL. 52, 65 (1999).

also in the above-mentioned survey conducted with jury-eligible respondents in Washington D.C. A majority of respondents overweighed the diagnosticity of witness confidence, almost three-quarters failed to realize the detrimental effect of biasing lineup instructions, and almost one-half failed to appreciate the advantage of conducting blind lineups.³⁹

A large experimental study found that simulated jurors were flatly insensitive to the nine factors that are known to impair identifications, but were influenced by the witness's stated confidence, which, as discussed below, is not a good indicator of accuracy.⁴⁰ Another study found overall insensitivity to the witness's viewing conditions, such as the level of illumination, distance to the perpetrator, and duration of exposure.⁴¹ Simulated jurors have also been found to be relatively insensitive to the cross-race bias⁴² and to biased instructions,⁴³ and only marginally sensitive to the similarity of the suspect to the fillers.⁴⁴

Insensitivity to witnessing conditions is manifested by the tendency to overtrust witnesses who viewed the target under poor witnessing conditions. One study found that when the rate of correct identifications was merely thirty-three percent, the witnesses were believed by sixty-two percent of the simulated jurors.⁴⁵ Juror insensitivity to the nuances of identifications was observed also in a study that compared lay people's judgment of an identification in five similar vignettes. Two findings were of note. First, a patently

39. A majority of respondents did, however, appreciate the problematic nature of showups. Schmechel et al., *supra* note 30, at 199–201.

40. Brian L. Cutler et al., *Juror Decision Making in Eyewitness Identification Cases*, 12 LAW & HUM. BEHAV. 41, 53 (1988). The study tested 321 students and 129 jury-eligible citizens. The witness was said to be either eighty percent confident or one-hundred percent certain. *Id.* at 45–47; Brian L. Cutler et al., *Juror Sensitivity to Eyewitness Identification Evidence*, 14 LAW & HUM. BEHAV. 185, 187 (1990).

41. R.C.L. Lindsay et al., *Mock-Juror Evaluations of Eyewitness Testimony: A Test of Metamemory Hypotheses*, 16 J. APPLIED SOC. PSYCHOL. 447, 455–57 (1986).

42. In this study, the rate of convictions was unaffected by whether the black suspect was identified by a white or a black witness. Jordan Abshire & Brian H. Bornstein, *Juror Sensitivity to the Cross-Race Effect*, 27 LAW & HUM. BEHAV. 471, 476–78 (2003).

43. In an estimation study, participants made similar predictions of filler choices in target-absent conditions where the witness was given biased and unbiased lineup instructions (sixteen percent and eighteen percent, respectively), while the actual rate of filler choices was seventy-eight percent and thirty-three percent respectively. Wells, *supra* note 33, at 264.

44. Jennifer L. Devenport et al., *How Effective Are the Cross-Examination and Expert Testimony Safeguards? Jurors' Perceptions of the Suggestiveness and Fairness of Biased Lineup Procedures*, 87 J. APPLIED PSYCHOL. 1042, 1052 (2002).

45. Lindsay et al., *supra* note 35, at 79.

unreliable identification was believed by as many as forty-two percent of respondents. Second, three substandard identifications were judged to be just as reliable as a reliable one.⁴⁶

It should be added that even if jurors were appropriately sensitive to the factors that hinder identifications, in real life their assessments would be impeded by a lack of reliable information to enable the evaluation of those factors. In many cases, factfinders must rely on the witnesses' own reports of properties such as distance, duration, and illumination at the time of the viewing, as the witnesses themselves are the only source of this information. The research casts a doubt over these self-reports, as people tend to shrink assessments of distances, exaggerate estimates of duration, and fail to notice inferior illumination, all of which result in inflated assessments of accuracy.⁴⁷

Overweighing Witness Confidence. A considerable amount of research finds that factfinders place a great deal of weight on witnesses' confidence in their identifications. One study found that eyewitness confidence was a stronger predictor of jurors' decisions than the actual accuracy of the identifications.⁴⁸ Simulated jurors have been found to trust identifications by confident witnesses twice as often as unconfident witnesses.⁴⁹ Witnesses who testified that they were "completely certain" were three times more likely to be judged accurate than those who reported being "somewhat uncertain."⁵⁰ In

46. All eyewitness vignettes described the same factual pattern (a burglary followed by a sexual assault). The strong identification scenario yielded a mean estimate of witness accuracy of seventy-one percent, whereas in the other three scenarios, the rates of accuracy were sixty-five percent, sixty-eight percent, and sixty-seven percent.

This study was part of the Jurors' Beliefs Survey, which tested a wide range of lay people's beliefs, knowledge, and opinions regarding the criminal justice system. The survey sample consisted of 650 respondents, half of whom were from a general sample of Internet users and half were USC undergraduate students. Dan Simon, Douglas Stenstrom & Stephen J. Read, *Jurors' Background Knowledge and Beliefs* (Paper presented at Am. Psychology & Law Soc'y annual meeting, Mar. 5, 2008), http://www.allacademic.com/meta/p229087_index.html.

47. See e.g., Elizabeth F. Loftus et al., *Time Went by So Slowly: Overestimation of Event Duration by Males and Females*, 1 APPLIED COGNITIVE PSYCHOL. 3, 10 (1987); Melissa Ann Pigott et al., *A Field Study on the Relationship Between Quality of Eyewitnesses' Descriptions and Identification Accuracy*, 17 J. POLICE SCI. & ADMIN. 84, 84, 87-88 (1990).

48. Lindsay et al., *supra* note 35, at 334.

49. The rate of belief was sixty-three percent for confident witnesses and thirty-three percent for witnesses who expressed low confidence. R.C.L. Lindsay, *Expectations of Eyewitness Performance: Jurors' Verdicts Do Not Follow from Their Beliefs*, in ADULT EYEWITNESS TESTIMONY: CURRENT TRENDS AND DEVELOPMENTS 362, 369 (David Frank Ross et al. eds., 1994).

50. The rates of belief for witnesses who claimed to be "completely certain" and "somewhat uncertain" were eighty-three percent and twenty-eight percent, respectively. Wells, *supra* note 33.

another study, conviction rates were almost fifty percent higher when the prosecution eyewitness stated that he was “100% confident” than when he “could not say that he was 100% confident.”⁵¹ Witness confidence has also been found to wipe out jurors’ sensitivity to witnessing factors.⁵²

The reliance on witness confidence as a proxy for accuracy would be helpful if it were a good marker of accuracy. The experimental findings cast some doubt over this proposition. Studies show that the statistical relationship between identification accuracy and witness confidence is about 0.4.⁵³ While positive, this correlation by itself is not strongly diagnostic. To illustrate, where the base rate of accuracy is fifty percent, a coefficient of 0.4 means that only seventy percent of witnesses who claim to be absolutely confident are in fact correct.⁵⁴

Substandard Identification Testimony. If people’s ability to decipher identification testimony is imperfect under the controlled conditions of the laboratory, it becomes considerably less reliable with the substandard testimony that is often proffered in real-life trials. First, there is reason to suspect that a substantial number of identifications presented at trial are unreliable because of the improper manner in which the procedures were conducted. Due to the lack of uniformity and general informality of investigative practices across the 17,800 law enforcement departments nationwide, there is substantial variance in the identification procedures used. Large numbers of police personnel who conduct identification procedures are unaware of correct procedures and lack knowledge about the

51. Scott E. Culhane & Harmon M. Hosch, *An Alibi Witness’ Influence on Mock Jurors’ Verdicts*, 34 J. APPLIED SOC. PSYCHOL. 1604, 1610–11 (2004).

52. One study found that manipulating the viewing conditions affected judgments of nonconfident witnesses (forty-seven percent, fifty-four percent, and seventy-six percent for the three respective viewing conditions), but not of confident ones (seventy-six percent, seventy-six percent, and seventy-eight percent, respectively). Lindsay et al., *supra* note 35, at 84.

53. See Siegfried Ludwig Sporer et al., *Choosing, Confidence, and Accuracy: A Meta-analysis of the Confidence-Accuracy Relation in Eyewitness Identification Studies*, 118 PSYCHOL. BULL. 315, 319–21 (1995); Michael R. Leippe & Donna Eisenstadt, *Eyewitness Confidence and the Confidence-Accuracy Relationship in Memory for People*, in 2 THE HANDBOOK OF EYEWITNESS PSYCHOLOGY, *supra* note 28, at 377, 377–425. This correlation pertains to witnesses who choose a target at the lineup. This category of witnesses is most relevant to criminal cases, because witnesses who fail to pick anyone at the lineup are not likely to be called to testify.

54. Neil Brewer & Gary L. Wells, *The Confidence-Accuracy Relationship in Eyewitness Identification: Effects of Lineup Instructions, Foil Similarity, and Target-Absent Base Rates*, 12 J. EXPERIMENTAL PSYCHOL.: APPLIED 11, 25 (2006).

intricacies of witness memory.⁵⁵ Indeed, a large number of the DNA exoneration cases reveal that the procedures used to convict these innocent defendants amounted to poor, sometimes shameful, police work.⁵⁶ Lacking both the information about what transpired during the lineup and the knowledge about how variations in the procedures can distort identifications, jurors cannot be expected to detect these mistakes. The prevalence of inadequate identification procedures can be explained by the Supreme Court's permissive stance towards improper procedures.⁵⁷

Second, jurors are presented not with the *raw evidence*, as initially observed by the witness, but with the *synthesized* testimony as it evolved through the investigative and pretrial phases. Witnesses' memories of the perpetrator decay with the passage of time and are readily contaminated by exposure to composite drawings,⁵⁸ mug shots,⁵⁹ misleading questions,⁶⁰ and misleading descriptions.⁶¹ Moreover, *synthesized* testimony is also more likely to be reported with higher levels of confidence, which further weakens the accuracy-confidence relationship. A large body of research shows that confidence is a malleable construct that is sensitive to error, distortion, and manipulation. Fictitious feedback from the administrator ("good, you identified the suspect") has been found to boost witness confidence,⁶² and that in turn increases factfinders' trust

55. Richard Wise et al., *What U.S. Law Enforcement Officers Know and Believe About Eyewitness Factors, Eyewitness Interviews and Identification Procedures*, 24 APPLIED COGNITIVE PSYCHOL. (forthcoming 2010).

56. See SIMON, *supra* note 9, ch. 3.

57. Most notable in this regard are the Court's decisions in the cases of *Neil v. Biggers*, 409 U.S. 188, 200 (1972), and *Manson v. Brathwaite*, 432 U.S. 98, 117 (1977), which permitted the admission of identifications borne by suggestive police procedures. For a discussion, see SIMON, *supra* note 9, ch. 7.

58. Felicity Jenkins & Graham Davies, *Contamination of Facial Memory Through Exposure to Misleading Composite Pictures*, 70 J. APPLIED PSYCHOL. 164, 173-75 (1985).

59. Gabriel W. Gorenstein & Phoebe C. Ellsworth, *Effect of Choosing an Incorrect Photograph on a Later Identification by an Eyewitness*, 65 J. APPLIED PSYCHOL. 616, 620-22 (1980).

60. Kenneth R. Weingardt et al., *Viewing Eyewitness Research from a Metacognitive Perspective*, in METACOGNITION: KNOWING ABOUT KNOWING 157, 159-64 (Janet Metcalfe & Arthur P. Shimamura eds., 1995).

61. Elizabeth F. Loftus & Edith Greene, *Warning: Even Memory for Faces May be Contagious*, 4 LAW & HUM. BEHAV. 323, 332-34 (1980).

62. Amy L. Bradfield et al., *The Damaging Effect of Confirming Feedback on the Relation Between Eyewitness Certainty and Identification Accuracy*, 87 J. APPLIED PSYCHOL. 112, 117-18 (2002); Amy Bradfield Douglass & Nancy Steblay, *Memory Distortion in Eyewitnesses: A Meta-analysis of the Post-identification Feedback Effect*, 20 J. APPLIED COGNITIVE PSYCHOL. 859, 864-66 (2006); Gary L. Wells & Amy L. Bradfield, "Good, You Identified the Suspect": Feedback to

in the identifications.⁶³ Confidence has also been found to be inflated by communication with co-witnesses,⁶⁴ exposure to identifications by co-witnesses,⁶⁵ and by exposure to other inculpatory evidence against the suspect.⁶⁶ By the time witnesses testify in court, they are generally less accurate and more confident than warranted, thus making the identifications appear more reliable than they really are. Moreover, confident witnesses are likely to be overrepresented at trial because prosecutors are most likely to try cases when they have confident eyewitnesses.

Finally, jurors' ability to decipher identification testimony is hampered also by the practice of in-court identifications. As discussed elsewhere, identifications performed in open court provide no meaningful test of witnesses' memory, and all but guarantee the identification of the person sitting in the defendant's seat. As such, these procedures are uninformative at best and highly prejudicial at worst.⁶⁷

B. Event Memory Testimony

The bulk of the evidence presented at criminal trials consists of the witnesses' memorial accounts of the criminal event. Event memory pertains to the question *what happened?* The assessment of testimony for events can entail two distinct modes of judgment. When the juror has reason to suspect the witness's honesty, she is concerned mostly with trying to determine whether the witness is lying. When the juror has no reason to suspect the witness's honesty, she is concerned primarily with evaluating the accuracy of the memorial account. The former task will be examined below. For now, the discussion is

Eyewitnesses Distorts Their Reports of the Witnessing Experience, 83 J. APPLIED COGNITIVE PSYCHOL. 360, 372-74 (1998). These findings have been replicated in real life identification procedures conducted by the police in the UK. Daniel B. Wright & Elin M. Skagerberg, *Postidentification Feedback Affects Real Eyewitnesses*, 18 PSYCHOL. SCI. 172, 175-76 (2007).

63. See Amy Bradfield Douglass et al., *Does Post-identification Feedback Affect Evaluations of Eyewitness Testimony and Identification Procedures?*, 34 LAW & HUM. BEHAV. 282, 291-93 (2010).

64. See Elin M. Skagerberg, *Co-witness Feedback in Line-Ups*, 21 APPLIED COGNITIVE PSYCHOL. 489, 494-96 (2007).

65. C.A. Elizabeth Luus & Gary L. Wells, *The Malleability of Eyewitness Confidence: Co-witness and Perseverance Effects*, 79 J. APPLIED PSYCHOL. 714, 720-22 (1994).

66. See Lisa E. Hasel & Saul M. Kassin, *On the Presumption of Evidentiary Independence: Can Confessions Corrupt Eyewitness Identifications?*, 20 PSYCHOL. SCI. 122, 125-26 (2009) (examining the contamination effect created by inculpatory confession introduction).

67. See *id.* ch. 3.

concerned with assessments of testimony from witnesses who might be mistaken, but are not suspected of deliberate deceit.

The assessment of a witness's memory for the event boils down to distinguishing between true and false memories. A large body of basic- and applied-psychological research demonstrates that human memory is a powerful cognitive apparatus, but it can be fickle and is vulnerable to error and contamination. For one, people's memories are invariably incomplete, in that oftentimes they do not contain all of the details that might be needed to solve a given crime. A witness cannot be expected to remember the color of the assailant's jacket, and his tattoo, and the exact words he uttered, and the precise sequence of events, and so on. Human memory is strongest in remembering the *gist* of events, that is, the deeper, more practical and meaningful aspects of the episode. Specific *verbatim* details are least likely to be noticed and encoded, are the quickest to decay, and are most vulnerable to contamination.⁶⁸ Second, people's memories are not always accurate. False memories can occur spontaneously, such as when people confuse facts from different events, fill memory gaps with mistaken information, and interpret events to match their schemas and expectations.⁶⁹ False memories can also be induced by external sources, such as exposure to postevent information and faulty investigative procedures.⁷⁰

The question is how, and how well, do people assess other people's memory for events. A number of laboratory experiments reveal inconsistent and overall weak performance, with accuracy levels ranging from fifty to seventy-five percent (with fifty percent being chance level).⁷¹ To better appreciate people's capabilities, it would be helpful to examine the psychological processes involved in

68. C.J. Brainerd & V.F. Reyna, *Fuzzy-Trace Theory and False Memory*, 11 *CURRENT DIRECTIONS PSYCHOL. SCI.* 164, 166–67 (2002); C.J. Brainerd & V.F. Reyna, *Gist Is the Grist: Fuzzy-Trace Theory and the New Intuitionism*, 10 *DEVELOPMENTAL REV.* 3, 34–36 (1990).

69. See generally DANIEL L. SCHACTER, *THE SEVEN SINS OF MEMORY: HOW THE MIND FORGETS AND REMEMBERS* (2001).

70. Specifically, the research shows that false memories can be generated by common interviewing practices such as implying incorrect facts, posing leading and suggestive questions, prompting for repetition and extra effort at retrieval, and by encouraging witnesses to imagine, speculate and guess facts that they cannot recall. For research on event memory, see generally SIMON, *supra* note 9, at ch. 4; 1 *THE HANDBOOK OF EYEWITNESS PSYCHOLOGY*, *supra* note 28 (collection of essays and articles discussing memory of events).

71. See, e.g., Jessica M. Hanba & Maria S. Zaragoza, *Interviewer Feedback in Repeated Interviews Involving Forced Confabulation*, 21 *APPLIED COGNITIVE PSYCHOL.* 433, 440, 448, 453 (2007); Jonathan W. Schooler et al., *Qualities of the Unreal*, 12 *J. EXPERIMENTAL PSYCHOL.: LEARNING, MEMORY, & COGNITION* 171, 178 (1986).

assessing other people's memory. Making reliable judgments of other people's memory requires that the memory contains observable and valid cues that are indicative of the memory's accuracy, and that the factfinder detect those cues and interpret them correctly.⁷²

One accuracy cue that is commonly used to assess other peoples' memories is the vividness of the memorial account, most notably the *richness of detail* it contains.⁷³ As discussed below, this cue is used for a host of other judgments.⁷⁴ For example, a series of studies showed that the believability of the testimony of a prosecution witness was influenced by the inclusion of trivial details. In a simulated trial for a robbery-murder, testimony by a convenience store clerk that explicitly detailed the items taken by the perpetrator prior to the shooting (a six-pack of Diet Pepsi, Kleenex, and Tylenol) made a greater impact than did an otherwise identical testimony that only mentioned that the perpetrator took "a few store items."⁷⁵ A second accuracy cue that observers use is the consistency of the witness's memorial accounts.⁷⁶ A number of studies found that inconsistent testimony resulted in substantial decreases in the believability of the

72. Neither the emitting of cues by the witness nor the detection and interpretation by the observer needs to be done via explicit processing. Much of this kind of processing is likely to be done implicitly, that is, without conscious awareness.

73. Other aspects of vividness have been tested less frequently. These include the witness's rate of pauses, hesitations, and response latency. Hanba & Zaragoza, *supra* note 71, at 449. Other aspects include the number of "don't know" answers, verbal hedges, and hesitations. Michael R. Leippe et al., *Eyewitness Persuasion: How and How Well Do Fact Finders Judge the Accuracy of Adults' and Children's Memory Reports?*, 63 J. PERSONALITY & SOC. PSYCHOL. 181, 185 (1992).

74. This cue is used also for monitoring the source of one's own memories. Marcia K. Johnson, Julie G. Bush & Karen J. Mitchell, *Interpersonal Reality Monitoring: Judging the Sources of Other People's Memories*, 16 SOC. COGNITION 199, 219 (1998).

75. The detailed testimony was found to be more believable (fifty-four versus forty, on a scale of zero to one hundred), and to result in higher conviction rates (twenty-nine percent versus eleven percent). Brad E. Bell & Elizabeth F. Loftus, *Degree of Detail of Eyewitness Testimony and Mock Juror Judgments*, 18 J. APPLIED SOC. PSYCHOL. 1171, 1171, 1189-91 (1988) [hereinafter Bell & Loftus, *Degree of Detail*]; see also Brad E. Bell & Elizabeth F. Loftus, *Vivid Persuasion in the Courtroom*, 49 J. PERSONALITY ASSESSMENT 659, 662-63 (1985) [hereinafter Bell & Loftus, *Vivid Persuasion*]; Lara Keogh & Roslyn Markham, *Judgements of Other People's Memory Reports: Differences in Reports as a Function of Imagery Vividness*, 12 APPLIED COGNITIVE PSYCHOL. 159, 169 (1998). *Contra* Kerri L. Pickel, *Evaluation and Integration of Eyewitness Reports*, 17 LAW & HUM. BEHAV. 569, 592 (1993). The *vividness* of memory is closely related to the concept of memory *fluency*. See John S. Shaw, *Increases in Eyewitness Confidence Resulting from Postevent Questioning*, 2 J. EXPERIMENTAL PSYCHOL. 126, 139-40 (1996).

76. Neil Brewer et al., *Beliefs and Data on the Relationship Between Consistency and Accuracy of Eyewitness Testimony*, 13 APPLIED COGNITIVE PSYCHOL. 297, 311-12 (1999).

witness, estimations of probability of guilt, and the rate of guilty verdicts.⁷⁷

The third commonly used accuracy cue is the person's stated level of confidence.⁷⁸ As with judgments of identifications, factfinders are more likely to believe testimony for the event that is accompanied by high levels of confidence. One study found that more confident prosecution witnesses ("I am absolutely sure" versus "I am reasonably sure") led to double the estimations of the probability of guilt and quadruple the conviction rates.⁷⁹ The effect of confidence has been replicated in a number of studies.⁸⁰

The question, then, is whether these cues are actually indicative of memory accuracy. Needless to mention, if the cues do not correspond to accuracy, or if they correspond only weakly, one ought to be skeptical of observers' reliance on them.⁸¹ As it turns out, the research casts doubt over the diagnosticity of these cues. The richness of detail does provide diagnostic value, but that diagnosticity is limited to the specific corresponding fact. It cannot sustain a broader assessment of the witness's memory for the event more generally, an inference that people naturally make. Generalizing from the richness of detail of a memorial account seems to be premised on the notion

77. One study found that inconsistent testimony reduced the level of guilty verdicts from fifty-three percent to seven percent. Neil Brewer & R.M. Hupfeld, *Effects of Testimonial Inconsistencies and Witness Group Identity on Mock-Juror Judgments*, 34 J. APPLIED SOC. PSYCHOL. 493, 507 (2004). Prosecution witnesses who provided inconsistent testimony about a robbery were found to be less effective than those who provided consistent testimony (2.9 versus 4.3 on a zero-to-six scale), and their testimony yielded lower conviction rates (twenty percent versus sixty-nine percent). Garrett L. Berman & Brian L. Cutler, *Effects of Inconsistencies in Eyewitness Testimony on Mock-Juror Decision Making*, 81 J. APPLIED PSYCHOL. 170, 173 (1996). Similar consistency effects were observed with college students and jury-eligible community members. Garrett L. Berman et al., *Effects of Inconsistent Eyewitness Statements on Mock-Jurors' Evaluations of the Eyewitness, Perceptions of Defendant Culpability and Verdicts*, 19 LAW & HUM. BEHAV. 79, 84–85 (1995).

78. Brewer et al., *supra* note 76, at 308.

79. Highly confident prosecution testimony resulted in higher assessments of guilt (fifty-seven percent versus thirty-two percent) and a higher conviction rate (thirty-nine percent versus nine percent). The confidence manipulation also swamped any inferences drawn from the consistency of the witness's story. Neil Brewer & Anne Burke, *Effects of Testimonial Inconsistencies and Eyewitness Confidence on Mock-Juror Judgments*, 26 LAW & HUM. BEHAV. 353, 359–60 (2002).

80. See, e.g., Leippe et al., *supra* note 73; Pickel, *supra* note 75; Bernard E. Whitley, Jr. & Martin S. Greenberg, *The Role of Eyewitness Confidence in Juror Perceptions of Credibility*, 16 J. APPLIED SOC. PSYCHOL. 387 (1986).

81. It is theoretically possible that there are other accuracy cues that have not been identified by researchers, though it is not very likely that powerful cues have been completely overlooked.

that memories are monolithic entities. However, memory research provides a wealth of data indicating that memories are constructed from multiple fragments, which are often encoded, stored, and retrieved independently from one another. The fragments are bound with different memory sources, are stored in different parts of the brain, and decay at different rates.⁸² It follows that accuracy on some aspects of the event is a poor indicator for accuracy on other aspects.⁸³ Thus, in the above-mentioned study of the convenience store murder, a witness's recollection that the perpetrator took Diet Pepsi is indicative of the fact that the witness does indeed remember which soda was taken. It does not, however, warrant any inferences about the accuracy of the witness's memory about any other aspect of her testimony. Moreover, memories for different aspects of an event are at times inversely related. Notably, it has been found that the better the witness's memory of the peripheral details of a criminal event, the poorer she performs in identifying the perpetrator.⁸⁴ Similar issues arise with respect to the diagnosticity of the consistency cue, as consistent recollection on one aspect of a memory is a weak indicator of the strength of the memory overall. Indeed, the statistical relationship between memory consistency and memory accuracy has been found to be a modest 0.3.⁸⁵

Doubts also plague the diagnosticity of the widely used witness confidence cue. Confidence is not related to accuracy as intimately as people tend to believe, as memories tend to be reported with

82. See DANIEL L. SCHACTER, *SEARCHING FOR MEMORY* 40–44, 110–12 (1996); Scott C. Brown & Fergus I.M. Craik, *Encoding and Retrieval of Information*, in *THE OXFORD HANDBOOK OF MEMORY* 93, 93, 98–103 (Endel Tulving & Fergus I.M. Craik eds., 2000); Karen J. Mitchell & Marcia K. Johnson, *Source Monitoring: Attributing Mental Experiences*, in *THE OXFORD HANDBOOK OF MEMORY* *supra*, at 179, 182–84, 187–88; Neal E.A. Kroll et al., *Cohesion Failure as a Source of Memory Illusions*, 35 *J. MEMORY & LANGUAGE* 176, 193 (1996).

83. Brewer et al., *supra* note 76, at 309–11; Julian A.E. Gilbert & Ronald P. Fisher, *The Effects of Varied Retrieval Cues on Reminiscence in Eyewitness Memory*, 20 *APPLIED COGNITIVE PSYCHOL.* 723, 735–37 (2006).

84. Gary L. Wells & Michael R. Leippe, *How Do Triers of Fact Infer the Accuracy of Eyewitness Identifications? Using Memory for Peripheral Detail Can Be Misleading*, 66 *J. APPLIED PSYCHOL.* 682, 686 (1981). In another study, a negative correlation of -0.21 was found between the number of memorized peripheral details and the accuracy of identifications of the perpetrator. Brian L. Cutler et al., *The Reliability of Eyewitness Identification: The Role of System and Estimator Variables*, 11 *LAW & HUM. BEHAV.* 233, 245 (1987). A field study conducted in Tokyo found no relationship between the memory for the event and identification accuracy. Makiko Naka et al., *Eyewitness Testimony After Three Months: A Field Study on Memory for an Incident in Everyday Life*, 38 *JAPANESE PSYCHOL. RES.* 14, 21–23 (1996). This finding is likely explained by the limited cognitive resources. The attention paid towards the peripheral details comes at the expense of attending to other facets of the event.

85. Brewer et al., *supra* note 76, at 301; see Gilbert & Fisher, *supra* note 83, at 735–37.

overconfidence across varying levels of accuracy. For example, people have been found to report ninety percent confidence where they are only sixty percent accurate,⁸⁶ and to report as many as twenty-five percent of inaccurate memories with maximal confidence.⁸⁷ The accuracy-confidence correlation has been found to be unstable and oftentimes weak, ranging from zero to 0.6.⁸⁸ One set of studies revealed that even when the confidence-accuracy relationship was significant, observers tended to “overuse” the reported confidence, that is, to place more weight on it than warranted by its correspondence with accuracy.⁸⁹

The three noted accuracy cues are considerably less diagnostic when assessing the *synthesized* testimony that is presented at trial. With regard to the richness of detail, the decay of memory for verbatim and surface details leaves gaps that people tend to replenish with information from both internal and external sources.⁹⁰ However rich, the specific details testifying witnesses mention are to a large extent not genuine recollections from the crime scene, and they say little about the memory for the actual criminal event. It should also be noted that people’s intuitive belief in the richness-of-detail cue can be

86. Pär Anders Granhag et al., *Effects of Reiteration, Hindsight Bias, and Memory on Realism in Eyewitness Confidence*, 14 APPLIED COGNITIVE PSYCHOL. 397, 406 (2000).

87. Jennifer L. Tomes & Albert N. Katz, *Confidence-Accuracy Relations for Real and Suggested Events*, 8 MEMORY 273, 279 (2000).

88. Tomes and Katz reported an average confidence-accuracy relationship of about 0.61. *Id.* at 278. Leippe, Manion, and Romanczyk observed a correlation as high as 0.5, but it was significant in only one of three tests. Leippe et al., *supra* note73, at 193. Another study found overall weak to nonexistent relationships. John S. Shaw III & Kimberley A. McClure, *Repeated Postevent Questioning Can Lead to Elevated Levels of Eyewitness Confidence*, 20 LAW & HUM. BEHAV. 629, 643 (1996). Shaw and Zerr observed values ranging between 0 and 0.4. John S. Shaw III & Tana K. Zerr, *Extra Effort During Memory Retrieval May Be Associated with Increases in Eyewitness Confidence*, 27 LAW & HUM. BEHAV. 315, 326 (2003). Brewer, Potter, Fisher, Bond, and Luszcz found no confidence-accuracy relationship at all. Brewer et al., *supra* note76, at 307.

89. Leippe et al., *supra* note73, at 195.

90. A slew of studies show that people’s false memories are replete with detail. For example, participants who were misled to believe that a car was traveling fast when it crashed also tended to report seeing (nonexistent) broken glass at the scene of the accident. Elizabeth F. Loftus & John C. Palmer, *Reconstruction of Automobile Destruction: An Example of the Interaction Between Language and Memory*, 13 J. VERBAL LEARNING & VERBAL BEHAV. 585, 588 (1974). Participants who were led to falsely recall riding in a hot-air balloon also tended to report various details of the experience, including being fearful and feeling the wind blowing in their face. Maryanne Garry & Kimberly A. Wade, *Actually, a Picture Is Worth Less than 45 Words: Narratives Produce More False Memories than Photographs Do*, 12 PSYCHOL. BULL. & REV. 359, 363 (2005). Dutch participants who reported seeing the (nonexistent) video of a plane crash also reported remembering details about the plane’s flight path. Hans F.M. Crombag et al., *Crashing Memories and the Problem of “Source Monitoring”*, 10 APPLIED COGNITIVE PSYCHOL. 95, 101–02 (1996).

manipulated at trial. Savvy attorneys can readily encourage witnesses to include trivial details, praise their witnesses' testimony for containing details, and attack opposing witnesses for the failure to recount details or for mentioning mistaken ones. The diagnosticity of the consistency cue is likewise questionable because synthesized memorial accounts are often reiterated and rehearsed repeatedly in preparation for trial.⁹¹ This cue too is susceptible to manipulation at trial, as lawyers can praise witnesses for being consistent, irrespective of their accuracy, and they can catch truthful witnesses in an inconsistency on some detail or another.⁹²

Again, synthesized testimony robs the confidence cue of much of its usefulness. The research indicates that numerous investigative procedures result in inflation of witnesses' confidence for event memory. For the most part, boosts in confidence typically coincide with decreases in accuracy borne by decay and contamination. A number of studies have found that confidence, but not accuracy, is boosted by repeated questioning. This effect was strongest for incorrect responses and for impossible memories, that is, putative recollections of facts that were not in the original crime scene.⁹³ Confidence for false memories has been found to be inflated also by a variety of factors that are oftentimes present in real-life investigations, such as communicating with co-witnesses,⁹⁴ high motivation at retrieval,⁹⁵ engaging in imagination and confabulation,⁹⁶ and receiving confirmatory feedback from the interviewer.⁹⁷ Providing

91. One study found that repetition of memory tests accompanied with false feedback boosted the consistency of false memories up to one hundred percent. Hanba & Zaragoza, *supra* note 71, at 440.

92. Ronald Fisher et al., *The Relation Between Consistency and Accuracy of Eyewitness Testimony: Legal Versus Cognitive Explanations*, in HANDBOOK OF PSYCHOLOGY OF INVESTIGATIVE INTERVIEWING: CURRENT DEVELOPMENTS AND FUTURE DIRECTIONS 121, 132–34 (Ray Bull et al. eds., 2009).

93. Reid Hastie et al., *Eyewitness Testimony: The Dangers of Guessing*, 19 JURIMETRICS J. 1, 7–8 (1978); Shaw, *supra* note 75, at 139–40; Shaw III & McClure, *supra* note 88, at 646–48.

94. Carl Martin Allwood et al., *Eyewitnesses Under Influence: How Feedback Affects the Realism in Confidence Judgements*, 12 PSYCHOL. CRIME & L. 25, 32–34 (2006).

95. Shaw III & Zerr, *supra* note 88, at 321–22.

96. Maryanne Garry & Devon L.L. Polaschek, *Imagination and Memory*, 9 CURRENT DIRECTIONS PSYCHOL. SCI. 6, 7–8 (2000); Maryanne Garry et al., *Imagination Inflation: Imagining a Childhood Event Inflates Confidence That It Occurred*, 3 PSYCHOL. BULL. & REV. 208, 213 (1996).

97. Allwood et al., *supra* note 94, at 36; Hanba & Zaragoza, *supra* note 71, at 451–53; Michael R. Leippe et al., *Effects of Social-Comparative Memory Feedback on Eyewitnesses' Identification Confidence, Suggestibility, and Retrospective Memory Reports*, 28 BASIC & APPLIED SOC. PSYCHOL. 201, 213–16 (2006).

witnesses with fictitious feedback has been found to reduce the confidence-accuracy correlation from 0.6 down to zero.⁹⁸ In sum, assessing the accuracy of a memory for an event is a difficult feat.

C. Confession Evidence

Another important type of evidence consists of statements obtained out of court in which the defendant inculpatates himself. Confessions are widely believed to be powerful inculpatatory evidence, “probably the most probative and damaging evidence,”⁹⁹ a “bombshell which shatters the defense.”¹⁰⁰ Yet, confessions are not always true, and thus pose a serious challenge for factfinders. Most confessions are extracted by means of interrogative methods that are not designed to distinguish between innocent and guilty suspects. These techniques are avowedly intended to obtain confessions from the suspect at hand, and are deployed on the assumption that he is indeed the perpetrator.¹⁰¹ That determination is typically based on a judgment that the suspect is deceitful which, as discussed below, often rests on shaky grounds.

The prospect that a false confession will lead to a false conviction depends critically on the jury’s ability to recognize it as such. The legal system places much faith in jurors’ capabilities in this regard and applies a liberal standard for admitting contested confessions into evidence.¹⁰² Thus, it is important to determine how good jurors are at distinguishing true confessions from false ones. The limited available naturalistic data cast some doubt over jurors’ judgments in this regard, as prosecutions based on false confessions tend to result in convictions.¹⁰³ Studies show that lay people believe

98. Tomes & Katz, *supra* note 87, at 278. Likewise, one study found that the correlation coefficient dropped significantly once participants were given an incentive on the memory test (from 0.4 to 0.05). Shaw & Zerr, *supra* note 88, at 321.

99. Parker v. Randolph, 442 U.S. 62, 72 (1979).

100. People v. Schader, 401 P.2d 665, 674 (Cal. 1965).

101. For reviews of the research, see RICHARD A. LEO, POLICE INTERROGATION AND AMERICAN JUSTICE 195–98 (2008); SIMON, *supra* note 9, ch. 5; Saul M. Kassin, *The Psychology of Confessions*, 4 ANN. REV. L. & SOC. SCI. 193, 221–24 (2008).

102. To admit a confession before a jury, the prosecution need only show that it was made voluntarily by the deferential standard of preponderance of the evidence. Lego v. Twomey, 404 U.S. 477, 489 (1972).

103. Two studies have looked closely at real world cases that contained confessions which were subsequently revealed to have been given by innocent people. Of the cases that went to trial, 73.3 percent and 81 percent of the respective samples ended up with jury convictions. Richard A. Leo & Richard J. Ofshe, *The Consequences of False Confessions: Deprivations of*

that coercive interrogation techniques elicit true confessions but not false ones.¹⁰⁴ Moreover, even when people deem interrogative as coercive, they do not always adjust their verdicts accordingly. People tend also to be swayed by inadmissible coerced confessions, which they are admonished to disregard.¹⁰⁵ People appear to accept coercive interrogation because they believe that the police do not interrogate innocent suspects or because they feel that it is permissible to behave unethically to elicit true confessions.¹⁰⁶ It should be noted that judges too appear to be selectively sensitive to coercion. A study of federal and state judges found a greater willingness to ignore confessions obtained by impermissibly coercive interrogations when the suspect was charged with a murder of a police officer than with a less serious offense.¹⁰⁷

It is important to note that even if jurors were perfectly attuned to the risks of coercion, and even if they translated those concerns appropriately into verdict decisions, discerning the veracity

Liberty and Miscarriages of Justice in the Age of Psychological Interrogation, 88 J. CRIM. L. & CRIMINOLOGY 429, 477–78 (1998). The second study contained confessions by 125 suspects, of whom seventy-four were released pretrial, fourteen pled guilty, seven were acquitted at trial and thirty were convicted. Steven A. Drizin & Richard A. Leo, *The Problem of False Confessions in the Post-DNA World*, 82 N.C. L. REV. 891, 957 (2004). This data, however, is possibly incomplete in that some acquittals might not have been counted in these studies.

104. Iris Blandón-Gitlin et al., *Jurors Believe Interrogation Tactics Are Not Likely to Elicit False Confessions: Will Expert Witness Testimony Inform Them Otherwise?*, PSYCHOL. CRIME & L. (forthcoming). The logic of this position appears to be founded on the notion that furnishing self-defeating evidence must be an indicator of truth. It is not altogether clear why this should be the case.

105. The rate of conviction was found to be almost identical when the judge ruled that the confession was admissible as when he ruled it inadmissible and ordered the jurors to ignore it (fifty percent versus forty-four percent, high pressure condition only). These rates were considerably higher than when no confession was presented (nineteen percent). Saul M. Kassin & Holly Sukel, *Coerced Confessions and the Jury: An Experimental Test of the "Harmless Error" Rule*, 21 LAW & HUM. BEHAV. 27, 39 (1997). Lower sensitivity to coercive techniques was found by Blandón-Gitlin et al., *supra* note 104. For similar results, see Saul M. Kassin & Karlyn McNall, *Police Interrogations and Confessions: Communicating Promises and Threats by Pragmatic Implication*, 15 LAW & HUM. BEHAV. 233, 247–50 (1991); Saul M. Kassin & Lawrence S. Wrightsman, *Coerced Confessions, Judicial Instruction, and Mock Juror Verdicts*, 11 J. APPLIED SOC. PSYCHOL. 489, 503–04 (1981) (showing that judicial instruction may not be an effective solution to juror bias as a result of pretrial confessions).

106. See Linda A. Henkel, Kimberly A. J. Coffman & Elizabeth M. Dailey, *A Survey of People's Attitudes and Beliefs About False Confessions*, 26 BEHAV. SCI. & L. 555, 579 (2008); Saul A. Kassin, *The Psychology of Confession Evidence*, 52 AM. PSYCHOLOGIST 221, 229 (1997); see also Richard A. Leo & Brittany Liu, *What Do Potential Jurors Know About Police Interrogation and Techniques and False Confessions?*, 27 BEHAV. SCI. & L. 381, 395–96 (2009).

107. Jeffrey J. Rachlinski et al., *Context Effects in Judicial Decision Making* 30 (CELS 2009 4th Annual Conference on Empirical Legal Studies Paper, 2009), available at <http://ssrn.com/abstract=1443596>.

of confessions in actual criminal cases remains a tall order. The difficulty stems from the fact that false confessions in the real world tend to cover up their traces of inaccuracy. A commonly used cue in assessing confession accuracy is, again, the richness of detail. This cue is deemed to be diagnostic of the veracity of confessions because only true perpetrators are believed to be familiar with the specifics of the criminal event, whereas innocent people are not. This notion is strongest for details that are not known to the public.¹⁰⁸

Indeed, false confessions invariably come fully packaged with details. A review of the false confession cases that ended up with DNA exonerations reveals that innocent confessors provided detailed accounts in all but two of the thirty-eight cases for which trial transcripts were available. In nineteen of the cases, the prosecutors explicitly highlighted this aspect at trial, and emphasized that the facts were nonpublic and thus could only have been known to the true perpetrator.¹⁰⁹ One prosecutor stated that it was a “mathematically [sic] impossibility” that the defendant could have guessed so many details correctly,¹¹⁰ and another dismissed the defendant’s claim of coercion, emphasizing that he “supplied detail after detail after detail after detail.”¹¹¹

When confessions are found to have been false, the most plausible conclusion is that any nonpublic information divulged by the defendants was somehow communicated to them by the police.¹¹² Still, in court, the detectives denied having disclosed any facts to the suspects in twenty-seven of the thirty-eight known cases.¹¹³ In many of the confession records, detectives also include assurances from the

108. The Jurors’ Beliefs Survey mentioned above reveals that people believe that knowledge of nonpublic facts is a strong indicator of the confessor’s involvement in the crime. The mode and median responses to this question were both nine, on a scale one to eleven. Simon et al., *supra* note 46.

It is not surprising that one of the explicit objectives of police interrogations is to convert the defendant’s admission into an elaborate and detailed postadmission narrative. CRIMINAL INTERROGATION AND CONFESSIONS 365–66 (Fred E. Inbau et al. eds., 4th ed. 2001).

109. Brandon L. Garrett, *The Substance of False Confessions*, 62 STAN. L. REV. 1051, 1068–74 (2010).

110. *Id.* at 1078 (quoting Trial Transcript at 22, Commonwealth v. Godschalk, No. 934–87, (Pa. Ct. Com. Pl. May 27, 1987)).

111. *Id.* at 1066. For analyses of other cases, see LEO, *supra* note 101, at 195–236.

112. Absent any record of the interrogation, it is hard to tell whether detectives deliberately feed the information to defendants or merely mention it unwittingly.

113. Garrett, *supra* note 109, at 1074. In the case of Bruce Godschalk, the detective insisted in his trial testimony: “Never did I offer anything to him.” LEO, *supra* note 101, at 184.

defendant that the statement was made of their free will.¹¹⁴ With this kind of evidence in hand, juries have no apparent reason to question the veracity of confession, nor do they have the tools to do so.

D. Alibi Testimony

The assessment of alibi evidence poses yet another set of challenges for the factfinder. While the research on this issue is rather sparse and its findings relatively intuitive, it helps punctuate the difficulties in assessing alibis. Alibi evidence involves issues pertaining both to the construction of the alibi by the suspect, and to its subsequent believability by third parties.¹¹⁵ Alibis play an obvious role in persuading jurors and police officers and they can affect the outcome of a case also by convincing prosecutors, judges, and even defense attorneys. The assessment of alibis is closely related to judgments of deceit, as disbelieved alibis are naturally deemed to be deceitful, and thus are readily taken to imply guilt. The current discussion focuses on assessments based on the content of the alibi claim, not the demeanor of the suspect.

Two intuitions hover over the issue of alibi evidence, giving it an aura of incredulity. First, alibis are generally treated with suspicion because perpetrators of crimes are deemed to be willing to concoct them. Second, it is generally believed that when faced with the threat of severe punishment, innocent people will invariably be capable of furnishing a truthful and believable account of their whereabouts at the time the crime was committed. These intuitions help explain why some seemingly powerful alibis offered by DNA exonerees were disbelieved by juries.¹¹⁶

114. For example, when asked if he was confessing freely, Godschalk responded "On my own free will," and when asked if he was treated well by the police he replied "Very well." Trial Transcript *supra* note 110, at 126–27. Finally, Godschalk added a personal touch by stating that he was "[t]ruly sorry for what happened, and it's all caused from my drinking problem. . . . I'm very sorry for what I've done to these two nice women." *Id.* at 38–39.

115. For a useful taxonomy on alibi evidence, see Elizabeth A. Olson & Gary L. Wells, *What Makes a Good Alibi? A Proposed Taxonomy*, 28 LAW & HUM. BEHAV. 157, 160–62 (2004).

116. For example, Tim Durham, an Oklahoma man, was convicted primarily on the basis of an identification by an eleven-year-old girl despite the fact that eleven witnesses placed him in Dallas at the time of the crime. See BARRY SCHECK ET AL., ACTUAL INNOCENCE 158–71 (2000). Steven Avery, a Wisconsin man, was convicted based mostly on an eyewitness identification even though sixteen alibi witnesses testified that he was elsewhere at the time. See *Steven Avery, CTR. ON WRONGFUL CONVICTIONS*, <http://www.law.northwestern.edu/wrongfulconvictions/exonerations/wiAverySSummary.html> (last visited Nov. 11, 2010). Both men were subsequently exonerated on the basis of DNA tests.

In reality, providing an accurate and believable account of one's whereabouts at a specific time is not always an easy task. Research shows that people have poor memories for dates, times, and sequences of events,¹¹⁷ they often confuse the details of one event with those of another, and they sometimes fail to recall which other people were present at which event.¹¹⁸ To provide accounts of their whereabouts, people often need to reconstruct them, whether by consulting other people, referring to calendars, or examining records.¹¹⁹

Constructing an alibi is not always possible for the innocent person. While the commission of a crime is invariably a memorable event for the perpetrator, it is typically of no significance to others. Innocent suspects are generally not prepared to be asked to account for their actions at the particular time, and they lack both the motive and the opportunity to prepare an alibi in advance of the interview. Innocent suspects might also feel the need to furnish the alibi on the spot, which heightens the risk of providing mistaken information. They might not be sufficiently cautious about offering an incorrect alibi, believing naively that the truth will eventually come to light. This lack of caution is particularly likely before the suspect is made aware of the severity of the charges, or when she is hoping to fend off the detective with a quick distraction. Constructing an alibi is particularly difficult for people who lead unstructured and undocumented lives, such as the unemployed and the self-employed.

Some innocent suspects will simply fail to construct an alibi, which might be perceived as suggestive of guilt. Others will provide a mistaken alibi. If refuted by the police, mistaken alibis make the suspect appear guilty. In some instances, the suspect will seek to correct her mistaken alibi with information gathered at a subsequent occasion. That could improve her situation, but the alibi will still be viewed with heightened skepticism, as inconsistencies in testimony are generally perceived as a cue for unreliable memory or as an

117. For example, employees in a large manufacturing company had poor memories of their schedule from one week prior. Margery A. Eldridge et al., *Autobiographical Memory and Daily Schemas at Work*, 2 MEMORY 51, 67 (1994). In an interview conducted four to five months following a memorable shooting incident, no fewer than ten of the thirteen witnesses failed to recall the month of the incident, and only six recalled the day of the week. John C. Yuille & Judith L. Cutshall, *A Case Study of Eyewitness Memory of a Crime*, 71 J. APPLIED PSYCHOL. 291, 294-96 (1986).

118. Timothy N. Odegard & James M. Lampinen, *Memory Conjunction Errors for Autobiographical Events: More than Just Familiarity*, 12 MEMORY 288, 297 (2004).

119. See, e.g., Jeffrey A. Gibbons & Charles P. Thompson, *Using a Calendar in Event Dating*, 15 APPLIED COGNITIVE PSYCHOL. 33, 42 (2001) (discussing the use of calendars in reconstructing events).

indicator of deceit. It should also be noted that in some situations, innocent suspects will provide false alibis intentionally. This occurs when they try to conceal an embarrassing deed, such as visiting a bar or having an extramarital affair. Ironically, providing a false alibi to cover up a relatively minor transgression can make the suspect look guilty of a serious criminal charge.

Even when suspects manage to construct their whereabouts truthfully and accurately, they stand to be disbelieved unless they can offer satisfactory corroboration. Alibis can be corroborated by physical evidence, such as ticket stubs, passport stamps, and surveillance cameras.¹²⁰ It is, however, rather rare to possess physical proof of one's whereabouts, as most people's lives are not documented and do not produce a constant stream of time-stamped physical traces. A survey of 125 American and Canadian alibi cases revealed that alibis were corroborated by physical evidence in fewer than one-tenth of the cases examined.¹²¹ The research shows that physical evidence is readily discounted, especially when it is perceived to be susceptible to fabrication.¹²²

Alibis can be corroborated also by human testimony, typically, statements that the suspect was with the corroborating witness somewhere else at the time of the crime.¹²³ Corroboration by witnesses is not always available, as people spend certain amounts of time by themselves, especially those who live alone. Moreover, a true alibi might not be corroborated when the corroborating witness himself cannot construct his whereabouts at the time of the crime, or when his own account cannot be corroborated reliably. Failures to corroborate can be costly to defendants, and can even backfire by increasing the defendant's apparent guilt.¹²⁴

120. For example, on a scale of 0 to 10 simulating conditions without witness corroboration, one study found that security camera evidence increased the believability of the alibi from 4.79 to 6.97 and reduced the judgments of likelihood of guilt from 5.41 to 3.35. Olson & Wells, *supra* note 115, at 167 tbl.2, 169 tbl.3.

121. Tara M. Burke & John W. Turtle, *Alibi Evidence in Criminal Investigations and Trials: Psychological and Legal Factors*, 1 CANADIAN J. POLICE & SECURITY SERV. 286, 288 (2004).

122. Olson & Wells, *supra* note 115, at 172-75.

123. On a scale from 0 to 10 without corroborating physical evidence, corroboration from a convenience store clerk increased the believability of the alibi from 4.79 to 6.63 and reduced the judgments of likelihood of guilt from 5.41 to 3.98. *Id.* at 167 tbl.2, 169 tbl.3.

124. One study found a substantial, though not statistically significant, increase in judgments of guilt following a failure to corroborate the alibi. Hunter A. McAllister & Norman J. Bregman, *Juror Underutilization of Eyewitness Nonidentifications: A Test of the Disconfirmed Expectancy Explanation*, 19 J. APPLIED SOC. PSYCHOL. 20, 28 (1989).

Most commonly, alibi testimony is discounted due to suspicion about the credibility of corroborating witnesses. A number of studies have shown that corroboration by strangers, neighbors, and store clerks reduces the rate of convictions, but corroboration by friends and family members does not.¹²⁵ These results are hardly surprising, as a majority of survey respondents believe that people would lie to the police rather than see a loved one go to prison. Respondents also concede that they would do the same.¹²⁶ This poses a problem for corroborating alibis, given that people tend to spend the bulk of their nonsolitary time in the company of the very people who are most disbelieved. In the study of 125 alibi cases, only two of the alibis were supported by people other than friends and family.¹²⁷ Indeed, the vast majority of the alibis offered (all unsuccessfully) by DNA exonerees were corroborated by family members, girlfriends, and friends.¹²⁸ As prosecutors and defense attorneys know full well, though intended as a shield, alibi testimony can readily serve as a weapon. Whether present, absent, refuted, or altered, alibi testimony can easily hinder the factfinder's ability to determine the facts correctly.

125. In one study, the stranger corroborating witness reduced conviction rate from sixty percent to twenty-seven percent, while the alibi from a brother-in-law was no different from baseline (fifty-seven percent). Lindsay et al., *supra* note 41, at 452. Another study found that corroboration by the defendant's girlfriend did not significantly reduce the conviction rate (forty percent versus thirty-five percent), but the neighbor's testimony did (16.7 percent). Culhane & Hosch, *supra* note 51, at 1612; *see also* Olson & Wells, *supra* note 115, at 172 (showing that, among other things, alibi corroboration from the nonmotivated stranger is seen as more credible than corroboration from the nonmotivated familiar other).

126. In a survey of 291 jury-eligible undergraduate students, 81.72 percent of respondents admitted that they would lie to provide a false alibi for their spouse. The numbers were high also for siblings (77.73 percent) and best friends (67.34 percent), but not for strangers (2.74 percent). Respondents also reported that they expect other people would do the same. Harmon M. Hosch et al., *Effects of an Alibi Witness' Relationship to the Defendant on Mock Jurors' Judgments*, LAW & HUM. BEHAV. ONLINE FIRST 5 (Apr. 22, 2010), <http://www.springerlink.com/content/421916501113p2x1/fulltext.pdf>.

127. Burke & Turtle, *supra* note 121, at 288.

128. In the case of Ronald Cotton, for example, a number of his family members testified at trial that he was at home on the night of the crime. One of the jurors was dismissive of the fact that all the witnesses "said the same thing." She added: "You knew what the next one was going to say after about three or four of them had said that he was on the sofa. So that impressed me as . . . that they had been rehearsed, like they had been told what to say. Well, to me, that would make one think that somebody is guilty." *Frontline: What Jennifer Saw* (PBS television broadcast Feb. 25, 1997), transcript available at <http://www.pbs.org/wgbh/pages/frontline/shows/dna/etc/script.html> (presenting the viewpoint of jury member Dallas Fry). Cotton was exonerated based on a DNA test after serving more than ten years in prison. *Id.*

E. Judging Deceit

Assessments of testimony are intricately intertwined with judgments of the witness's truthfulness. While the honesty of a witness does not ensure accuracy, deceit is a strong indicator of falsity. The detection of deceit plays a key role in police investigations,¹²⁹ and is often critical in courtroom factfinding. To a certain extent, the real battle at trial rages over jurors' assessment of the credibility of the witnesses. To be sure, the legal system places a great deal of trust in jurors' ability to detect deceit. As the Supreme Court stated, "A fundamental premise of our criminal trial system is that the jury is the lie detector."¹³⁰ Jurors are explicitly instructed to rely on the demeanor of the witnesses in assessing the credibility of the evidence.¹³¹ The detection of deception is relevant in most trials, in that doubts over the honesty of witnesses, particularly defendants, invariably loom in the background. Defendants are likely to be observed closely, even when they do not testify. Jurors are most likely to engage in judging demeanor in difficult cases, where the evidence is ambiguous. Determining that a witness is lying provides a way to resolve the uncomfortable state of decisional conflict. Invariably, a determination of deceit on a specific issue undermines the credibility of that witness's entire testimony and can readily destroy the party's case completely. The inability to observe witness demeanor is a principal justification that appellate and habeas courts offer for their reluctance to intervene in factfinding and their deferential posture towards trial court findings.¹³²

Entrusting jurors with the role of lie detector in the absence of reliable extrinsic evidence is premised on the assumption that they are capable of detecting deceit from the witness's behavior. To perform this function successfully, it is first necessary that liars behave

129. Determinations of deceit are regularly used to trigger the deployment of intense interrogation methods. See LEO, *supra* note 111, at 119–64, 195–236 (reviewing American police interrogation structures and providing examples).

130. *United States v. Scheffer*, 523 U.S. 303, 313 (1997) (citation omitted).

131. For example, the Massachusetts jury instructions read: "Often it may not be *what* a witness says, but *how* he says it that might give you a clue whether or not to accept his version of an event as believable. You may consider a witness's appearance and demeanor on the witness stand, his frankness or lack of frankness in testifying, whether his testimony is reasonable or unreasonable, probable or improbable." MASS. CRIMINAL MODEL JURY INSTRUCTIONS § 2.260 (2009).

132. The Supreme Court has stated that only the courtroom factfinder can "be aware of the variations in demeanor and tone of voice that bear so heavily on the listener's understanding and belief in what is said." *Anderson v. Bessemer City*, 470 U.S. 564, 575 (1985).

differently from truth-tellers. Indeed, there are a number of theoretical reasons why telling a lie would result in subjective experiences that differ from making honest statements. Telling lies usually places people in unusual and potentially threatening situations, which can entail fear of getting caught or compunctions about being dishonest. This arousal is typically accompanied by physiological states that are mostly beyond people's control and which might be observable by others. Unlike truth-tellers, liars tend to try to control their behavior to feign normal demeanor. Liars also expend extra cognitive effort to keep their stories straight and to monitor their apparent believability.¹³³

The question is whether these phenomenological experiences manifest themselves in unique patterns of behavior and whether other people can decipher these behaviors. To detect behavioral leakage, one must first know what to look for. The cues that people use for this purpose fall into three types. First, observers can look for *verbal cues* that relate to the content of the communication. Verbal cues include such features as richness of detail, consistency of statements, self-reference, and response length. A second type of cue consists of attributes that accompany speech. These *para-verbal* cues include voice pitch, response latency, pauses, and "ah" and "um" utterances. Finally, observers might look to physical cues that are visually apparent. *Visual cues* pertain to the witness's demeanor, namely, his facial expressions, head movements, and a variety of body movements.

The list of potential cues of deceit runs very long. For illustration, the definition of the term "demeanor" in the sixth edition of *Black's Law Dictionary* enumerates twenty different para-verbal and visual cues, including the witness's hesitation, smiling, zeal, expression, yawns, use of eyes, and "air of candor."¹³⁴ There appears to be considerable consensus among people and even across cultures as to which behaviors indicate deceit. One study found general agreement between lay people and police officers with respect to sixty-four different cues.¹³⁵ While the panoply of perceived cues covers almost every imaginable vocal and corporal behavior, one particular cue—gaze aversion, and its reciprocal, maintaining eye contact—is singularly prominent. Gaze aversion is the most often mentioned cue

133. Miron Zuckerman, Bella M. DePaulo & Robert Rosenthal, *Verbal and Nonverbal Communication of Deception*, 14 *ADVANCES EXPERIMENTAL SOC. PSYCHOL.* 1, 10, 38–39 (1981).

134. *BLACK'S LAW DICTIONARY* 430 (6th ed. 1990).

135. Lucy Akehurst et al., *Lay Persons' and Police Officers' Beliefs Regarding Deceptive Behaviour*, 10 *APPLIED COGNITIVE PSYCHOL.* 461, 464, 468 (1996).

by both lay people and professional lie-catchers, including police patrol officers, detectives, custom officials, and prison guards.¹³⁶ Prison inmates, in contrast, place much less trust in it.¹³⁷ The belief in the unique diagnosticity of gaze aversion appears to be a pan-cultural phenomenon. A survey conducted with more than 11,000 respondents in fifty-eight countries yielded 103 spontaneously proposed cues believed to be associated with deceit. Of them, gaze aversion was cited by two-thirds of the respondents, more than twice the rate of any other cue.¹³⁸

The key question is whether the cues people use are actually indicative of deceit. This question was the subject of a large meta-analysis covering data from 120 samples, encompassing some 6,000 participants. Of the 158 cues analyzed, the vast majority was found to be unrelated to lying. The few cues that were found to be valid were mostly verbal (notably, low richness of detail, discrepancies, ambivalence, and noncooperativeness) and para-verbal (voice pitch and vocal tension). Invariably, visually observable behaviors—namely, the speaker's demeanor, including gaze aversion—were not found to be related to deceit.¹³⁹ The findings revealed also that, while people tend to believe that the various physical behavioral cues are activated by deceit, a substantial number of them are actually inhibited by it.¹⁴⁰ Based on the current state of the research, one must conclude that there are no universal behaviors that reveal deceit. To the extent that

136. Gaze aversion figures prominently in the teaching materials used in police training. See CRIMINAL INTERROGATION AND CONFESSIONS, *supra* note 108, at 150–53. Gaze aversion was cited by seventy-eight percent of the students tested and seventy-three percent of the professional lie catchers. Aldert Vrij & Gün R. Semin, *Lie Experts' Beliefs About Nonverbal Indicators of Deception*, 20 J. NONVERBAL BEHAV. 65, 70 (1996). Similar opinions were obtained by Miron Zuckerman et al., *Beliefs About Cues Associated with Deception*, 6 J. NONVERBAL BEHAV. 105, 113 (1981).

137. Only thirty-three percent of prison inmates tested seemed to believe that gaze aversion is related to deceit. Vrij & Semin, *supra* note 136, at 70. Prisoners' superior knowledge of deceit cues was confirmed in a Swedish study. Pär Anders Granhag et al., *Imprisoned Knowledge: Criminals' Beliefs about Deception*, 9 LEGAL & CRIMINOLOGICAL PSYCHOL. 103, 116 (2004).

138. Global Deception Research Team, *A World of Lies*, 37 J. CROSS-CULTURAL PSYCHOL. 60, 64–65 (2006). In a follow-up study conducted with 2,500 people in sixty-three countries, gaze aversion was cited by 71.5 percent of the respondents, again, more than any other cue. *Id.* at 67–68.

139. Two visual cues—pupil dilation and chin raise—were found to be positively related to deceit, but they were observed in only four studies each. Bella M. DePaulo et al., *Cues to Deception*, 129 PSYCHOL. BULL. 74, 92 (2003).

140. For example, most people associate deceit with increased arm and leg movements, while the research shows that these movements are actually inhibited during deceit. Akehurst et al., *supra* note 135, at 466.

liars behave differently from truth-tellers, they do so in many diverse and barely perceptible ways.

Yet, even assuming that a reliable and universal set of diagnostic cues existed and that they were known to the observers, accurate determinations of deceit would hardly be guaranteed. Given limited attention, the observer cannot observe the entire panoply of cues at once. Furthermore, she needs to discern the telling behavior correctly (did I just see a twitch?), gauge its strength (how inconsistent is that statement?), interpret it (are those finger movements indicative of deceit or truth?), and integrate it with all the other cues into a discrete judgment (I observed two cues, but innumerable others were absent). People are not equipped with the explicit knowledge needed to solve these quandaries, though it is possible that they perform this task implicitly.

To test for this possibility of implicit judgments, studies have been conducted to determine people's ability to distinguish between truths and lies. A large meta-analysis summarizes data from 206 experiments and leads to a rather simple conclusion: people perform poorly in distinguishing truthful from deceitful statements. Overall, the mean percentage of accurate classifications is fifty-four percent. The highest reported rate in any sample was seventy-three percent, and the lowest was thirty-one percent.¹⁴¹ These results are statistically better than flipping a coin, but barely so. As Aldert Vrij

141. Charles F. Bond, Jr. & Bella M. DePaulo, *Accuracy of Deception Judgments*, 10 PERSONALITY & SOC. PSYCHOL. REV. 214, 219 (2006) [hereinafter Bond & DePaulo, *Accuracy*]. Put differently, determinations of deceit were found to be correct fifty-six percent of the time, as were fifty-four percent of the determinations of truth. This meta-analysis included results from 384 samples comprising of more than 24,000 judgments of deceit. A telling finding was made in a Swedish study in which 125 participants judged a single witness (who was lying). About one half of the observers (53.64 percent) judged him to be telling the truth, and the remainder (46.4 percent) reached the opposite conclusion. Pär Anders Granhag & Leif A. Strömwall, *Effects of Preconceptions on Deception Detection and New Answers to Why Lie-Catchers Often Fail*, 6 PSYCHOL. CRIME & L. 197, 206 (2000).

The conclusion that people lack the skill to detect lies is consistent with the finding that individual differences in detection accuracy are minute. A meta-analysis shows that differences in performance among individuals are no different from what would be expected by chance, and that the highest levels of accuracy do not differ from what a stochastic mechanism would predict. Charles F. Bond, Jr. & Bella M. DePaulo, *Individual Differences in Judging Deception: Accuracy and Bias*, 134 PSYCHOL. BULL. 477, 483, 485–87 (2008) [hereinafter Bond & DePaulo, *Differences*]. A Swedish study found that inmates were somewhat more accurate in detecting deceit than students (65.4 percent versus 57.7 percent). Their performance was superior in accurately judging deceitful statements, but no better in judging truthful ones. Maria Hartwig, Pär Anders Granhag, Leif A. Strömwall & Lars O. Andersson, *Suspicious Minds: Criminals' Ability to Detect Deception*, 10 PSYCHOL. CRIME & L. 83, 88 (2004). For more on individual differences, see Granhag & Strömwall, *supra* note 141, at 213–16.

has pointed out, people are considerably better at telling lies than at detecting them.¹⁴² Importantly, human performance on this task falls well short of the levels of diagnosticity that warrant the dramatic impact that a determination of deceit can have on a verdict.

This meta-analysis revealed also that detection accuracy is contingent on the medium of the communication. Judgments based on visual stimuli alone were found to be least accurate, while judgments based on audio-visual presentations, audio recordings alone, and transcripts share similar levels of accuracy.¹⁴³ This finding suggests that visual cues might amount to a red herring that distracts observers from concentrating on the more diagnostic information embedded in the content of the statements and the para-verbal cues emitted by the speaker. This observation is troubling in light of the explicit instruction given to jurors to draw inferences from witnesses' demeanor. The finding also throws into question the legal maxim that immediate access to witnesses' courtroom demeanor makes jurors uniquely positioned to determine credibility. As it turns out, appellate judges should be able to perform just as well working off the trial transcript.

Applying the above-mentioned research to the realistic settings is open to a serious objection. Much of the data was collected in the laboratory, under conditions where most subjects had little incentive to succeed in their tasks of deceiving or detecting deception. It is quite possible that lies communicated to save one's freedom (or to cause someone else to lose his) will have stronger behavioral manifestations and thus be more decipherable by the observer. While the laboratory setting does not afford the possibility of testing lies that have such high stakes, some of the studies included in the meta-analysis did incentivize participants to succeed in their attempted deceit, typically, by offering monetary awards. Overall, the analysis shows that incentives make only minor differences.¹⁴⁴ In fact, the research

142. ALDERT VRIJ, *DETECTING LIES AND DECEIT: PITFALLS AND OPPORTUNITIES 2* (2d ed. 2008).

143. Bond & DePaulo, *Accuracy*, *supra* note 141, at 225–26.

144. When looking only at studies that contained incentives, DePaulo and her colleagues found four cues that were significantly diagnostic, only one of which (voice pitch) had a more than minimal effect (a *d* value of 0.59, which is considered medium). DePaulo et al., *supra* note 139, at 97. In the meta-analysis by Sporer and Schwandt, the effect size for voice pitch was $r = .529$, while the other three significant cues (message duration, speech rate and response latency) were between 0.1 and 0.2 in high motivation settings. Siegfried Ludwig Sporer & Barbara Schwandt, *Paraverbal Indicators of Deception: A Meta-analytic Synthesis*, 20 *APPLIED COGNITIVE PSYCHOL.* 421, 433–34 (2006).

suggests that the motivation to be believed tends to increase suspicious behaviors and thus reduces one's believability, regardless of the truthfulness of the testimony.¹⁴⁵ Other cues, related to nervousness, were observed in the subset of studies in which the witness lied to cover up a transgression.¹⁴⁶ Notably, detectives and students have fared poorly when trying to detect lies in realistic, high-stake circumstances, including attempts by real-life murderers and other guilty felons to escape prosecution.¹⁴⁷

The difficulties in detecting deceit are even more pronounced in the courtroom setting. For one, nervousness might be less diagnostic in the courtroom, where most witnesses—innocent defendants perhaps more than others—are anxious to be believed by the jury. Jurors might well misconstrue signs of nervousness as signs of deceit. Another problem stems from the physical limitations of the courtroom. Subtle facial cues, such as pupil dilation, are unlikely to be visible from the distance that separates the witness and jury boxes. Other cues cannot be observed absent special scientific instrumentation. Notably, the effect of deceit on voice pitch amounts to a change of just a few hertz, which is imperceptible to the naked ear.¹⁴⁸

The detection of deception in a criminal trial is further hindered by the fact that jurors are presented with synthesized testimony. Numerous pretrial occasions to practice their testimony and to receive feedback provide witnesses with the opportunity to improve their believability. There is good reason to believe that, over the course of these renditions, the stories gravitate towards a better fit with the extrinsic evidence and become embellished with details. Rehearsing the testimony might also assist liars to overcome their ambivalence and noncooperativeness, and to testify with fewer pauses

Notably, in this category of studies, gaze aversion was found to be significantly related to deceit, though the relationship was unstable and weak. The effect size for gaze aversion, measured in standardized difference (d), was -0.15 . DePaulo et al., *supra* note 139, at 97.

145. Bond & DePaulo, *Accuracy*, *supra* note 141, at 226–27.

146. Deceit related to concealing a transgression appears to reveal more nervousness ($d = 0.51$), blinking ($d = 0.38$), rate of speech ($d = 0.32$), and less foot and leg movement ($d = -0.24$). Gaze aversion was nonsignificant in this group of studies. DePaulo et al., *supra* note 139, at 101.

147. Martha Davis et al., *Judging the Credibility of Criminal Suspect Statements: Does Mode of Presentation Matter?*, 30 J. NONVERBAL BEHAV. 181, 193–94 (2006); Samantha Mann et al., *Suspects, Lies, and Videotape: An Analysis of Authentic High-Stake Liars*, 26 LAW & HUM. BEHAV. 365, 372 (2002) (finding that liars behave contrary to professional expectations); Aldert Vrij & Samantha Mann, *Who Killed My Relative? Police Officers' Ability to Detect Real-Life High-Stake Lies*, 7 PSYCHOL. CRIME & L. 119, 129 (2001) (finding that police officers were not able to accurately detect lies even in high-stakes situations).

148. VRIJ, *supra* note 142, at 55.

and shorter response latencies—all of which are deemed to be cues of deception.¹⁴⁹ Indeed, the research shows that observers are less accurate when judging prepared statements than when judging unprepared ones.¹⁵⁰ One study found that over the course of successive interviews, deceitful witnesses' behavior became increasingly more believable.¹⁵¹

The inherent difficulty in detecting deceit makes this judgment susceptible to biases and non-diagnostic features. One study found that providing observers with positive (but irrelevant) information about the witness increased the testimony's believability, while negative information reduced it.¹⁵² Another study found that witnesses who were judged to be friendly, likeable, and attractive were also more likely to be believed, irrespective of the underlying truthfulness of their statements.¹⁵³

The adverse effect of people's limited performance in detecting deceit is compounded by their overconfidence. One analysis found that participants believed that they were accurate seventy-three percent of the time, while in reality their accuracy rate was fifty-seven percent. A meta-analysis of eighteen studies found a confidence-accuracy relationship that was very close to zero, which means that confident judgments were no more accurate than doubtful ones.¹⁵⁴ Moreover, observers' confidence is likely to be inflated by group deliberation, with no appreciable improvement in accuracy.¹⁵⁵

F. False Corroboration

The assessment of evidence is hindered also by systemic problems with the evidence produced at trial. One such issue stems from the widespread reliance on corroboration. A ubiquitous cue for

149. DePaulo et al. *supra* note 139, at 75.

150. Bond & DePaulo, *Accuracy*, *supra* note 141, at 227.

151. Pär Anders Granhag & Leif A. Strömwall, *Repeated Interrogations: Verbal and Non-verbal Cues to Deception*, 16 APPLIED COGNITIVE PSYCHOL. 243, 254 (2002).

152. Granhag & Strömwall, *supra* note 141, at 214.

153. Maureen O'Sullivan, *The Fundamental Attribution Error in Detecting Deception: The Boy-Who-Cried-Wolf Effect*, 29 PERSONALITY & SOC. PSYCHOL. BULL. 1316, 1319, 1324 (2003).

154. A meta-analysis of eighteen studies found the confidence-accuracy relationship to be minute and not statistically significant ($r = 0.04$). Across the studies, the correlations ranged from -0.20 to 0.26 . Bella M. DePaulo et al., *The Accuracy-Confidence Correlation in the Detection of Deception*, 1 PERSONALITY & SOC. PSYCHOL. REV. 346, 349, 351, 353 (1997).

155. Mark G. Frank et al., *Individual and Small Group Accuracy in Judging Truthful and Deceptive Communication*, 13 GROUP DECISION & NEGOTIATION 45, 53–54 (2004); Ernest S. Park et al., *Group and Individual Accuracy in Deception Detection*, 19 COMM. RES. REP. 99, 103 (2002).

drawing inferences is the volume of the evidence items that support the conclusion and the interrelationship among them. In principle, the larger the number of items and the stronger they corroborate one another, the more they are deemed to support the conclusion. In practice, however, corroboration can be misleading. In the normal course of an investigation, each lead follows and builds upon the already collected evidence, until a sufficient accumulation of items converges on the investigative conclusion. When the initial evidence item is erroneous, it can set off an *escalation of error* that sweeps through the entire investigation.¹⁵⁶ The escalation is facilitated by the fact that investigative procedures are capable of actually *inducing* errors, which invariably cohere with and compound the extant mistaken evidence.¹⁵⁷ Escalations are oftentimes exacerbated by the police's commitment to the initial course of action taken.¹⁵⁸ This sense of commitment is particularly strong after the suspect has been named and taken into custody, which is when the bulk of the investigative work is performed.¹⁵⁹

When the evidence items are not truly independent of one another, they create a false sense of corroboration. In other words, a full-bodied set of inculpatory evidence can be a misleading artifact of the investigative process. Indeed, in a number of known wrongful convictions, the case presented to the jury consisted of strongly corroborating evidence, all of which turned out to have been false.¹⁶⁰ The availability of corroborating evidence might help explain why fewer than half of DNA exonerees even raised a claim contesting the sufficiency of evidence.¹⁶¹ Albeit wrong, the evidence in these cases appeared to be compelling to appellate judges, as only one of the sixty innocent convicts received relief on this ground.¹⁶²

156. See *supra* notes 19–23 and accompanying text.

157. See SIMON, *supra* note 9, chs. 3–5.

158. See SIMON, *supra* note 9, ch. 2.

159. NAT'L RESEARCH COUNCIL, FAIRNESS AND EFFECTIVENESS IN POLICING: THE EVIDENCE 74 (Wesley G. Skogan & Kathleen Frydl eds., 2004).

160. For illustration, a capital prosecution of an innocent Maryland man included identifications by five eyewitnesses, a shoe impression, and a putatively incriminating statement made by the defendant, all leading the prosecutor to describe the evidence as being "extremely strong." SCHECK ET AL., *supra* note 116, at 222. For more on this investigation and trial of Kirk Bloodworth, see TIM JUNKIN, BLOODSWORTH 39, 85–86, 136–37 (2004).

161. These data pertain to the 133 DNA exonerations with written opinions (taken from the first 200 DNA exonerations). Garrett, *supra* note 24, at 96.

162. *Id.* at 112.

G. Investigation Opacity

Another systemic problem that hinders the assessment of evidence is that factfinders are largely uninformed, or ill-informed, about the manner in which the evidence was collected. As mentioned, one of the distinctive features of criminal investigations is that erroneous testimony can be induced by the investigative procedures themselves. Notably, misidentifications can be caused by poorly performed lineups, event memory errors can be triggered by suggestive questioning, and false confessions can be generated by investigative tactics.¹⁶³ Factfinders would gain much by being able to compare witnesses' courtroom testimony with the exact statements they initially gave the police. It would also be helpful to provide factfinders with a complete record of the investigative procedures used to elicit their testimony, such as the precise manner in which the lineup was conducted, the verbatim wording of the interview, and the pressures applied in the interrogation room.

This information is typically unavailable to the factfinder, as the investigative process is rarely recorded. By their own admission, thirty-three percent of lineup administrators fail to keep any written reports of the lineups, and twenty-seven percent do not bother to keep a photographic record of the procedures.¹⁶⁴ Indeed, in about one-half of the eyewitness identification cases that have reached the Supreme Court, the Court noted the incompleteness of the record of the procedure (yet invariably upheld the identifications with little concern for the missing information).¹⁶⁵ Due to the limitations of memory, recalling every detail from a comprehensive investigation is simply impossible. The research shows that investigators forget much of the relevant information before the interview is over,¹⁶⁶ and there is little

163. See SIMON, *supra* note 9, chs. 2–5.

164. Michael S. Wogalter et al., *A National Survey of US Police on Preparation and Conduct of Identification Lineups*, 10 *PSYCHOL. CRIME & L.* 69, 74 (2004).

165. Incomplete records were mentioned in *United States v. Ash*, 413 U.S. 300, 313 n.8 (1973), *Neil v. Biggers*, 409 U.S. 188, 200 (1972), *Coleman v. Alabama*, 399 U.S. 1, 26 (1970) (Powell, J., dissenting), *Simmons v. United States*, 390 U.S. 377, 388 n.9 (1968), *Gilbert v. California*, 388 U.S. 263, 270 (1967), *Simmons v. United States*, 390 U.S. 377 (1968), and *Watkins v. Sowders*, 449 U.S. 341, 350 (1981).

166. Professional child abuse interviewers in a real-life study failed to recall one-quarter of the details reported by the witnesses and more than half of the questions they asked, even when taking contemporaneous verbatim notes during the interview. Michael E. Lamb et al., *Accuracy of Investigators' Verbatim Notes of Their Forensic Interviews with Alleged Child Abuse Victims*, 24 *LAW & HUM. BEHAV.* 699, 704–05 (2000). Likewise, experienced forensic and child protective interviewers recalled twenty-two percent of the questions they asked in a simulated interview.

reason to believe that witnesses will remember much more. This is particularly true when the inducing influences are conveyed by means of barely noticeable communications, such as slight variations in the instructions given at the lineup or subtle phraseology of questions.

Still, detectives routinely testify about investigative procedures, oftentimes in great detail. The concern is that this testimony is likely to be wanting due to the detectives' limited memory of the precise details, and to be skewed by the motivation to depict one's investigative work as professional and trustworthy. On the stand, detectives habitually deny influencing the witnesses' responses. In some instances, the denials are genuine, because the detective did not engage in any behavior that would induce error, was not aware that her conduct influenced the witness's response, or had simply forgotten what exactly she said or did. In other cases, detectives lie outright about their conduct, a practice known as *testilying*.¹⁶⁷ Regardless of the source of the detective's denial, it regularly contradicts the defendant's account. This happens most frequently in the context of interrogations which, despite their potential impact on the verdict, are one of the most obscure facets of the investigatory process. With no verifiable record in hand, these contradictory testimonies turn into *swearing contests* between police officers and defendants. Usually, the former come out ahead.

The unavailability of the investigative record deprives jurors of a valuable means of ascertaining the accuracy of testimony. With only incomplete and oftentimes biased information at their disposal, jurors are left with little choice but to trust or distrust the evidence blindly, or resort to superficial and often misleading features, such as the witness's confidence and demeanor.

Amye R. Warren et al., *Assessing the Effectiveness of a Training Program for Interviewing Child Witnesses*, 3 APPLIED DEVELOPMENTAL SCI. 128 (1999).

167. The term "testilying" was coined by officers who were involved in committing perjury. CITY OF N.Y. COMM'N TO INVESTIGATE ALLEGATIONS OF POLICE CORRUPTION & THE ANTI-CORRUPTION PROCEDURES OF THE POLICE DEP'T, COMMISSION REPORT 36 (1994); see also Christopher Slobogin, *Testilying: Police Perjury and What To Do About It*, 67 U. COLO. L. REV. 1037, 1040 (1996) (noting the ubiquity of testilying). Renowned criminologist Jerome Skolnick observes that for the police, "lying is a routine way of managing legal impediments—whether to protect fellow officers or to compensate for what [the officer] views as limitations the courts have placed on his capacity to deal with criminals." Jerome H. Skolnick, *Deception by Police*, 1 CRIM. JUST. ETHICS 40, 43 (1982).

II. NON-EVIDENTIAL INFLUENCES

The preceding Part of this Article examined how the determination of the facts can be hindered by difficulties in drawing inferences from the testimony that is commonly presented at criminal trials. This Part focuses on non-evidential aspects of the adjudicatory process that compound these difficulties and pose additional threats to the integrity of criminal verdicts.

Deciding criminal verdicts in difficult cases can be a most taxing mental task, and the courtroom is hardly the ideal environment for rational, astute, levelheaded decisionmaking. Jurors are presented with a cacophony of ambiguous, conflicting, and incommensurable evidence, all driven through the polarizing force fields of adversarial advocacy. The evidence consists of unknown quantities of truth, errors, exaggerations, red herrings, and outright lies. Throughout the process, skilled attorneys inform, woo, and sometimes manipulate jurors, appealing to them with a panoply of persuasive efforts, rational and otherwise. The entire experience is often steeped in emotional pulls such as empathy and sadness, and sometimes also disgust, disdain, and vengefulness. Having to decide criminal verdicts in contested cases can be a source of stress for jurors.¹⁶⁸

The law's concomitant commitment to rational inferences and its susceptibility to biasing influences evoke a body of research on *dual-process theories*, which distinguish between two general types of cognitive processing. The loose assortment of processes dubbed *System I* are typically holistic, associationistic, crude, and superficial. They are often driven by emotion, motivation, affect, effort-minimization, and closure-seeking. *System II* processing is purportedly analytical, thorough, and rational.¹⁶⁹ While some researchers have maintained that the systems operate mostly separately from one another,¹⁷⁰ or

168. Brian H. Bornstein et al., *Juror Reactions to Jury Duty: Perceptions of the System and Potential Stressors*, 23 BEHAV. SCI. & L. 321, 322, 331-32 (2005).

169. KEITH E. STANOVICH, WHO IS RATIONAL?: STUDIES OF INDIVIDUAL DIFFERENCES IN REASONING 144-45 (1999); Seymour Epstein, *Integration of the Cognitive and Psychodynamic Unconscious*, 49 AM. PSYCHOLOGIST 709, 711 (1994); Daniel T. Gilbert, *Thinking Lightly about Others: Automatic Components of the Social Inference Process*, in UNINTENDED THOUGHT 189, 190 (James S. Uleman & John A. Bargh eds., 1989); Steven A. Sloman, *The Empirical Case for Two Systems of Reasoning*, 119 PSYCHOL. BULL. 3, 4-6 (1996).

170. Robert Abelson stated that "the reasoner and the inferencer don't talk much to each other." Robert P. Abelson, *The Reasoner and the Inferencer Don't Talk Much to Each Other*, in PROCEEDINGS OF THE 1975 WORKSHOP ON THEORETICAL ISSUES IN NATURAL LANGUAGE PROCESSING 3, 3 (1975). One view suggests that the two systems operate mostly in parallel. Seymour Epstein, *Cognitive-Experiential Self-Theory: An Integrative Theory of Personality*, in

that *System II* corrects and overrides *System I*,¹⁷¹ the emerging view is that the operations of the two systems are not so distinct. In particular, *System I* processing can play a decisive role in *System II* processing.¹⁷² In other words, analytic thinking is susceptible to being skewed by superficial heuristic processing.¹⁷³

In the context of deciding criminal trials, the concern is that the avowed rational drawing of inferences will be swayed by a variety of biasing factors. As the biasing factors are generally unrelated to the defendant's actual guilt, any influence they bear on the verdict has the potential to distort the case's outcome. There is good reason to believe that competent attorneys are familiar with the biasing potential of these factors, even if implicitly so. These factors are routinely deployed by dueling attorneys in the hope of winning the adversarial contest. Cases that lend themselves to inculcating *System I* factors are more likely to command a harsh plea bargain, and, if tried, are most likely to be won. By the same token, cases that lend themselves to exculpating *System I* factors are more likely to be dismissed or to result in acquittal, again, irrespective of the defendant's guilt.

Both experimental and archival data show that decisions are least susceptible to biasing factors when the evidence is strong, one way or the other. The process becomes most vulnerable to bias when the decision is close, that is, when the evidence does not afford a clear determination of the facts.¹⁷⁴ Many cases that go to trial lack such clarity.

THE RELATIONAL SELF: THEORETICAL CONVERGENCES IN PSYCHOANALYSIS AND SOCIAL PSYCHOLOGY 111, 124 (Rebecca C. Curtis ed., 1991).

171. Daniel Kahneman & Shane Frederick, *A Model of Heuristic Judgment*, in THE CAMBRIDGE HANDBOOK OF THINKING AND REASONING 267, 286–87 (Keith J. Holyoak & Robert G. Morrison eds., 2005).

172. Jonathan St. B.T. Evans, *Dual-Processing Accounts of Reasoning, Judgment, and Social Cognition*, 59 ANN. REV. PSYCHOL. 255, 258 (2008).

173. For example, stereotyping has been found to affect not only superficial judgments, but also ones that require deeper thinking. Duane T. Wegener et al., *Not All Stereotyping Is Created Equal: Differential Consequences of Thoughtful Versus Nonthoughtful Stereotyping*, 90 J. PERSONALITY & SOC. PSYCHOL. 42, 50 (2006).

174. The "liberation hypothesis" suggests that only when the evidence is closely balanced, do jurors feel free to insert their values and beliefs into their verdicts. See HARRY KALVEN, JR. & HANS ZEISEL, THE AMERICAN JURY 164–66 (1966) (discussing the liberation hypothesis). The particular sensitivity of close cases has been replicated in numerous other studies. For experimental data, see Brewer & Hupfeld, *supra* note 77 (providing empirical research on jury decisionmaking); James D. Johnson, Erik Whitestone, Lee Anderson Jackson & Leslie Gatto, *Justice Is Still Not Colorblind: Differential Racial Effects of Exposure to Inadmissible Evidence*, 21 PERSONALITY & SOC. PSYCHOL. BULL. 893, 895–96 (1995) (studying jury impressions of defendants of different races).

A. Courtroom Persuasion

At bottom, the trial consists of attorneys' attempts at persuading factfinders to believe and endorse their side of the case. As such, litigation is an inescapably persuasive endeavor. According to a prominent dual-process theory of persuasion, people can be convinced by means of the central route of persuasion, which resembles *System II* processing. This method emphasizes systematic and deliberative communication, and it relies on the presentation of facts and rationally drawn inferences. Alternatively, people can be persuaded through heuristic routes, which map onto *System I* processing. These methods of persuasion include superficial associations, similarities, metaphors, emotional appeals, and narratives.¹⁷⁵ The research indicates that persuasion can be dominated by heuristic modes of communication, which means that factfinders stand to be persuaded by superficial cues rather than by analytic inferences drawn from the evidence.¹⁷⁶

The most ubiquitous form of persuasion is storytelling. Narratives, more so than isolated facts, have the power to mentally transport the audience, temporarily altering their normal emotional and cognitive reactions to the information presented. By partly neutralizing the recipients' critical evaluation, the storyteller makes possible the acceptance of accounts that might otherwise have been rejected.¹⁷⁷ A series of studies by Nancy Pennington and Reid Hastie shows that jurors naturally fit trial information into story-like formats. People are found to make sense of complicated evidence sets by constructing narratives that are formed around intuitive and familiar schemas or scripts of human action.¹⁷⁸ Thus, evidence that

175. See, e.g., Serena Chen & Shelly Chaiken, *The Heuristic-Systematic Model in Its Broader Context*, in *DUAL-PROCESS THEORIES IN SOCIAL PSYCHOLOGY* 73, 89 (Shelly Chaiken & Yaacov Trope eds., 1999) (discussing superficial associations); see also RICHARD E. PETTY & JOHN T. CACIOPPO, *COMMUNICATION AND PERSUASION: CENTRAL AND PERIPHERAL ROUTES TO ATTITUDE CHANGE* (1986) (discussing other factors of persuasion such as repetition of arguments, rhetorical questions, and arguer expertise).

176. Shelly Chaiken et al., *Heuristic and Systematic Information Processing Within and Beyond the Persuasion Context*, in *UNINTENDED THOUGHT*, *supra* note 169, at 219–20.

177. Melanie C. Green & Timothy C. Brock, *In the Mind's Eye Transportation-Imagery Model of Narrative Persuasion*, in *NARRATIVE IMPACT: SOCIAL AND COGNITIVE FOUNDATIONS* 315, 334–35 (Melanie C. Green et al. eds., 2002).

178. Of the possible stories that could plausibly be constructed from the trial evidence, jurors tend to adopt the strongest narrative, as determined by its coverage of the known facts, internal consistency, correspondence with background knowledge, and its structural fit with familiar narratives structures. For a review, see Nancy Pennington & Reid Hastie, *The Story Model for*

lends itself to the story format is more likely to be presented at trial and to convince a jury.¹⁷⁹ There is nothing inherently counternormative about the impact of narratives on courtroom persuasion, nor could one imagine how evidence would be presented without resorting to a narrative of one sort or another. There is also reason to believe that, in reality, truthful evidence is more likely to produce a good narrative than untruthful evidence. Still, there is a danger that factual inferences will be swamped by the narrative force of a case, as well as by the persuasiveness of the witnesses and attorneys who deliver it.

There are more serious concerns than mere storytelling. Research shows that persuasion is affected by a host of heuristic routes to persuasion, such as the use of emotional appeals,¹⁸⁰ metaphors,¹⁸¹ irony,¹⁸² rhetorical questions,¹⁸³ and humor and ridicule.¹⁸⁴ Persuasion is affected also by the listeners' characteristics, such as attitudes and group membership,¹⁸⁵ their affective states,¹⁸⁶ and confidence.¹⁸⁷ People have been found to place greater weight on anecdotal and personal experiences than on more reliable sources of

Juror Decision Making, in INSIDE THE JUROR: THE PSYCHOLOGY OF JUROR DECISION MAKING 192, 195 (Reid Hastie ed., 1993). The story model was preceded by W. LANCE BENNETT & MARTHA S. FELDMAN, RECONSTRUCTING REALITY IN THE COURTROOM: JUSTICE AND JUDGEMENT IN AMERICAN CULTURE 41–65 (1981); see also WILLEM ALBERT WAGENAAR ET AL., ANCHORED NARRATIVES: THE PSYCHOLOGY OF CRIMINAL EVIDENCE 55–57 (1993) (providing statistical and anecdotal evidence of the persuasive power of stories on jury decisionmaking).

179. This is not to say that the story model is entirely a construct of persuasion. Pennington and Hastie's research demonstrates that people apply the story format intrapersonally, as an adaptive cognitive tool to enable the handling of complex evidence sets. Pennington & Hastie, *supra* note 178, at 194.

180. William D. Crano & Radmila Prislin, *Attitudes and Persuasion*, 57 ANN. REV. PSYCHOL. 345, 357, 359 (2006).

181. Pradeep Sopory & James Price Dillard, *The Persuasive Effects of Metaphor: A Meta-analysis*, 28 HUM. COMM. RES. 382, 404 (2002).

182. Raymond W. Gibbs Jr. & Christin D. Izett, *Irony as Persuasive Communication*, in FIGURATIVE LANGUAGE COMPREHENSION: SOCIAL AND CULTURAL INFLUENCES 131, 138–44 (Herbert L. Colston & Albert N. Katz eds., 2005).

183. David R. Roskos-Ewoldsen, *What Is the Role of Rhetorical Questions in Persuasion?*, in COMMUNICATION AND EMOTION: ESSAYS IN HONOR OF DOLF ZILLMANN 297, 298–99 (Jennings Bryant et al. eds., 2003).

184. Pamela Hobbs, *Lawyers' Use of Humor as Persuasion*, 20 HUMOR: INT'L J. HUMOR RES. 123 *passim* (2007).

185. Wendy Wood, *Attitude Change: Persuasion and Social Influence*, 51 ANN. REV. PSYCHOL. 539, 557–58 (2000).

186. Richard E. Petty et al., *Attitudes and Attitude Change*, 48 ANN. REV. PSYCHOL. 609, 625 (1997).

187. Richard E. Petty et al., *Thought Confidence as a Determinant of Persuasion: The Self-Validation Hypothesis*, 82 J. PERSONALITY & SOC. PSYCHOL. 722, 727 (2002).

information.¹⁸⁸ People are also affected by the medium through which visual information is communicated, such as video, color photography, or text,¹⁸⁹ as well as by the likeability of the speaker.¹⁹⁰

It is hardly surprising to find that adversarial attorneys are tempted to put these heuristic forms of persuasion to use. A brief glance at conventional trial advocacy manuals and professional education materials reveals how seriously lawyers take heuristic persuasion. For illustration, lawyers are advised to dress properly, maintain an appearance of absolute sincerity, entertain the jurors, tell them a story, be brief, keep a distance from the jury box, and, tellingly, not sound like a lawyer.¹⁹¹ Another manual instructs lawyers to “be good,” appear confident, maintain eye contact with the jury, dress to suit the jury’s taste, and vary the tone, volume, and modulation of speech.¹⁹² Titles of mainstream training manuals include *Theater Tips and Strategies for Jury Trials* and *What Can Lawyers Learn From Actors?*¹⁹³ Some lawyers undergo therapy in the hope of connecting better with jurors.¹⁹⁴ The potential for exploiting heuristic persuasion is one of the driving forces behind the emergence of the trial consulting industry. The trade association’s July 2008 newsletter offered lawyers advice on courtroom techniques, such as

188. Eugene Borgida & Richard E. Nisbett, *The Differential Impact of Abstract vs. Concrete Information on Decisions*, 7 J. APPLIED SOC. PSYCHOL. 258, 268 (1977). In a study testing a tort case, jurors were about twice as likely to find for the plaintiff when the defense’s expert witness presented scientific data as compared to anecdotes (fifty-nine percent versus thirty-one percent). Brian H. Bornstein, *The Impact of Different Types of Expert Scientific Testimony on Mock Jurors’ Liability Verdicts*, 10 PSYCHOL. CRIME & L. 429, 434–35 (2004).

189. In a simulated tort case, jurors awarded higher damages for a bodily injury when it was depicted in color photographs than in black and white photographs or in text form. Denise H. Whalen & Fletcher A. Blanchard, *Effects of Photographic Evidence on Mock Juror Judgement*, 12 J. APPLIED SOC. PSYCHOL. 30, 38 (1982).

190. Martin F. Kaplan & Lynn E. Miller, *Reducing the Effects of Juror Bias*, 36 J. PERSONALITY & SOC. PSYCHOL. 1443, 1450–53 (1978).

191. KEITH EVANS, *THE COMMON SENSE RULES OF TRIAL ADVOCACY*, 13–15, 20–21, 46–48, 54, 60 (1994).

192. ROGER HAYDOCK & JOHN SONSTENG, *TRIAL: ADVOCACY BEFORE JUDGES, JURORS, AND ARBITRATORS* 18–19 (3d ed. 2004).

193. These manuals are published by The National Institute for Trial Advocacy (“NITA”). NITA is a well-regarded, 501(c)(3) charitable organization whose primary mission is to “promote justice through effective and ethical advocacy.” Mission Statement, NITA, <http://www.nita.org/page.asp?id=2> (last visited Nov. 11, 2010).

194. For example, workshops in the group therapy technique of psychodrama have been designed for lawyers. While the promoters of the workshops claim that it helps attorneys become better people, proponents also contend that it could help them persuade juries. Jessica Garrison, *Lawyers Tap Their Feelings to Connect with Jurors: Attorneys Use a Technique Called Psychodrama to Learn to Win a Jury’s Sympathy*, L.A. TIMES, Nov. 25, 2006, at B1.

developing easy and memorable themes, preparing compelling visual aids, and using religion effectively in the courtroom.¹⁹⁵

B. Exposure to Impermissible Information

A key feature of the Anglo-American trial is that the verdict ought to be based on the evidence admitted at trial. Information that was not admitted as evidence ought not to affect the decision.¹⁹⁶ This expectation might be jeopardized by the fact that jurors are often exposed to extra-evidential information. This information often comes from media reports, most of which originate from the police, but it can also stem from questioning during jury selection, utterances by witnesses, statements by lawyers, or courtroom gossip.

The potential effect of pretrial publicity has been observed in the laboratory as well as in the field. Field studies have found that prospective jurors' belief in the defendants' guilt was positively related to their exposure to information about the cases.¹⁹⁷ The study of 179 Indiana trials revealed a significant correlation between exposure to pretrial publicity and the verdicts rendered.¹⁹⁸ The presence and impact of pretrial publicity is bound to be strongest in high profile crimes, especially in small communities. In one notable case, a poll conducted by an Oklahoma City television station found that before any evidence was presented in court against a murder suspect, sixty-eight percent of the viewers voted that he was guilty. The defendant was convicted and sentenced to death, only to be exonerated by DNA ten years later.¹⁹⁹

195. THE JURY EXPERT: THE ART AND SCIENCE OF LITIGATION ADVOCACY (July 2008), available at <http://www.astcweb.org/public/publication/issue.cfm/July/2008/20/2/16>.

196. Jurors are instructed to that effect. For example, the California pattern instructions state, "You must use only the evidence that is presented in the courtroom." JUDICIAL COUNCIL OF CAL. CRIMINAL JURY INSTRUCTIONS 104 (2010).

197. Gary Moran & Brian L. Cutler, *The Prejudicial Impact of Pretrial Publicity*, 21 J. APPLIED SOC. PSYCHOL. 345, 354, 359 (1991); Michael T. Nietzel & Ronald C. Dillehay, *Psychologists as Consultants for Changes of Venue: The Use of Public Opinion Surveys*, 7 LAW & HUM. BEHAV. 309, 321 (1983).

198. The correlation between exposure to media reports and guilty verdicts was 0.26. Consistent with the liberation hypothesis, the correlation was 0.39 for the cases in which the strength of evidence was intermediate Dennis J. Devine et al., *Strength of Evidence, Extrajudicial Influence, and the Liberation Hypothesis: Data from the Field*, 33 LAW & HUM. BEHAV. 136, 142 (2009).

199. Ten years after Robert Miller was convicted and sentenced to death, he was exonerated by a DNA test that exculpated him and identified the true perpetrator. SCHECK ET AL., *supra* note 116, at 78–87, 92–106; *Robert Miller*, THE INNOCENCE PROJECT, http://www.innocenceproject.org/Content/Robert_Miller.php (last visited Nov. 11, 2010).

Experimental research indicates that extra-evidential information can readily seep into the decisionmaking process and sway the verdict. Conviction rates have been found to rise after jurors have been exposed to inadmissible newspaper items that linked a defendant's gun to the murder,²⁰⁰ reported on the defendant's prior suspicious conduct,²⁰¹ described the suspect as a friendless bully,²⁰² and provided information about an argument between the defendant and the victim on the day of her death.²⁰³ A meta-analysis of forty-four empirical tests involving more than 5,000 participants resulted in an overall increase of conviction rate of sixteen percent due to pretrial publicity. The effects are strongest in studies conducted under more realistic conditions.²⁰⁴ Presenting extra-evidential information in a graphical manner (on video) led to stronger biasing effects than less graphic presentations (in print).²⁰⁵

One explanation for the impact of pretrial publicity is that jurors cannot always recall whether a particular fact was presented at trial or was conveyed by an extra-evidential source.²⁰⁶ Another explanation is that, in striving to reach a result that seems just, jurors use any information they deem probative, regardless of whether it was admitted into evidence. In some instances, judges seek to counter the effects of pretrial publicity by instructing the jurors to ignore it. The

200. The exposure to the news item resulted in an increase in the rate of convictions from thirty-nine percent to forty-six percent. Stanley Sue et al., *Biasing Effects of Pretrial Publicity on Judicial Decisions*, 2 J. CRIM. JUST. 163, 169 (1974).

201. The predeliberation rates of conviction on the two cases rose from fifty-seven percent to sixty-five percent and from thirty-four percent to forty-two percent, respectively. Norbert L. Kerr, Keith E. Niedermeier & Martin F. Kaplan, *Bias in Jurors vs Bias in Juries: New Evidence from the SDS Perspective*, 80 ORGANIZATIONAL BEHAV. & HUM. DECISION PROCESSES 70, 77-78 (1999).

202. The rates of conviction rose from fifty-six percent to seventy-three percent. Lorraine Hope et al., *Understanding Pretrial Publicity: Predecisional Distortion of Evidence by Mock Jurors*, 10 J. EXPERIMENTAL PSYCHOL.: APPLIED 111, 113, 115 (2004).

203. The rates of conviction rose from thirty-seven percent to sixty-three percent. Christine Ruva et al., *Effects of Pre-trial Publicity and Jury Deliberation on Juror Bias and Source Memory Errors*, 21 APPLIED COGNITIVE PSYCHOL. 45, 53, 58, 65 (2007). A subsequent study using the same materials resulted in similar conviction rates (thirty-eight percent and seventy percent, respectively). Christine L. Ruva & Cathy McEvoy, *Negative and Positive Pretrial Publicity Affect Juror Memory and Decision Making*, 14 J. EXPERIMENTAL PSYCHOL.: APPLIED 226, 231 (2008).

204. Nancy Mehrkens Steblay et al., *The Effects of Pretrial Publicity on Juror Verdicts: A Meta-analytic Review*, 23 LAW & HUM. BEHAV. 219, 219, 223, 229 (1999).

205. James R. P. Ogloff & Neil Vidmar, *The Impact of Pretrial Publicity on Jurors: A Study to Compare the Relative Effects of Television and Print Media in a Child Sex Abuse Case*, 18 LAW & HUM. BEHAV. 507, 507 (1994).

206. Ruva et al., *supra* note 203, at 46. On issues surrounding the monitoring of the source of one's memories, see Mitchell & Johnson, *Source Monitoring: Attributing Mental Experiences*, in THE OXFORD HANDBOOK OF MEMORY, *supra* note 82, at 184-85.

effectiveness of these admonitions has been challenged by a sizeable body of experimental research.²⁰⁷

C. Emotional Arousal

The tension between the law's aspiration to analytical processing of evidence and the potential biasing effects of *System I* factors is perhaps most pronounced when it comes to making decisions that are emotionally charged.²⁰⁸ Given the ubiquity and inextricability of emotion in everyday judgments, it would be impractical and arguably inadvisable to try to rid the decisionmaking of all emotion. The situation gets more complicated when it comes to intense emotions. Heinous crimes, for example, tend to arouse high levels of anger, disgust, outrage, and indignation.²⁰⁹ Social-psychological studies find that the arousal of anger bears profound effects on judgments of other people. Angry observers are more likely to attribute blame to the person being judged, to perceive her conduct as intentional, to lower the required threshold of evidence, and to neglect alternative explanations and mitigating circumstances.²¹⁰ Anger has also been found to increase the reliance on stereotypes,²¹¹ the desire

207. Nancy Steblay et al., *The Impact on Juror Verdicts of Judicial Instruction to Disregard Inadmissible Evidence: A Meta-analysis*, 30 LAW & HUM. BEHAV. 469, 469 (2006). For a review, see SIMON, *supra* note 9, ch. 7.

208. The legal system is well aware of the susceptibility of jury verdicts to emotional arousal, and jurors are routinely instructed not be overtaken by it. See, e.g., JUDICIAL COUNCIL OF CAL. CRIMINAL JURY INSTRUCTIONS, *supra* note 196, at 101 ("Do not let bias, sympathy, prejudice, or public opinion influence your decision.").

209. Exposing people to gruesome images has been found to be strongly arousing. Noelle Robertson et al., *Vicarious Traumatization as a Consequence of Jury Service*, 48 HOW. J. CRIM. JUST. 1, 1 (2009). On the relationship among these emotional reactions, see Daniel Kahneman & Cass R. Sunstein, *Cognitive Psychology of Moral Intuitions*, in NEUROBIOLOGY OF HUMAN VALUES 91, 91–103 (J.-P. Changeux et al. eds., 2005).

210. Julie H. Goldberg et al., *Rage and Reason: The Psychology of the Intuitive Prosecutor*, 29 EUR. J. SOC. PSYCHOL. 781, 781, 782 (1999); Jennifer S. Lerner et al., *Sober Second Thought: The Effects of Accountability, Anger, and Authoritarianism on Attributions of Responsibility*, 24 PERSONALITY & SOC. PSYCHOL. BULL. 563, 563 (1998); Brian M. Quigley & James T. Tedeschi, *Mediating Effects of Blame Attributions on Feelings of Anger*, 22 PERSONALITY & SOC. PSYCHOL. BULL. 1280, 1280 (1996). Anger was also found to mediate judgments of blame in apportioning responsibility for accidents. Neal Feigenson et al., *The Role of Emotions in Comparative Negligence Judgments*, 31 J. APPLIED SOC. PSYCHOL. 576, 576 (2001).

211. For example, arousal of anger increased participants' tendency to believe an allegation that a Hispanic person behaved violently and that a student athlete cheated on an exam. Galen V. Bodenhausen et al., *Negative Affect and Social Judgment: The Differential Impact of Anger and Sadness*, 24 EUR. J. SOC. PSYCHOL. 45, 45, 50 (1994).

for retaliation,²¹² and the motivation to take action to remedy the transgression.²¹³ It is important to note that anger is a mood state, and its effects are not readily containable. In these studies, the state of anger affected judgments of people who were not related in any way to the event that triggered the anger.

The effects of anger were found also in studies that simulated legal decisionmaking. One study found that presenting simulated jurors with gruesome photographs of a stabbed murder victim led to an arousal of negative emotions—including feeling anxious, anguished, disturbed, and shocked—which resulted in a doubling of the conviction rate.²¹⁴ Similar findings were made in studies that contained presentations of severe brutality and mutilation.²¹⁵ Importantly, in these studies, the issue in question was the identity of the perpetrator, which means that the heinousness of the act was entirely irrelevant and nondiagnostic to deciding the verdict.²¹⁶ In evidence law terminology, the heinous evidence bore a strong prejudicial effect while providing no probative value.²¹⁷ Gruesome

212. Tamara J. Ferguson & Brendan Gail Rule, *An Attributional Perspective on Anger and Aggression*, in *AGGRESSION: THEORETICAL AND EMPIRICAL REVIEWS* 41, 44 (RUSSELL G. GEEN & I. DONNERSTEIN eds., 1983).

213. Diane M. Mackie et al., *Intergroup Emotions: Explaining Offensive Action Tendencies in an Intergroup Context*, 79 *J. PERSONALITY & SOC. PSYCHOL.* 602, 602 (2000). Judgments of social situations can be affected also by other emotions. For the emotional effects of victim impact statements, see Janice Nadler & Mary R. Rose, *Victim Impact Testimony and the Psychology of Punishment*, 88 *CORNELL L. REV.* 419, 422 (2003).

214. Kevin S. Douglas et al., *The Impact of Graphic Photographic Evidence on Mock Jurors' Decisions in a Murder Trial: Probative or Prejudicial?*, 21 *LAW & HUM. BEHAV.* 485, 485, 492 (1997).

215. In one study, exposure to gruesome evidence increased the conviction rate from 14 percent to 34 percent. David A. Bright & Jane Goodman-Delahunty, *The Influence of Gruesome Verbal Evidence on Mock Juror Verdicts*, 11 *PSYCHIATRY PSYCHOL. & L.* 154, 154 (2004); see also David A. Bright & Jane Goodman-Delahunty, *Gruesome Evidence and Emotion: Anger, Blame, and Jury Decision-Making*, 30 *LAW & HUM. BEHAV.* 183, 183 (2006) (finding that exposure to gruesome photographs increased anger at the defendant as well as the conviction rate). Other studies, however, have provided only partial support for the effect of gruesome evidence. See Saul M. Kassir & David A. Garfield, *Blood and Guts: General and Trial-Specific Effects of Videotaped Crime Scenes on Mock Jurors*, 21 *J. APPLIED SOC. PSYCHOL.* 1459, 1459 (1991) (finding that gruesome evidence affected juries in different ways, and produced an overall prejudice in a trial).

216. Anger can play a legitimate role in sentencing decisions. Various homicide statutes recognize heinousness as a factor that can aggravate a homicide to a first degree murder, and even to a capital murder. See, e.g., *TENN. CODE ANN.* § 39-13-204(h)(i)(5) (2010) (including "heinous" nature of crime as an aggravating factor in sentencing of capital cases).

217. See *FED. R. EVID.* 403 (authorizing the exclusion of relevant evidence if its probative value is substantially outweighed by its prejudicial effect).

evidence has been employed successfully in the prosecution of innocent defendants.²¹⁸

D. Racial Prejudice

Another threat to the integrity of the factfinding process stems from reliance on racial stereotypes. Given that prejudiced groups are subject to discrimination in various walks of life,²¹⁹ it would not be surprising to find that they were also treated disparately by the criminal justice system. The research shows that racial bias influences conviction rates when the crime charged is typical of the stereotype of the defendant's group. For example, white defendants are more likely to be found guilty than black defendants for embezzlement, but the reverse is true for auto theft and burglary. The research shows that the congruence between the crime and the stereotype leads to more superficial and confirmatory searches for information regarding the defendant's guilt, to attributions of the criminal behavior to the internal personality of the defendant, and to higher predictions of future criminal behavior.²²⁰

These experimental results are consistent with data from the DNA exonerations, which come predominantly from convictions for rape, perhaps the most stereotypical of crimes. While seventy-three percent of the first 200 DNA exonerees convicted for rape were minorities, the overall proportion of minorities amongst people

218. For example, in the closing arguments in Darryl Hunt's second trial, prosecutor Dean Bowman brought some jurors to tears when describing how the victim of the rape-murder must have felt with the "thick yellow sickening fluid in her body? . . . Did she feel the life inside just trickle right out of her body right there on the grass?" Zerwick, *supra* note 22, pt. 6.

219. For illustration of discrimination in employment, see Marianne Bertrand & Sendhil Mullainathan, *Are Emily and Greg More Employable than Lakisha and Jamal? A Field Experiment on Labor Market Discrimination*, 94 AM. ECON. REV. 991, 991 (2004) (finding that differential treatment by race seems to remain prevalent in the U.S. labor market). For illustrations of discrimination in organ transplants and car purchasing, see IAN AYRES, *PERVASIVE PREJUDICE?: UNCONVENTIONAL EVIDENCE OF RACE AND GENDER DISCRIMINATION* 38-39, 174-75 (2003).

220. Randall A. Gordon, *Attributions for Blue-Collar and White-Collar Crime: The Effects of Subject and Defendant Race on Simulated Juror Decisions*, 20 J. APPLIED SOC. PSYCHOL. 971, 971 (1990); Randall A. Gordon et al., *Perceptions of Blue-Collar and White-Collar Crime: The Effect of Defendant Race on Simulated Juror Decisions*, 128 J. SOC. PSYCHOL. 191, 191 (1988); Christopher S. Jones & Martin F. Kaplan, *The Effects of Racially Stereotypical Crimes on Juror Decision-Making and Information-Processing Strategies*, 25 BASIC & APPLIED SOC. PSYCHOL. 1, 1 (2003). Stereotype effects were observed in judgments of gay defendants accused of molestation and Hispanic defendants accused of assault. Galen V. Bodenhausen, *Second-Guessing the Jury: Stereotypic and Hindsight Biases in Perceptions of Court Cases*, 20 J. APPLIED SOC. PSYCHOL. 1112, 1112, 1155 (1990).

convicted for rape is about half of that.²²¹ This pattern is particularly pronounced in cases where the victims are white. Although only fewer than one in six rapes perpetrated against white women are committed by black men,²²² almost half of the people exonerated of rape by DNA testing were convicted for cross-racial rape, mostly black men charged with assaulting white women.²²³

Racial effects are observed also in the meting out of punishments, especially in the context of death sentencing. Archival data show that black defendants who killed white victims are more likely to be sentenced to death than any other racial combination.²²⁴ It is also noteworthy that some black defendants are punished more harshly than others. Specifically, experiments show that black defendants with distinct Afrocentric facial features—notably, a broad nose, thick lips, and dark skin—are judged more harshly than black people who appear less stereotypically African.²²⁵ This finding is

221. Garrett, *supra* note 24, at 96.

222. Of the 194,270 rapes reported by white victims in 2006, the race of the offender was known in 82.8 percent of the reports. Of these instances, 16.7 percent were perpetrated by black men. BUREAU OF JUSTICE STATISTICS, U.S. DEPT. OF JUSTICE, CRIMINAL VICTIMIZATION IN THE UNITED STATES 2006, tbl.42, available at <http://bjs.ojp.usdoj.gov/content/pub/pdf/cvus0602.pdf>.

223. THE INNOCENCE PROJECT, 200 EXONERATED: TOO MANY WRONGFULLY CONVICTED 20–21 (2007), available at http://www.innocenceproject.org/200/ip_200.pdf. To be sure, these disparities cannot be attributed entirely to the decisionmaking process, as they could be caused by factors relating to the testimony—such as the cross-race effect in eyewitness identification—as well as by prosecutorial discretion. It is doubtful whether the cross-race effect can explain this marked disproportion. Note that a similar racial disproportion is observed in capital sentencing (discussed below), where eyewitness identification plays only a minor role. The similarity between these two domains suggests that racial prejudice affects the criminal justice process in deeper ways including, possibly, by skewing juries' determinations of guilt for minorities for stereotypically congruent crimes.

224. See DAVID C. BALDUS ET AL., EQUAL JUSTICE AND THE DEATH PENALTY: A LEGAL AND EMPIRICAL ANALYSIS 173, 183 (1990) (finding generally that black defendants are more often given the death penalty than white defendants); John Blume et al., *Explaining Death Row's Population and Racial Composition*, 1 J. EMPIRICAL LEGAL STUD. 165, 165, 204 (2004) (finding that facial features are one factor in the higher proportion of black inmates on death row).

225. For laboratory findings, see Irene V. Blair et al., *The Role of Afrocentric Features in Person Perception: Judging by Features and Categories*, 83 J. PERSONALITY & SOC. PSYCHOL. 5, 5 (2002); Irene V. Blair et al., *The Use of Afrocentric Features as Cues for Judgment in the Presence of Diagnostic Information*, 35 EUR. J. SOC. PSYCHOL. 59, 59 (2005).

manifested in archival data of prison sentencing,²²⁶ and even in death penalty sentencing.²²⁷

E. The Coherence Effect

One of the distinctive features of difficult cases is that they entail drawing inferences from multiple evidence items, all of which need to be integrated into a singular factual assessment and converted into a binary verdict choice. This task is no light matter given the sheer volume, uncertainty, incommensurability, and conflict among of the evidence presented. For illustration, an analysis of the evidence presented in the trial of Sacco and Vanzetti identified more than 300 facts and propositions.²²⁸

The integration of evidence in complex decision tasks is the subject of a body of research on the *coherence effect*. This basic psychological research program can be encapsulated by the Gestaltian notion that *what goes together, must fit together*. The research indicates that decisions are made effectively and comfortably when they are derived from *coherent* mental models of the case at hand.²²⁹ A mental model is deemed coherent when the conclusion is strongly supported by the bulk of the evidence, with only weak evidence or none at all supporting the contrary conclusion.²³⁰ The cognitive system

226. A study of a sample of 216 Florida convicted inmates revealed that those whose appearance was one standard deviation above the group mean measure of Afrocentric features received sentences that were seven to eight months longer than inmates with one standard deviation below the mean. Irene V. Blair et al., *The Influence of Afrocentric Facial Features in Criminal Sentencing*, 15 PSYCHOL. SCI. 674, 674–75, 678 (2004).

227. Among the forty-four Philadelphia cases where black defendants were convicted for capital murder of a white victim, twenty-four percent of defendants classified as having low Afrocentric features were sentenced to death, whereas the rate was fifty-seven percent for defendants who had a strong stereotypical look. Jennifer L. Eberhardt et al., *Looking Deathworthy: Perceived Stereotypicality of Black Defendants Predicts Capital-Sentencing Outcomes*, 17 PSYCHOL. SCI. 383, 383, 384 (2006).

228. According to this count, the prosecution's case contained 139 evidence items and the defense's case comprised of 199. JOSEPH B. KADANE & DAVID A. SCHUM, A PROBABILISTIC ANALYSIS OF THE SACCO AND VANZETTI CASE 80, 286–337 (1996).

229. The term "mental model" is used here in the broad sense of a structured representation. See ARTHUR B. MARKMAN, KNOWLEDGE REPRESENTATION 248–50 (1999) (examining theories and uses of mental models).

230. "Coherence-based reasoning" is grounded in the cognitive architecture of Parallel Constraint Satisfaction, which was developed to explain mental processing involved in vision. The seminal work on constraint satisfaction theories is DAVID E. RUMELHART & JAMES L. MCCLELLAND, PARALLEL DISTRIBUTED PROCESSING: EXPLORATIONS IN THE MICROSTRUCTURE OF COGNITION (1986). For an introduction to connectionism, see PAUL THAGARD, COHERENCE IN THOUGHT AND ACTION 30–32 (2000) (explaining how to translate a coherence problem into a

stamps out complexity and decisional conflict by imposing coherence on the mental model of the task. Over the course of the decisionmaking process, the mental representation of the facts undergoes gradual change, from the initial state of complexity towards an ultimate state of coherence with the emerging conclusion. As the conclusion emerges—whether conviction or acquittal—the decisionmaker experiences the supporting evidence as stronger and more probative, while the contrary evidence wanes. The generation of coherence is driven by a bidirectional process of reasoning: just as the facts guide the choice of the preferred conclusion, the emergence of that conclusion radiates backwards and reshapes the facts to become more coherent with it. These *coherence shifts*, which occur primarily beneath the level of conscious awareness, serve to spread apart the available conclusions, leading to the dominance of one conclusion over the other, thus enabling a confident decision.²³¹ While this effect is adaptive, it must be appreciated that the forcefulness of the evidence sets on which decisions are made is, to some degree, an artifact of the cognitive system rather than an objective assessment of the case at hand. In other words, successful decisionmaking entails a certain distortion of the evidence.

One important feature of the coherent effect is the *spreading apart* of the mental model of the case, that is, the bolstering of the evidence that supports one verdict and the weakening of the evidence that supports the opposite verdict. This polarization has the potential

problem that can be solved in a connectionist network). For an excellent review, see Stephen J. Read et al., *Connectionism, Parallel Constraint Satisfaction Processes, and Gestalt Principles: (Re)Introducing Cognitive Dynamics to Social Psychology*, 1 PERSONALITY & SOC. PSYCHOL. REV. 26 (1997).

231. See Keith J. Holyoak & Dan Simon, *Bidirectional Reasoning in Decision Making by Constraint Satisfaction*, 128 J. EXPERIMENTAL PSYCHOL.: GEN. 3, 3 (1999) (finding that constraint satisfaction can transform ambiguous inputs into coherent decisions); Dan Simon, Daniel C. Krawczyk & Keith J. Holyoak, *Construction of Preferences by Constraint Satisfaction*, 15 PSYCHOL. SCI. 331, 331 (2004) (demonstrating the coherence effect in nonlegal decisionmaking) [hereinafter Simon et al., *Construction of Preferences*]; Dan Simon, Lien B. Pham, Quang A. Le & Keith J. Holyoak, *The Emergence of Coherence Over the Course of Decision Making*, 27 J. EXPERIMENTAL PSYCHOL.: LEARNING, MEMORY, & COGNITION 1250, 1250 (2001) (finding that a coherence-generating mechanism operates in a variety of processing tasks which includes decisionmaking); Dan Simon, Chadwick J. Snow & Stephen J. Read, *The Redux of Cognitive Consistency Theories: Evidence Judgments by Constraint Satisfaction*, 86 J. PERSONALITY & SOC. PSYCHOL. 814, 814 (2004) (observing the coherence effect in the integration of evidence) [hereinafter Simon et al., *The Redux*]; Dan Simon, Daniel C. Krawczyk, Airom Bleicher & Keith J. Holyoak, *The Transience of Constructed Preferences*, 21 J. BEHAV. DECISION MAKING 1, 1 (2008) (examining the stability of constructed preferences over time). For a review, see Dan Simon, *A Third View of the Black Box: Cognitive Coherence in Legal Decision Making*, 71 U. CHI. L. REV. 511 (2004) [hereinafter Simon, *A Third View*].

to sway the verdict, especially when the decisionmaker is inclined towards voting to convict. First, the spreading apart of the evidence entails a substantial relegation of one subset of evidence items, namely, the evidence that is inconsistent with the emerging verdict.²³² When a juror leans towards conviction, the relegation of inconsistent evidence will amount to a reduction in the strength of the exculpatory evidence, which might otherwise have given rise to a reasonable doubt. In other words, the coherence effect can turn a reasonable doubt into a negligible one. Second, the coherence effect results also in high levels of confidence, even when the evidence itself was initially ambiguous and complex.²³³ Confidence levels have been found to be correlated with the magnitude of the coherence shifts: the greater the spreading apart of the evidence, the higher the confidence.²³⁴ It is not hard to see how this can undermine the effect of the heightened standard of proof: confidence inflation can boost a mere leaning towards conviction up to a highly confident judgment of guilt that surpasses the requisite threshold for conviction.²³⁵

A second important feature of this cognitive phenomenon is the *non-independence* of evidence items. In principle, the probativeness of each evidence item ought to be based on its inherent value, and not to be influenced by other factors on which it is not logically dependent. Inferences are deemed to proceed exclusively unidirectionally, from evidence to verdicts. The research, however, demonstrates that the evidence items become intertwined with the larger task through bidirectional links to form a Gestaltian structure. As a result, the evaluation of the evidence shifts towards a state of coherence with the larger scheme of things.

The non-independence of evidence is manifested most clearly by studies that show that evidence can be distorted by means of backward reasoning, from the outcome back to the evidence.

232. Simon et al., *The Redux*, *supra* note 231, at 814; Andreas Glöckner & Christoph Engel, *Can We Trust Intuitive Jurors? Standards of Proof and the Probative Value of Evidence in Coherence Based Reasoning* 12, 17–19 (Max Planck Inst. for Research on Collective Goods, Preprint No. 2008/36) available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1307580.

233. In the experiments simulating a criminal case, more than half of the confidence ratings were eight or above and only fifteen percent were under six (on a scale of one to eleven). Simon et al., *The Redux*, *supra* note 231, at 819. In another study, three-quarters of the participants rated their confidence at a level of four or five, on a scale one to five. Holyoak & Simon, *supra* note 231, at 6.

234. See Simon et al., *The Redux*, *supra* note 231, at 821.

235. This shift has no such effect on the verdict when the juror is leaning towards acquittal. Given the heightened standard of proof in criminal trials, a juror who is inclined to acquit must do so regardless of the strength of that leaning.

Specifically, bad outcomes lead people to interpret ambiguous evidence as more adverse,²³⁶ and the motivation to reach a particular outcome results in corresponding distortions of the evidence.²³⁷ Evidence is likewise influenced by the other evidence in the case, absent any rational connection between the items. Thus, adding a piece of probative information can sway the decision and all other evidence items to cohere with it.²³⁸ This nonnormative phenomenon was observed also incidentally in a number of experiments that found that the evidence for one side can be affected by evidence presented by the opposing side. Studies have found that including trivial details in one witness's testimony leads to decreases in the perceived believability of opposing witnesses,²³⁹ disproving irrelevant details in a witness's testimony results in increases in the credibility of opposing witnesses,²⁴⁰ and increasing the confidence of a prosecution eyewitness leads to a weakening of the credibility of the defense alibi evidence.²⁴¹

By the same token, the coherence effect makes evidence appear to be more consistent with other evidence items supporting the same side. For example, simulated jurors were more likely to determine that an ambiguous composite drawing resembled the defendant after learning of other inculcating evidence against him,²⁴² and discrediting an evidence item weakened the strength of other evidence supporting the same side.²⁴³ It should be noted that the impact of the coherence

236. Mark D. Alicke et al., *A Posteriori Adjustment of A Priori Decision Criteria*, 12 SOC. COGNITION 281, 281–83 (1994).

237. The most plausible explanation for the influence on motivation on interpretations of the evidence is that it is mediated by backward reasoning that goes through the verdict. See Dan Simon, Douglas Stenstrom & Stephen J. Read, *On the Objectivity of Investigations: An Experiment*, (CELS 2008 3rd Annual Conference on Empirical Legal Studies Paper, 2008).

238. For the effect of adding one piece of evidence on all the other evidence, see Holyoak & Simon, *supra* note 231, at 11–20; Simon et al., *Construction of Preferences*, *supra* note 231, at 331–33; Simon et al., *The Redux*, *supra* note 231, at 817–22, 824–27.

239. Bell & Loftus, *Degree of Detail*, *supra* note 75, at 1171; Bell & Loftus, *Vivid Persuasion*, *supra* note 75, at 659.

240. Jeffrey J. Borckardt et al., *Effects of the Inclusion and Refutation of Peripheral Details on Eyewitness Credibility*, 33 J. APPLIED SOC. PSYCHOL. 2187, 2187 (2003).

241. Brian C. Smith et al., *Jurors' Use of Probabilistic Evidence*, 20 LAW & HUM. BEHAV. 49, 49, 54, 61 (1996); see also Craig R.M. McKenzie et al., *When Negative Evidence Increases Confidence: Change in Belief After Hearing Two Sides of a Dispute*, 15 J. BEHAV. DECISION MAKING 1, 1 (2002) (finding that a case judged to weakly support one side often increased confidence in the other).

242. Steve D. Charman et al., *Exploring the Diagnostic Utility of Facial Composites: Beliefs of Guilt Can Bias Perceived Similarity Between Composite and Suspect*, 15 J. EXPERIMENTAL PSYCHOL.: APPLIED 76, 84–85 (2009).

243. David A. Lagnado & Nigel Harvey, *The Impact of Discredited Evidence*, 15 PSYCHONOMIC BULL. & REV. 1166, 1166 (2008).

effect is not limited to the decisionmaking phase. It can also result in distortions of the witnesses' perception of the criminal event and the investigators' conclusions.²⁴⁴

The non-independence phenomenon contributes to our understanding of the contaminating effect of extra-evidential information, such as pretrial publicity and innuendo. The effect of adding one piece of information to all other evidence items was observed incidentally in a number of studies. Informing jurors that the defendant in a murder trial was a friendless bully resulted in more inculpatory interpretations of the testimony of the patrol officer, the coroner, the victim's father, and the social worker.²⁴⁵ Informing jurors of a wiretapped conversation of the defendant incriminating himself led to more inculpatory interpretations of testimony from the other witnesses.²⁴⁶ Similar effects were observed when jurors were exposed to the defendant's prior criminal record.²⁴⁷ The coherence effect might also help explain why judicial admonitions to disregard extra-evidential information are oftentimes futile. Even if people could obey instructions to disregard the information—in itself a difficult feat²⁴⁸—the biasing effect of the exposure on the other, legitimate evidence items is bound to be harder to reverse.

244. For example, eyewitnesses' recognition of the perpetrator at a lineup decisions were strongly influenced by exposure to information that the suspect had confessed to the crime. Lisa E. Hasel & Saul M. Kassin, *On the Presumption of Evidentiary Independence: Can Confessions Corrupt Eyewitness Identifications?*, 20 PSYCHOL. SCI. 122, 122 (2009). Likewise, eyewitnesses' evaluations of the similarity of facial composites to the perpetrator were affected by the strength of the defendant's alibi. Dawn McQuiston-Surrett et al., *Evaluation of Facial Composite Evidence Depends on the Presence of Other Case Factors*, 13 LEGAL & CRIMINOLOGICAL PSYCHOL. 279, 279 (2008).

245. Hope et al., *supra* note 202, at 111, 113. For another study showing the effect of inadmissible pretrial publicity on juror verdicts, see Amy L. Otto et al., *The Biasing Impact of Pretrial Publicity on Juror Judgments*, 18 LAW & HUM. BEHAV. 453 (1994).

246. Saul M. Kassin & Samuel R. Sommers, *Inadmissible Testimony, Instructions to Disregard, and the Jury: Substantive Versus Procedural Considerations*, 23 PERSONALITY & SOC. PSYCHOL. BULL. 1046, 1046 (1997).

247. Edith Greene & Mary Dodge, *The Influence of Prior Record Evidence on Juror Decision Making*, 19 LAW & HUM. BEHAV. 67, 67 (1995); Valerie P. Hans & Anthony N. Doob, *Section 12 of the Canada Evidence Act and the Deliberations of Simulated Juries*, 18 CRIM. L.Q. 235, 242 (1976). Exposing jurors to incriminating pretrial publicity in a murder trial also led them to rate the prosecutor more favorably and the defense attorney more negatively, while exposure to publicity that was favorable to the defendant resulted in opposite assessments. Ruva & McEvoy, *supra* note 203, at 230, 231.

248. Jonathan M. Golding & Debra L. Long, *There's More to Intentional Forgetting than Directed Forgetting: An Integrative Review*, in INTENTIONAL FORGETTING: INTERDISCIPLINARY APPROACHES 59, 93 (Jonathan M. Golding & Colin M. MacLeod eds., 1998).

III. TOWARDS DIAGNOSTICITY

A. Limited Diagnosticity

The research discussed in the previous two parts exposed problems with the adjudicative process's diagnosticity. Part I revealed that factfinders are likely to encounter considerable difficulties in deciphering the types of testimony typically presented in criminal trials. People are prone to overbelieve eyewitness identifications, are not adequately sensitive to the factors that hinder identifications, and place too much trust in the witnesses' frequently miscalibrated confidence. Assessments of people's memories for events tend to rely on cues that are only weakly diagnostic of accuracy. Reliance on poorly diagnostic cues also plagues assessments of the validity of suspects' confessions. Alibi evidence can often be misleading, as even for innocent suspects, alibis are difficult to produce, often incorrect, hard to corroborate, and readily disbelieved. The research finds also that the widespread practice of attempting to judge the truthfulness of testimony from the witness's demeanor is largely baseless. To complicate matters, the apparent corroboration within large sets of evidence might be no more than an artifact of the process by which evidence is accumulated in the investigatory phase. The factfinding task is crippled also by the paucity of the investigative record, which deprives factfinders of information that could help assess the reliability of the testimony. Furthermore, factfinders are provided only with *synthesized* testimony, which is the product of memories that have decayed and likely also been contaminated over the course of the investigation and the pretrial process. The evidence has typically undergone editing, embellishment, and alterations, and has been gutted of traces of accuracy.

Part II examined non-evidential features of the criminal decisionmaking process that have the potential to interfere with the factfinding task. Human judgment is susceptible to various forms of courtroom advocacy, including compelling narrative structures and superficial forms of persuasion. Jurors' judgment can be swayed by information that is inadmissible as evidence but was nonetheless communicated to the jurors, by the emotional arousal that follows exposure to heinous evidence, and by prejudice pertaining to the race of the defendant or the victim. Finally, the evaluation of evidence can be distorted by the cognitive process itself, namely, *the coherence effect*. Overall, the limited diagnosticity of the process is exacerbated by the fact that people tend to overestimate their performance on the

tasks discussed in Part I, and to underestimate their susceptibility to the threats discussed in Part II.

These findings call into question two claims that proponents draw from research data in defense of the process. Proponents point to the well-established finding that judges and juries tend to agree on verdicts in about three-quarters of the cases.²⁴⁹ While this agreement is germane to the debate comparing the performance of juries and judges, it hardly speaks to the actual diagnosticity of either one. The research gives reason to believe that when faced with the same trial evidence, judges and jurors will encounter similar difficulties in discerning the facts and will thus produce similar verdict patterns.

Proponents also stress that the strength of the evidence plays a major role in determining verdicts. That claim too is supported by the experimental research,²⁵⁰ as well as by field data.²⁵¹ The fact that the correlations between the inculpatory evidence and conviction rates are statistically significant is indeed encouraging. Yet, their strength gives reason for pause. In contexts where there is no reason to expect any relationship between two variables—say, between eating broccoli and academic performance—even a weak correlation would be considered a promising finding. The same cannot be said for contexts

249. See, e.g., BURNS, *supra* note 5, at 153 (1999) (noting that “in the large majority of situations the judge and the jury reach the same conclusion”); VIDMAR & HANS, *supra* note 5, at 148–51 (examining recent research to support judge-jury agreement on verdicts); Richard Lempert, *Why Do Juries Get a Bum Rap? Reflections on the Work of Valerie Hans*, 48 DEPAUL L. REV. 453, 454 (1998) (examining Hans’s work on judge-jury agreement on verdicts). This assertion is well documented. The rate of agreement was seventy-eight percent in the classic study reported in KALVEN & ZEISEL, *supra* note 174, at 57. A similar rate of seventy-five percent was observed in the study conducted by the National Center for State Courts (“NCSC”) that examined more than 300 felony trials in four large metropolitan areas. See Theodore Eisenberg et al., *Judge-Jury Agreement in Criminal Cases: A Partial Replication of Kalven and Zeisel’s The American Jury*, 2 J. EMPIRICAL LEGAL STUD. 171, 177, 180 (2005).

250. See, e.g., SAUL KASSIN & LAWRENCE S. WRIGHTSMAN, *THE PSYCHOLOGY OF EVIDENCE AND TRIAL PROCEDURE* 83–91 (1985); Leticia De La Fuente et al., *Effects of Pretrial Juror Bias, Strength of Evidence and Deliberation Process on Juror Decisions: New Validity Evidence of the Juror Bias Scale Scores*, 9 PSYCHOL. CRIME & L. 197, 197 (2003) (finding that evidential issues and bias can successfully predict verdicts); Christy A. Visher, *Juror Decision Making: The Importance of Evidence*, 11 LAW & HUM. BEHAV. 1, 1 (1987) (finding that juror decisions are dominated by evidential issues).

251. The NCSC study found beta values of about 0.4 between juror verdicts and the assessments of the strength of the prosecution’s evidence. Stephen P. Garvey et al., *Juror First Votes in Criminal Trials*, 1 J. EMPIRICAL LEGAL STUD. 371, 381, 396 (2004). These relationships refer to the strength of evidence as reported by the judges who sat on the cases. A study of 179 criminal jury trials conducted in Indianapolis found correlations ranging from 0.4–0.6. In this study, the strength of evidence was based on combined estimates from prosecutors, defense attorneys and judges. Devine et al., *supra* note 198, at 141, 142, 145. More data on this relationship would be most welcome.

where a powerful relationship is prescribed and expected in the first place. Given the adjudicative process's steadfast commitment to reliance on trial evidence and its commitment to high rates of accuracy, it is troubling to find that half or more of the variance in verdicts cannot be explained by the strength of the evidence.²⁵² There is reason to suspect that the unexplainable variance can be attributed at least in part to the factors discussed in Part II above.²⁵³

One possible objection to this critique is that much of the research cited in this Article is confined to human performance in decontextualized circumstances that fail to capture the potential for accuracy afforded by the legal procedure. Criminal factfinding might prove to be more diagnostic once embedded in the safeguards designed to correct for error and bias. These include cross-examination, jury instructions, jurors' assurances of impartiality, the prosecution's heightened burdens, jury deliberation, and judicial review by appellate and postconviction proceedings. A thorough discussion of this objection extends beyond the scope of this Article. Elsewhere, I analyze the research pertaining to the effectiveness of these safeguards and find that they bear mixed and weak effects. To a limited extent, the measures do improve the performance of the process, but, under a wide range of circumstances, they are ineffective and can even be detrimental to its diagnosticity.²⁵⁴

In sum, criminal verdicts are determined to a large degree at the investigative phase, with the trial serving primarily as a ritual

252. As mentioned, the NCSC study found beta values of about 0.4 between juror verdicts and the assessments of the strength of the evidence. Stephen P. Garvey et al., *Juror First Votes in Criminal Trials*, 1 J. EMPIRICAL LEGAL STUD. 371, 381, 396 (2004). In the Indianapolis study, only thirty percent of the variance was explained by the strength of the evidence (Nagelkerke $R^2 = 0.30$). Devine et al., *supra* note 198, at 143. The relationship between the actual strength of the evidence and the verdicts in the above-mentioned field studies might have been even weaker than these data suggest. As discussed above, the "coherence effect" likely inflated the reported relationship by shifting the perception of the evidence to greater coherence with the verdict. See *supra* note 231 and accompanying text.

One might correctly contend that the relationship between the strength of evidence and verdict need not be linear, as the high standard of proof should result in a step function, with all cases that fall below the standard of proof resulting in acquittals and all cases above that level resulting in convictions. As indicated in the following footnote, this possibility is not borne out by the field data.

253. It is also troubling to find that both judges and jurors tend to vote to convict even when they deem the inculpatory evidence to be less than compelling. The NCSC study indicates that both jurors and judges displayed a similar tendency of over-convicting defendants relative to their own estimation of the strength of the prosecution's evidence. A majority of decisions in cases with medium-strength evidence resulted in convictions, as did about one in five cases with weak evidence. See Eisenberg et al., *supra* note 249, at 171, 186–87.

254. See SIMON, *supra* note 9, ch. 7.

that delivers more symbolic than real value.²⁵⁵ Given the widespread trust placed in its verdicts,²⁵⁶ the trial can be characterized as *pseudo-diagnostic*.²⁵⁷

The remainder of this Article deals with enhancing the diagnosticity of the criminal justice process.²⁵⁸ First, however, it is imperative to examine two interrelated conceptual issues that serve to maintain criminal adjudication in its current form despite its limited diagnosticity: the relegation of factual accuracy and the denial of the process's shortcomings. The prospects of reform are to a large extent contingent on the prospects of altering these mindsets. Finally, I suggest practical measures that have the potential to improve the performance of the process.

255. Given the historical development of the common law's criminal justice process, its limited accuracy is not altogether surprising. As described by John Langbein, the English criminal process evolved piecemeal, as a series of ad hoc tactical measures intended to balance out the advantages of the opposing adversaries and to circumvent the disbursement of punishments that were discordant with the prevailing public sentiment. These historical developments transpired with little concern over the system's capacity or propensity to ascertain truth. JOHN H. LANGBEIN, *THE ORIGINS OF ADVERSARY CRIMINAL TRIAL* 306–36 (2003).

256. High expectations of accuracy were expressed in the Jurors' Beliefs Survey, which surveyed 650 respondents. The median acceptable rate of wrongful convictions was two out of 1,000 convictions, and the mode response was zero. Simon et al., *supra* note 46. A survey of police chiefs, prosecutors, and judges in Ohio found that more than three quarters maintained that the acceptable level ought to be below 0.5%. Robert J. Ramsey & James Frank, *Wrongful Conviction: Perceptions of Criminal Justice Professionals Regarding the Frequency of Wrongful Conviction and the Extent of System Errors*, 53 *CRIME & DELINQ.* 436, 454 (2007). Michigan law enforcement officials were more stringent, with two thirds stating levels of zero. Marvin Zalman, Brad Smith & Angie Kiger, *Officials' Estimates of the Incidence of "Actual Innocence" Convictions*, 25 *JUST. Q.* 72, 87–88. A somewhat higher tolerance of error was obtained in a survey by Arkes and Mellers of 133 college students. These respondents reported an acceptable rate of wrongful convictions of five percent. Hal R. Arkes & Barbara A. Mellers, *Do Juries Meet Our Expectations?*, 26 *LAW & HUM. BEHAV.* 625, 631 (2002).

257. Juror decisionmaking was described by an early observer as "the great procedural opiate." Edson R. Sunderland, *Verdicts, General and Special*, 29 *YALE L.J.* 253, 262 (1920).

258. The costs of wrongful acquittals are well known: the failure to punish a truly guilty person thwarts society's interests in retribution, deterrence, incapacitation, rehabilitation, and value expression. There are also strong reasons for reducing the incidence of wrongful convictions to the lowest feasible level. Foremost, inflicting punishment on the innocent constitutes a moral transgression on that person, his family, and his social circle. Preventing wrongful 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. Of the first 250 people exonerated by DNA, forty-two percent of the exonerations resulted in the identification of the true perpetrator. *THE INNOCENCE PROJECT*, *supra* note 7.

B. The Relegation of Factual Accuracy

One of the most complicated and underappreciated features of the criminal justice process is the low value it assigns to the accuracy of its factual determinations—or, in legal parlance, the finding of truth. It would be naïve to suggest that determining facts—namely, who committed which crime—is the single desideratum of the criminal justice system. The process must fulfill a broader array of objectives, which include promoting the public's acceptance of verdicts, expressing society's values, asserting the authoritative power of the state, bringing closure to victims, and finalizing disputes.²⁵⁹ The process must also comport with a number of constraints, such as expedience, cost-effectiveness, and timeliness, all the while protecting the privacy and autonomy interests of the people involved. A key challenge facing any criminal justice system is how to balance between and among the search for truth and these competing objectives and constraints.²⁶⁰

The framework that has been adopted by the U.S. criminal legal system to resolve these tensions centers on the preeminence of procedure. Notwithstanding occasional pronouncements of the importance of finding the truth,²⁶¹ that goal is effectively eclipsed by the prescribed procedural regime. This subversion of ends by means is punctuated by the fact that defendants are promised certain constitutional protections and procedural rights, not accurate outcomes.²⁶² The legal regime is preoccupied with regulating issues

259. See, e.g., ABRAMSON, *supra* note 5, at 99 (exploring the role of juries in a democratic system); MICHEL FOUCAULT, ETHICS: SUBJECTIVITY AND TRUTH 23–25 (Paul Rabinow ed., 1994) (explaining the purpose of a punitive society); VIDMAR & HANS, *supra* note 5, at 65 (exploring the role of juries in a democratic system); Charles R. Nesson, *The Evidence or the Event? On Judicial Proof and the Acceptability of Verdicts*, 98 HARV. L. REV. 1357, 1391 (1985) (discussing the objectives of adjudication).

260. As noted by Mirjan Damaška, the place of factual truth is contingent on the overall nature and objectives of the respective legal regime. MIRJAN R. DAMAŠKA, THE FACES OF JUSTICE AND STATE AUTHORITY: A COMPARATIVE APPROACH TO THE LEGAL PROCESS 119–30 (1985).

261. E.g., *Teague v. Lane*, 489 U.S. 288, 334, 344 (1989) (Brennan, J., dissenting) (refusing to apply plurality's rule, arguing that it has insufficient truth-seeking functions); *Murray v. Carrier*, 477 U.S. 478, 495 (1986) (affirming that the purpose of constitutional standard of proof beyond a reasonable doubt is to overcome an aspect of a criminal trial that impairs the truth-finding function).

262. See 7 WAYNE R. LAFAYE ET AL., CRIMINAL PROCEDURE § 2 (3d ed. 2007); DAMAŠKA, *supra* note 260, at 222. For example, in discussing the admissibility of confession evidence, Chief Justice Rehnquist explained: "The inquiry made by a court concerned with these matters is not whether the proponent of the evidence wins or loses his case on the merits, but whether the evidentiary Rules have been satisfied." *Bourjaily v. United States*, 483 U.S. 171, 175 (1987).

such as search and seizure, confrontation of witnesses, self-incrimination, legal representation, the right to a jury trial, and jury selection—all of which bear nonobvious and even negative effects on the accuracy of the verdicts.²⁶³ The preeminence of procedural rights is epitomized in Herbert Packer's influential *Two Models of the Criminal Process*. Notably, the pro-defendant *Due Process Model* is concerned primarily with protecting the defendant's right to a fair procedure.²⁶⁴ To a large extent, the procedures themselves have become the ultimate value of the process,²⁶⁵ with fairness serving as its guiding principle. Yet, fairness is not deemed to stand for the substantive principle that people ought to get what they deserve. Rather, it serves as a mechanical device for balancing out the litigants' perceived advantages in the adversarial contest. The process is deemed fair if the playing field is roughly level,²⁶⁶ with little regard to what actually transpires on it.²⁶⁷

The relegation of factual accuracy manifests itself throughout the criminal justice process. Investigative procedures vary

263. To be sure, in reality defendants are not always awarded the prescribed procedures in full. The Court often reminds us that “[a] defendant is entitled to a fair trial but not a perfect one.” *Lutwak v. United States*, 344 U.S. 604, 619 (1953); *see also* *Delaware v. Van Arsdall*, 475 U.S. 673, 681 (1986) (discussing the harmless-error doctrine in such circumstances). Thus, even when reviewing courts find procedural violations, they are often reluctant to overturn the convictions. Judges are becoming increasingly inclined to declare procedural errors “harmless,” thus averting a disruption of lower courts' decisions. Harmlessness is typically determined by examining the totality of the evidence, which reverts the analysis to the trial court findings. *See, e.g., Fulminante v. Arizona*, 499 U.S. 279, 307–08 (1991) (discussing the harmless-error doctrine); *Van Arsdall*, 475 U.S. at 619 (same). This inquiry can be distorted by the false corroboration discussed above, as well as by the “coherence effect” on judges' own views of the case. *See* Simon, *A Third View*, *supra* note 231, at 575–83.

264. HERBERT L. PACKER, *THE LIMITS OF THE CRIMINAL SANCTION* 163–71 (1968).

265. *See* DONALD A. DRIPPS, *ABOUT GUILT AND INNOCENCE: THE ORIGINS, DEVELOPMENT, AND FUTURE OF CONSTITUTIONAL CRIMINAL PROCEDURE* 142–51 (2003) (noting the importance of procedural justice); GEORGE C. THOMAS, *THE SUPREME COURT ON TRIAL: HOW THE AMERICAN JUSTICE SYSTEM SACRIFICES INNOCENT DEFENDANTS* 139 (2008) (discussing the value of procedural justice); William Stuntz, *The Uneasy Relationship Between Criminal Procedure and Criminal Justice*, 107 *YALE L.J.* 1, 6 (1997) (proposing that criminal justice is too dependent upon procedural, and not substantive, safeguards).

266. *See* RICHARD H. UVILLER, *THE TILTED PLAYING FIELD: IS CRIMINAL JUSTICE UNFAIR?* 9 (1999) (discussing the limits of parity and the concept of the level playing field).

267. For example, in the case of Jeffrey Deskovic, convicted for raping and murdering a high school classmate, the judge explained: “Maybe you're innocent . . . but the jury has spoken.” Fernanda Santos, *Vindicated by DNA, but a Lost Man on the Outside*, *N.Y. TIMES*, Nov. 25, 2007, at A1, available at http://www.nytimes.com/2007/11/25/us/25jeffrey.html?pagewanted=1&_r=1&hp. Deskovic was exonerated by a DNA test after having served fifteen years of a possible life sentence. *Jeff Deskovic*, *The Innocence Project*, <http://www.innocenceproject.org/Content/44.php> (last visited Nov. 11, 2010).

considerably among law enforcement departments, are conducted with little regard to scientific research, and often fall short of best-practices.²⁶⁸ Commonly used forensic sciences lack a verifiable scientific basis, and are often misused and misrepresented in court.²⁶⁹ The place of accuracy is especially obscure and perplexing at the pinnacle of the process—the jury’s decisionmaking. Jurors are required only to issue a general verdict,²⁷⁰ are not expected to provide any reasons, and are generally unaccountable for their decisions.²⁷¹ Moreover, Federal Rule of Evidence 606(b) shrouds the deliberation process with a veil of secrecy by barring jurors from testifying about how the decision was reached and what transpired in the deliberation room.²⁷² Yet the system reserves the factfinding task exclusively to the proverbial *province of the jury* and guards that dominion jealously.²⁷³

268. See SIMON, *supra* note 9; Samuel R. Gross, *Convicting the Innocent*, 4 ANN. REV. L. & SOC. SCI. 173, 187 (2008) (arguing that unreliable police investigations contribute to the production of false convictions).

269. See Brandon L. Garrett & Peter J. Neufeld, *Invalid Forensic Science Testimony and Wrongful Convictions*, 95 VA. L. REV. 1, 84–89 (2009) (discussing unreliability of forensic testing and prosecutorial misuse of forensic evidence at trial); Paul C. Giannelli, *The Abuse of Scientific Evidence in Criminal Cases: The Need for Independent Crime Laboratories*, 4 VA. J. SOC. POLY & L. 439, 441 (1997) (“[A]lthough scientific evidence is far superior to other types of evidence . . . it is also subject to abuse.”); D. Michael Risinger, *The NAS/NRC Report on Forensic Science: A Path Forward Fraught with Pitfalls*, UTAH L. REV. (forthcoming) (manuscript at 15–19), available at <http://ssrn.com/abstract=1537038> (concluding that courts and defense attorneys must do more to ensure the prosecution does not misuse and misrepresent suspect forensic evidence).

270. Research suggests that separate voting on each element of the charge would increase the accuracy of verdicts. Studies find a higher variance in holistic judgments than in judgments that are disaggregated into the task’s constitutive elements. Hal R. Arkes et al., *Assessing the Merits and Faults of Holistic and Disaggregated Judgments*, 23 J. BEHAV. DECISION MAKING 250, 264 (2009); Hal R. Arkes et al., *Comparing Holistic and Disaggregated Ratings in the Evaluation of Scientific Presentations*, J. BEHAV. DECISION MAKING, 429, 436–37 (2006).

271. The research indicates that the lack of accountability results in less critical and more superficial patterns of thinking. See Philip E. Tetlock et al., *Social and Cognitive Strategies for Coping with Accountability: Conformity, Complexity, and Bolstering*, 57 J. PERSONALITY & SOC. PSYCHOL. 632, 638–40 (1989); Philip E. Tetlock, *Social Functionalist Frameworks for Judgment and Choice: Intuitive Politicians, Theologians, and Prosecutors*, 109 PSYCHOL. REV. 451, 457 (2002) (“Self-critical thinkers are more cautious about drawing conclusions from incomplete evidence and are more willing to change their minds in response to evidence.”).

272. The Court has upheld an order refusing an evidentiary hearing to explore jurors’ allegations that fellow jurors had consumed large amounts alcohol, marijuana and cocaine during lunch breaks, causing them to sleep through trial sessions. *Tanner v. United States*, 483 U.S. 107, 127 (1987).

273. The Court recently stated “[t]he Federal Constitution’s jury-trial guarantee assigns the determination of certain facts to the jury’s exclusive province.” *Oregon v. Ice*, 129 S. Ct. 711, 716 (2009). The Court has stated that it is decidedly “the responsibility of the trier of fact fairly to resolve conflicts in the testimony, to weigh the evidence, and to draw reasonable inferences from basic facts to ultimate facts.” *Jackson v. Virginia*, 443 U.S. 307, 318–19 (1979). As the Supreme

Following the trial, convicted defendants face substantial barriers to obtaining meaningful appellate and collateral review of trial court verdicts. Access to reviewing courts is limited by intricate statutory and judicially created procedural conditions, including filing deadlines, contemporaneous objection at trial, narrow categories of cognizable claims, and exhaustion of claims.²⁷⁴ Reviewing courts generally refrain from conducting evidentiary hearings and impose stringent thresholds for intervention.²⁷⁵ Finally, cases with lingering doubts are often punted to the executive branch,²⁷⁶ for whom the political costs of freeing convicted inmates—even ones who are most likely innocent—is particularly high.²⁷⁷

The relegation of factual accuracy and low regard for claims of innocence are most jarring in the jurisprudence of the Supreme Court, which not only forges the law, but also fosters the ethos that envelopes the system. Most bewildering is that the Court has yet to resolve its doubts whether the Constitution affords a freestanding claim of actual innocence to capital defendants who can provide a “truly persuasive” demonstration of innocence.²⁷⁸ Justice Scalia recently reminded us that “[t]his Court has *never* held that the Constitution forbids the execution of a convicted defendant who has had a full and fair trial but is later able to convince a habeas court that he is ‘actually’ innocent.”²⁷⁹ Even if the Court were to recognize such a right, it would

Court conceives its role, once “a jury is convinced beyond a reasonable doubt, we can require no more.” *Holland v. United States*, 348 U.S. 121, 140 (1954). In *Wright v. West*, Justice Thomas explained that “neither the Court of Appeals nor we may review” a jury’s factual findings. 505 U.S. 277, 296 (1992).

274. See, e.g., 28 U.S.C. §§ 2241–2266 (2008); RANDY HERTZ & JAMES LIEBMAN, *FEDERAL HABEAS CORPUS PRACTICE AND PROCEDURE* (2005).

275. *Jackson v. Virginia*, 443 U.S. 307, 318–19 (1979). As the Supreme Court conceives its role, once “the jury is convinced beyond a reasonable doubt, we can require no more.” *Holland v. United States*, 348 U.S. 121, 140 (1954); see also 28 U.S.C. § 2254(d) (2006) (describing the very stringent standard for granting habeas corpus relief for issues that were “adjudicated on the merits in state court proceedings”).

276. *Herrera v. Collins*, 506 U.S. 390, 411–12 (1993) (“Clemency is deeply rooted in our Anglo-American tradition of law, and is the historic remedy for preventing miscarriages of justice where judicial process has been exhausted.”).

277. For examples, see the case of Earl Washington, *Earl Washington*, The Innocence Project, http://www.innocenceproject.org/Content/Earl_Washington.php (last visited Jan. 3, 2011), and the case of the “Norfolk Four”, TOM WELLS & RICHARD LEO, *THE WRONG GUYS: MURDER, FALSE CONFESSIONS, AND THE NORFOLK FOUR* (2008).

278. See *Herrera v. Collins*, 506 U.S. 390, 417 (1993) (assuming without deciding that “a truly persuasive demonstration of ‘actual innocence’ made after trial would render the execution of a defendant unconstitutional”). The Court added that if this “assumed right” were recognized, the threshold for establishing it would necessarily be “extraordinarily high.” *Id.*

279. *In re Davis*, 130 S. Ct. 1, 3 (2009) (Scalia, J., dissenting) (emphasis in original).

likely not be made available to noncapital defendants, many of whom spend decades or their entire lives in prison.

The Court has placed defendants at an informational disadvantage by providing them with a limited right to prosecutorial disclosure of potentially exculpatory evidence.²⁸⁰ Oddly, criminal defendants are entitled to considerably less information about the evidence poised to deprive them of their liberty than are litigants in simple contract or tort proceedings.²⁸¹ The right to disclosure of exculpatory evidence is even weaker in the widespread domain of plea negotiations.²⁸² As a result, the majority of felony convictions follow agreements that are often based on stark information asymmetries. Further, the Court has denied convicted inmates access to the state's evidence to conduct DNA testing for the purpose of substantiating a claim of innocence.²⁸³

The Court has condoned the admission of evidence of questionable reliability, in particular suggestive identification procedures and dubious confessions.²⁸⁴ This approach is intertwined with a relegation of the significance of evidence, as manifested in the important decision of *Manson v. Brathwaite*:

It is part of our adversary system that we accept at trial much evidence that has strong elements of untrustworthiness While identification testimony is significant

280. See *Brady v. Maryland*, 373 U.S. 83, 90–91 (1963); Bennett Gershman, *Reflections on Brady v. Maryland*, 47 S. TEX. L. REV. 685, 686 (2006) (“Reflecting on this landmark decision forty-three years later, one is struck by the dissonance between *Brady*’s grand expectations to civilize U.S. criminal justice and the grim reality of its largely unfulfilled promise.”); Scott E. Sundby, *Fallen Superheroes and Constitutional Mirages: The Tale of Brady v. Maryland*, 33 MCGEORGE L. REV. 643, 644 (2002) (“In other words, if anyone else has shared the belief that *Brady* sets forth an important constitutional right for discovering exculpatory evidence prior to trial, it is time that we re-examine *Brady* and realize that its superhero powers are far more limited.”).

281. David A. Sklansky & Stephen C. Yeazell, *Comparative Law Without Leaving Home: What Civil Procedure Can Teach Criminal Procedure, and Vice Versa*, 94 GEO. L.J. 683, 713 (2006).

282. The Court has found that prior to entering into a plea agreement, the prosecution has no constitutional obligation to disclose any impeachment evidence that would weaken the case against the defendant. *United States v. Ruiz*, 536 U.S. 622, 633 (2002).

283. *Dist. Attorney’s Office v. Osborne*, 129 S. Ct. 2308, 2310 (2009).

284. Suspicious identifications were admitted in the cases of *Neil v. Biggers*, 409 U.S. 188, 200 (1972), and *Manson v. Brathwaite*, 432 U.S. 98, 117 (1977). For a discussion, see SIMON, *supra* note 9, ch. 7; Gary L. Wells & Deah S. Quinlivan, *Suggestive Eyewitness Identification Procedures and the Supreme Court’s Reliability Test in Light of Eyewitness Science: 30 Years Later*, 33 LAW & HUM. BEHAV. 1 (2009). For questionable confession evidence, see *Lego v. Twomey*, 404 U.S. 477 (1972), and *Colorado v. Connelly*, 479 U.S. 157 (1986). See also George E. Dix, *Federal Constitutional Confession Law: The 1986 and 1987 Supreme Court Terms*, 67 TEX. L. REV. 231 (1988).

evidence, such testimony is still only evidence, and, unlike the presence of counsel, is not a factor that goes to the very heart—the ‘integrity’—of the adversary process.²⁸⁵

The Court’s low concern for the prospect of factual innocence seeps through the values that inform its decisions. For example, in the *Herrera* opinion, the Court expressed its concern over “the very disruptive effect that entertaining claims of actual innocence would have on the need for finality in capital cases.”²⁸⁶ In permitting an eyewitness identification that was obtained from a suggestive lineup, the Court described the exclusion of the identification as a “Draconian sanction” to the prosecution, while making light of the risk that a misidentification posed to the defendant.²⁸⁷ In denying the right to disclosure of exculpatory impeachment evidence during plea negotiations, the Court stated that such a constitutional obligation could “seriously interfere with the Government’s interest in securing those guilty pleas . . . and the efficient administration of justice.”²⁸⁸ In denying an evidentiary hearing to investigate allegations that members of a jury consumed large amounts of alcohol and drugs during a trial, the Court prioritized the interests of finality, frank deliberation (ignoring the risk of excessive frankness), and, oddly, the public’s trust in the system.²⁸⁹

The Court’s attitude towards the value of factual accuracy is likely to foster a sense of skepticism among detectives, lawyers, and even judges, whose incentives are not always aligned with truth seeking in the first place. As proponents are quick to explain, the trial is not concerned with what actually happened at the crime scene, but with what can be proved in court. In the practitioners’ universe, the currency of testimony is measured not by its correspondence with the truth, but by the muscle it provides in the adversarial contest. A positive identification by a confident eyewitness, for example, is a powerful prosecutorial weapon, regardless of any doubts about its accuracy or the source of its accompanying confidence. This atmosphere of evidence-skepticism is particularly corrosive in adversarial contexts.²⁹⁰ There is reason to believe that the skepticism

285. *Manson v. Brathwaite*, 432 U.S. 98, 113 (1977); *Watkins v. Sowders*, 449 U.S. 341, 348 (1981).

286. *Herrera v. Collins*, 506 U.S. 390, 417 (1993).

287. *Mason v. Brathwaite*, 432 U.S. 98, 113 (1977).

288. *United States v. Ruiz*, 536 U.S. 622, 633 (2002).

289. *Tanner v. United States*, 483 U.S. 107, 120–21 (1987).

290. Research shows that in adversarial contexts, the parties’ biases are mutually exacerbated by their perception that their opponents are biased, with the result of an escalation

also affects juror decisionmaking. On occasion, juries appear to doubt seemingly reliable and compelling evidence and thus arrive at questionable acquittals.²⁹¹

Not surprisingly, the Court's attitude also infuses the scholarly debate and legal pedagogy. Constitutional procedural rights dominate the content of leading American criminal procedure casebooks, with only a small fraction of the curriculum devoted to the question of accuracy. Notably, a substantial share of criminal procedure education and discourse focuses on the search and seizure doctrine which, by its nature, thwarts accuracy and works mostly to benefit guilty defendants.²⁹²

C. The Denial of Error

It is noteworthy that despite the pervasive relegation of the correct determination of facts, proponents of the criminal justice process swear by the accuracy of its outcomes.²⁹³ Proponents seem to believe in a convenient confluence, by which adherence to the procedural safeguards leads to factually correct outcomes.²⁹⁴ As noted by an English jurist, the jury's "verdict does pass for truth."²⁹⁵ Justice

of the conflict. Kathleen A. Kennedy & Emily Pronin, *When Disagreement Gets Ugly: Perceptions of Bias and the Escalation of Conflict*, 34 PERSONALITY & SOC. PSYCHOL. BULL. 833, 833 (2008).

291. In some instances, this skepticism appears to be shared by jurors, which could explain the cases where juries voted to acquit defendants in the face of compelling evidence of guilt. See, e.g., Jeffrey Rosen, *After 'One Angry Woman'*, 1998 U. CHI. LEGAL F. 179, 179-95 (examining race and acquittal rates); H. Richard Uviller, *Acquitting the Guilty: Two Case Studies of Jury Misgivings and the Misunderstood Standard of Proof*, 2 CRIM. L.F. 1, 1-43 (1990) (describing two situations where the jury acquitted despite strong evidence of guilt).

292. See generally WILLIAM PIZZI, TRIALS WITHOUT TRUTH: WHY OUR SYSTEM OF CRIMINAL TRIALS HAS BECOME AN EXPENSIVE FAILURE AND WHAT WE NEED TO DO TO REBUILD IT (1998).

293. On occasion, the Court utters fleeting and abstract admissions that the system cannot be perfect. E.g., *Dist. Attorney's Office v. Osborne*, 129 S. Ct. 2308, 2323 (2009) ("[The criminal justice] system, like any human endeavor, cannot be perfect."). This truism, however, rarely affects the manner in which cases are adjudicated.

294. Monroe H. Freedman, *Our Constitutional Adversary System*, 1 CHAP. L. REV. 57, 59-64 (1998); Lon L. Fuller, *The Adversary System*, in TALKS ON AMERICAN LAW 30, 39-43 (Harold J. Berman ed., 1961). For a disparaging view of this approach, see FRANK, *supra* note 10, at 80-85; LLOYD L. WEINREB, DENIAL OF JUSTICE 18-19 (1977). The Court all but admits that it has no choice but to believe in the integrity of the process: "[T]he proper evaluation of evidence under the instructions of the trial judge is the very task our system must assume juries can perform." *Watkins v. Souders*, 449 U.S. 341, 347 (1981).

295. *R. v. William Russell (Trial of William Lord Russell)*, (1683) 9 St. Tr. 577 (K.B.) 666; see also LANGBEIN, *supra* note 255, at 332 (identifying the speaker as George Treby, the recorder of London, sentencing Lord Russell to death for treason).

O'Connor stated that a person cannot be legally or factually innocent if he was awarded the constitutional protections and found guilty by a jury of his peers.²⁹⁶ This widespread faith was famously captured by Judge Learned Hand's assurance that, while the criminal justice system had always been "haunted by the ghost of the innocent man convicted," that concern was merely "an unreal dream."²⁹⁷ The denial of error is shared also by law enforcement officials who operate the system on a daily basis. A majority of surveyed police chiefs, prosecutors, and trial judges insist that mistaken verdicts never occur or occur only at an infinitesimal rate, at least within their jurisdictions.²⁹⁸

The underpinning of the Court's faith in the accuracy of the process is its unwavering faith in the sagacious abilities of the factfinders to discern the truth. In explaining the liberal admission of dubious evidence, the Court recites its trust in "the good sense and judgment of American juries,"²⁹⁹ and also extends that trust to cases where the underlying evidence is itself unreliable.³⁰⁰ The Court has stated, "A fundamental premise of our criminal trial system is that 'the jury is the lie detector.'" ³⁰¹ One sitting judge has opined that "[t]here is something almost mystical in [the jury's] collective ability to find the truth about a case."³⁰² As mentioned above, prominent scholars exhibit a similarly sanguine view of the factfinding capacity of juries.³⁰³

The proclaimed trust in the performance of the process intensifies in the face of challenges to the system's legitimacy. For

296. *Herrera v. Collins*, 506 U.S. 390, 419 (1993) (O'Connor, J., concurring).

297. *United States v. Garsson*, 291 F. 646, 649 (S.D.N.Y. 1923).

298. A survey of 798 Ohio law enforcement officials found that some thirty percent of police chiefs and prosecutors and fifteen percent of judges believed that the incidence of wrongful convictions in their jurisdiction was zero. A large majority (seventy-seven percent, seventy-eight percent, and forty-six percent, respectively) believed that the incidence was less than 0.5 percent. These officials maintained that the incidence is considerably higher elsewhere in the United States. Ramsey & Frank, *supra* note 256, at 448, 452-55 (2007). Similar findings were made in a survey of Michigan law enforcement officials. Zalman, Smith & Kiger, *supra* note 256, at 83-87.

299. *Mason v. Brathwaite*, 432 U.S. 98, 116 (1977).

300. For illustration, in a decision to admit as evidence an eyewitness identification which was acknowledged by the state to have been suggestive and unnecessary, the Court explains: "Juries are not so susceptible that they cannot measure intelligently the weight of identification testimony that has some questionable feature." *Id.*

301. *United States v. Scheffer*, 523 U.S. 303, 313 (1997).

302. Morris B. Hoffman, *The Myth of Factual Innocence*, 82 CHI.-KENT L. REV. 663, 664 (2007).

303. See, e.g., BURNS, *supra* note 5, at 153; VIDMAR & HANS, *supra* note 5; Lempert, *supra* note 249.

example, in a polemical opinion in the death penalty case of *Kansas v. Marsh*, Justice Scalia dismissed wrongful convictions as an “insignificant minimum,”³⁰⁴ and stated mystifyingly that their exposure is a testament not to the process’s failure, “but its success.”³⁰⁵ The defensiveness becomes particularly pointed when the adversarial system is compared unfavorably to the continental *inquisitorial* system, with its explicit commitment to the discovery of truth.³⁰⁶ These critiques are typically met with manifestations of *legal nationalism*,³⁰⁷ consisting of a fervent defense of the American system and counter-criticisms of the inquisitorial framework.³⁰⁸ In that same opinion, Justice Scalia lamented that the dissenters’ mere mention of the prospect of error will be “trumpeted abroad as vindication” of the criticism of the United States’ criminal justice system by “sanctimonious” and “finger-wagg[ing]” nations, which he subsequently identified as members of the European Union.³⁰⁹ Rather

304. *Kansas v. Marsh*, 548 U.S. 163, 193, 199 (2006) (Scalia, J., concurring). For a critique of the mathematical formula that underlies this claim, see Samuel R. Gross, *Souter Passant, Scalia Rampant: Combat in the Marsh*, 105 MICH. L. REV. FIRST IMPRESSIONS 67, 69–70 (2006), <http://www.michiganlawreview.org/assets/fi/105/gross.pdf>.

305. *Marsh*, 548 U.S. at 193. In reality, a large number of exonerations have been obtained over bitter resistance by prosecutors and even judges. For a discussion of prosecutorial intransigence in the face of exculpatory DNA evidence, see Daniel S. Medwed, *The Zeal Deal: Prosecutorial Resistance to Post-conviction Claims of Innocence*, 84 B.U. L. REV. 125 (2004).

306. For notable critiques, see generally MARVIN E. FRANKEL, *PARTISAN JUSTICE* (1978); GEORGE C. THOMAS, III, *THE SUPREME COURT ON TRIAL* (2008); WEINREB, *supra* note 294; Albert W. Alschuler, *The Preservation of a Client's Confidences: One Value Among Many or a Categorical Imperative?* 52 U. COLO. L. REV. 349 (1981); John H. Langbein, *Land Without Plea Bargaining: How the Germans Do It*, 78 MICH. L. REV. 204 (1979); John H. Langbein & Lloyd L. Weinreb, *Continental Criminal Procedure: "Myth" and Reality*, 87 YALE L.J. 1549 (1978).

307. SARAH J. SUMMERS, *FAIR TRIALS: THE EUROPEAN CRIMINAL PROCEDURAL TRADITION AND THE EUROPEAN COURT OF HUMAN RIGHTS* 11 (2007). Legal nationalism also has popular manifestations. In a 1999 survey conducted by the ABA, only thirty percent of respondents were either extremely or very confident in the American justice system. Still, eighty percent agreed or strongly agreed that “the American justice system is still the best in the world.” AM. BAR ASS'N, *PERCEPTIONS OF THE U.S. JUSTICE SYSTEM* 50, 59 (1999), available at <http://www.abanet.org/media/perception/perceptions.pdf>.

308. See Ronald J. Allen et al., *The German Advantage in Civil Procedure: A Plea for More Details and Fewer Generalities in Comparative Scholarship*, 82 NW. U. L. REV. 705, 721–22 (1988); Monroe H. Freedman, *Our Constitutional Adversary System*, 1 CHAP. L. REV. 57, 73–75 (1998); Abraham S. Goldstein & Martin Marcus, *Comment on Continental Criminal Procedure*, 87 YALE L.J. 1570 (1978); Abraham S. Goldstein & Martin Marcus, *The Myth of Judicial Supervision in Three "Inquisitorial" Systems: France, Italy, and Germany*, 87 YALE L.J. 240 (1977).

309. *Marsh*, 548 U.S. at 187–88 (Scalia, J., concurring).

than foster introspection, these debates appear to have entrenched the system's aversion to acknowledging its deficiencies.³¹⁰

There is little doubt that this self-assurance in the process's diagnosticity caters to important psychological and societal needs. For one, people tend towards favorable assessments of the prevailing social order, deeming it to be just and legitimate.³¹¹ The mere notion that the state can wreck the lives of innocent people casts a disconcerting shadow over the integrity of the system. More importantly, perceiving oneself as competent and fair is a ubiquitous and powerful personal need.³¹² The prospect of contributing to a wrongful conviction poses a personal threat to the psyche of the people involved in its operation. Ironically, the prevalent response to threats of this kind is to deny their existence.³¹³ Thus, rather than address the weaknesses of this complex, vulnerable, and yet potentially lethal social process, the criminal justice system comforts itself with a palliative insistence on its infallibility. To paraphrase Justice Jackson, the system is entrusted with dispensing the state's punitive powers not because it is infallible; it deems itself infallible because of the powers it possesses.³¹⁴

310. See David Alan Sklansky, *Anti-inquisitorialism*, 122 HARV. L. REV. 1634, 1636 (2009) (noting that the inquisitorial system was "the principal evil at which the Confrontation Clause was directed" (quoting *Crawford v. Washington*, 541 U.S. 36, 50 (2004))). At the same time, critics should acknowledge that the inquisitorial system is an imperfect method of discovering truth. See generally JACQUELINE HODGSON, *FRENCH CRIMINAL JUSTICE: A COMPARATIVE ACCOUNT OF THE INVESTIGATION AND PROSECUTION OF CRIME IN FRANCE* (2005) (critiquing the French criminal justice system and suggesting means of improvement).

311. On the psychological construct of "system justification," see John T. Jost & Orsolya Hunyady, *The Psychology of System Justification and the Palliative Function of Ideology*, 13 EUR. REV. SOC. PSYCHOL. 111, 114 (2002). In this regard, system justification theory overlaps with cognitive dissonance theory. See LEON FESTINGER, *A THEORY OF COGNITIVE DISSONANCE* (1957).

312. See Barry R. Schlenker, *Self-Presentation*, in HANDBOOK OF SELF AND IDENTITY 492, 498 (Mark R. Leary & June Price Tangney eds., 2003) ("People want others to see them as having positive, socially desirable qualities."); cf. Cynthia McPherson Frantz, *I AM Being Fair: The Bias Blind Spot as a Stumbling Block to Seeing Both Sides*, 28 BASIC & APPLIED SOC. PSYCHOL., 157, 157 (2006); Emily Pronin et al., *Objectivity in the Eye of the Beholder: Divergent Perceptions of Bias in Self Versus Others*, 111 PSYCHOL. REV. 781, 781 (2004) (exploring the relationship between the ability of individuals to detect bias in others while denying such biases in themselves in the context of self and social perception).

313. See, e.g., Roy F. Baumeister et al., *Freudian Defense Mechanisms and Empirical Findings in Modern Social Psychology: Reaction Formation, Projection, Displacement, Undoing, Isolation, Sublimation, and Denial*, 66 J. PERSONALITY, 1081, 1108 (1998).

314. In *Brown v. Allen*, Justice Jackson explained the power of the Court: "We are not final because we are infallible, but we are infallible only because we are final." 344 U.S. 443, 540 (1953) (Jackson, J., concurring).

D. Enhancing the Diagnosticity of the Process

The criminal justice system can no longer afford to skirt the issue of factual guilt.³¹⁵ As a normative matter, one can neither justify nor dismiss the risk of wrongful convictions, no matter which other competing objectives might be served by them. Convicting a person for a crime he did not commit renders any such objective—the public's acceptance of the verdict, the assertion of the state's authority, and the expression of society's values—a vacuous, even cynical, exercise of power. Before being subjected to the state's punitive powers, people deserve more than procedural rights; they deserve to be proven guilty beyond a reasonable doubt by a system that is deeply committed to getting the facts right. In the majority of criminal cases, verdicts consist of little more than factual determinations and as such, they are essentially extrapolations from the evidence presented at trial. Thus, the criminal justice system must abandon the view that evidence "is still only evidence,"³¹⁶ which can be readily subsumed to competing considerations. While the Court is correct in stating that evidence does not go to the heart of the adversary process,³¹⁷ it fails to appreciate that evidence is the matter from which criminal verdicts are made. The time is ripe for elevating factual accuracy to the preeminent status it deserves.

It is incumbent on the criminal justice system to soften its claim to certitude and to acknowledge the process's limitations and susceptibility to error. Entrusting the vital task of criminal factfinding to the "good sense and judgment of American juries"³¹⁸ is indeed an appealing ideal. Still, one cannot ignore the limits of juries' ability to accurately determine the facts from the hodgepodge of truths, errors, biases, and lies presented at trial. Thus, the criminal justice process ought to adopt a more realistic approach towards the performance of its factfinders and find ways to make their task more manageable. The fact that an appreciable number of wrongful convictions has emerged from under the thick layers of finality suggests that something troubling is brewing below the surface of proceduralism. In

315. As noted by Hannah Arendt, in judging complex social matters, the truth is "the ground on which we stand and the sky that stretches above us." HANNAH ARENDT, *BETWEEN PAST AND FUTURE: EIGHT EXERCISES IN POLITICAL THOUGHT* 259 (1977).

316. *Watkins v. Sowders*, 449 U.S. 341, 348 (1981); *Manson v. Brathwaite*, 432 U.S. 98, 113 (1977).

317. *Manson*, 432 U.S. at 113.

318. *Id.* at 116.

approaching the question of reform, the discourse must transcend the habitual hyper-adversarial mindset that colors all things criminal in shades of pro-prosecution and pro-defense. Importantly, reforms should not be designed to reduce the rate of convictions or acquittals across the board, but should be targeted as narrowly as possible at *wrongful* convictions and acquittals.³¹⁹

A first concrete step towards improving the diagnosticity of the process is to restrict the admissibility of evidence that is clouded by serious doubt. Put simply, the evidence admitted at court must be reasonably reliable. This is especially important with respect to eyewitness identifications and confessions, two highly persuasive yet frequently unreliable types of evidence. This goal can be achieved by tightening the doctrines that are currently used to determine admissibility. Eyewitness identifications borne by flawed lineup procedures ought to be ruled inadmissible *per se*, and the substantive criteria used for determining reliability should be based on scientific evidence rather than on judicial intuitions.³²⁰ When it comes to admitting questionable confessions, courts should resume the examination of their reliability rather than limit the analysis to the question of voluntariness. These decisions should also be based on more stringent criteria than the standard of preponderance of the evidence that is currently used.³²¹ In short, flawed identifications,

319. A measure intended to reduce the rate of one type of error across an entire category of defendants will fail to address the uneven distribution of errors among the individual cases, and thus benefit some guilty defendants but not other innocent ones. In other words, blunt attempts to reduce false positives stand to result in a disproportionate increase in the opposite type of error, namely, false negatives. It must be acknowledged that translating this caution into policy is complicated by the uncertainty surrounding the distribution of truly guilty and innocent defendants in the mix of the cases, and by the perplexing task of weighting the social costs of the respective errors.

One must also be cognizant of the potential unintended and unwanted consequences of reform. As noted by Carol and Jordan Steiker, the concept of actual innocence can be used as a double edged sword, and it has been deployed successfully by the Court and by Congress to justify policies that deprive defendants of a fair review of their cases. Carol S. Steiker & Jordan M. Steiker, *The Seduction of Innocence: The Attraction and Limitations of the Focus on Innocence in Capital Punishment Law and Advocacy*, 95 J. CRIM. L. & CRIMINOLOGY 587, 609–11 (2005).

320. For more on these recommendations and the research that underlies them, see SIMON, *supra* note 9, chs. 3, 7, 8. Needless to mention, identifications should not be barred for minor flaws in the procedure. Delineating the appropriate boundaries for exclusion is beyond the scope of this discussion. Suffice it to say that the identifications that were the subject of the landmark cases *Neil v. Biggers* and *Manson v. Brathwaite* bore the signs of unreliability and should therefore have been excluded. It is important also the vacuous practice of in-court identifications never be used as a cure for flawed identification procedures.

321. For more on this recommendation and the research that underlies it, see generally Richard A. Leo et al., *Bringing Reliability Back In: False Confessions and Legal Safeguards in*

unreliable confessions, and other faulty evidence ought not to be "customary grist for the jury mill."³²²

Second, when needed, factfinders should be aided by expert testimony. As discussed above, lay people are not sufficiently familiar with the numerous factors that affect the accuracy of eyewitness identification, memory for the event, confessions, and alibi testimony. Instead, people tend to rely on intuitive and often incorrect cues.³²³ Yet expert testimony is often unavailable, as it is deemed inadmissible in many jurisdictions.³²⁴ The limited research that tested the impact of expert testimony indicates that it tends to increase juror sensitivity to the accuracy of the evidence with few downside effects.³²⁵

Third, jurors should be discouraged from attempting to determine the truthfulness of the testimony from the witnesses' demeanor. As mentioned, people generally perform poorly in detecting deceit, with accuracy rates that barely exceed chance levels. Yet, a juror's conclusion that a witness is deceitful is often enough to dismiss her entire testimony, if not that party's case altogether. The danger emanating from erroneous determinations of deceit is exacerbated by the fact that jurors are regularly given explicit instructions to make inferences of credibility from the witness's demeanor. Thus, jury instructions should be revised to inform jurors about the peril of deceit detection from demeanor and caution them against attempting to engage in that task. While the effects of such an instruction are unknown, it will likely do more good than harm.

Recall that the research found also that the opportunity to observe the communicator does not contribute to the accuracy of deceit detection. Reading a transcript of the statement or hearing an audio recording of it has been found to be at least as accurate, and even

the Twenty-First Century, 2006 WISC. L. REV. 479; SIMON, *supra* note 9, chs. 5, 7, 8. For a discussion on the courts' backing away from examination of the reliability of confessions, see Dix, *supra* note 284, at 272-76.

322. *Manson*, 432 U.S. at 116.

323. As such, the admission of expert testimony should "assist the trier of fact to understand the evidence or to determine a fact in issue," and thus meet the criterion prescribed by Federal Rule of Evidence 702.

324. Schmechel et al., *supra* note 30, at 183-93.

325. This research has been confined mostly to eyewitness identification testimony. See Brian L. Cutler et al., *The Eyewitness, the Expert Psychologist, and the Jury*, 13 LAW & HUM. BEHAV., 311, 318-26 (1989); Jennifer L. Devenport et al., *How Effective are the Cross-Examination and Expert Testimony Safeguards? Jurors' Perceptions of the Suggestiveness and Fairness of Biased Lineup Procedures*, 87 J. APPLIED PSYCHOL. 1042, 1046-49 (2002). For a review, see Michael R. Leippe, *The Case for Expert Testimony About Eyewitness Memory*, 1 PSYCHOL. PUB. POL'Y & L. 909 (1995).

more accurate, than viewing the communicator firsthand. This finding suggests that appellate and postconviction judges are in no disadvantage relative to courtroom factfinders when it comes to assessing the veracity of the testimony. It follows that this perceived disadvantage ought not to prevent these judges from intervening in factual findings made by trial courts.

Finally, the most significant contribution to the diagnosticity of the criminal trial entails intervention at the investigative process, specifically, by enhancing the *transparency* of the investigatory process. Greater transparency can be achieved by electronically recording investigations and making the record available to all parties. The recording should capture the investigations in their entirety, including all lineups, interviews, and interrogations.³²⁶

A major benefit of conducting transparent investigations is that they are likely to produce more accurate evidence. The record will make available the witness's original statements, which are usually the most accurate account of the criminal event.³²⁷ Thus, the record will effectively freeze the witness's statements at their *raw* state, and thereby minimize the effects of memory decay, contamination, and any biases or distortions borne by the investigative and pre-trial processes. This should bind witnesses to their original statements, and also reduce the pressure applied on them to alter their testimony.³²⁸

326. The recording should include all investigative efforts, even if they are not used in court, such as interviews with witnesses whose statement do not support the prosecution. Meticulous records should be made also of the collection of physical evidence, forensic tests, and the like.

327. On occasion, an early statement might be clouded by the immediate arousal following the crime, or be based on a rash interpretation of the event. Still, in the vast majority of cases, *raw evidence* is bound to be more complete and less contaminated than *synthesized evidence*.

328. Moreover, transparent investigations are expected to have an ameliorative effect on the investigative process itself. The availability of a record would increase investigators' sense of accountability for the way they conduct their investigations. Transparency would help ensure that investigators adhere to best-practices by providing law enforcement agencies with a tool for training, oversight, and quality assurance, and by deterring police misconduct.

The creation of a record is bound also to serve an informational tool by capturing forensic details that would otherwise be collected. The well-known RAND study of police investigations found that many investigative records are incomplete and casually maintained. Police files covered between twenty-six percent and forty-five percent of the evidentiary questions considered essential by prosecutors. The authors posited that poor record-keeping resulted in higher case dismissal rates and weakening of the prosecutors' plea bargaining position. PETER W. GREENWOOD ET AL., *supra* note 11. Likewise, experienced Canadian police officers concede that their note-taking habits result in case dismissals. John C. Yuille, *Research and Teaching with Police: A Canadian Example*, 33 *APPLIED PSYCHOL.* 5, 5-23 (1984). Freeing police detectives from unnecessary court proceedings and hostile cross examinations should also enable them to devote more effort to solving crimes.

The combined effects of greater accuracy and transparency of the evidence should make a profound impact on the legal proceedings, starting with the widespread practice of plea bargaining. As mentioned, more than ninety percent of the people imprisoned for felony convictions admitted to their guilt in a privately negotiated agreement, rather than being convicted in open court.³²⁹ One cannot ignore the fact that defendants are forced to make fateful choices based on sparse and uncertain evidence, which will likely never be scrutinized.³³⁰ Greater transparency should lead prosecutors to offer plea deals that are more fair and justified, and enable defendants to better assess their situation before signing off on long terms of imprisonment.³³¹

More accurate and transparent testimony will undoubtedly have an auspicious effect on the integrity of the verdicts produced at trial. Naturally, factfinders will be in a better position to determine the facts when presented with more accurate accounts of the criminal event. Recent studies punctuate the benefit that can be derived from access to the investigative record. Studies show that judgments of eyewitness identifications are substantially improved by supplementing the witness's testimony with the speed of her choice at the lineup and her raw confidence. One study found that choices made within ten seconds and accompanied by high confidence were considerably more accurate than slow and low confidence choices (eighty-eight versus fifty-four percent accuracy).³³² Likewise, a large field study conducted in Germany found substantial differences

329. For critiques of the practice, see Albert W. Alschuler, *The Trial Judge's Role in Plea Bargaining, Part One*, 76 COLUM. L. REV. 1059, 1059–154 (1976); William J. Stuntz, *Plea Bargaining and Criminal Law's Disappearing Shadow*, 117 HARV. L. REV. 2548, 2548–69 (2004). But see Thomas W. Church, *In Defense of Bargain Justice*, LAW & SOCIETY REV. 509, 509–25 (1979) (arguing that the plea bargaining system sufficiently protects defendants' rights if certain fairness-related criteria are met). On the heightened risk that plea bargaining poses for innocent defendants, see Albert W. Alschuler, *Straining at Gnats and Swallowing Camels: The Selective Morality of Professor Bibas*, 88 CORNELL L. REV. 1412, 1412–24 (2003) [hereinafter Alschuler, *Straining at Gnats*].

330. As mentioned, the Court has imposed only partial duties of disclosure in the context of plea bargaining. *United States v. Ruiz*, 536 U.S. 622, 633 (2002).

331. It should be realized that in devising their plea offers, prosecutors trade off the probability of prevailing at trial with the severity of the offered sentence. Alschuler, *Straining at Gnats*, *supra* note 329, at 1412–13. Higher predictability is thus expected to increase the sentences reached in plea negotiations.

332. Choices were considered confident for levels above ninety percent, and low for levels under eighty percent. Nathan Weber et al., *Eyewitness Identification Accuracy and Response Latency: The Unruly 10-12-Second Rule*, 10 J. EXPERIMENTAL PSYCHOL.: APPLIED 139, 139–47 (2004).

between witnesses who decided within six seconds and were more than ninety percent confident, and witnesses who were slower and less confident (ninety-seven versus thirty-two percent accurate).³³³ It has also been found that simulated jurors are more successful at ascertaining the accuracy of eyewitness identifications when they are shown video recordings of the initial interviews with the witnesses and the lineups where they picked out the target. Notably, the study revealed greater circumspection in trusting inaccurate witnesses.³³⁴

Jurors' ability to decipher the evidence is likely to be enhanced also by shedding light on the investigative procedures used to elicit the testimony. In particular, exposure to the particulars of the investigation should help them determine whether the testimony might have been swayed or otherwise biased by the investigation itself. For example, jurors will have much to gain from learning whether explicit or implicit suggestions were made at the lineup, leading questions were asked at the interview, witnesses experienced pressures to respond in any particular manner, or coercive techniques were deployed in the interrogation room. Statements borne by such procedures would be treated with circumspection, while testimony obtained by sound procedures would command higher regard.³³⁵ More accurate and transparent testimony is expected also to markedly improve the manner in which criminal trials are conducted. Greater confidence in the integrity of the evidence should reduce the distrust between the adversarial parties and soften the contentiousness of the process. The range of plausible claims will be curbed, with the effect of narrowing the opportunities for unjust prosecutions and frivolous

333. It should be noted that about one-third of the witnesses could not be classified into either of these categories. Melanie Sauerland & Siegfried L. Sporer, *Fast and Confident: Postdicting Eyewitness Identification Accuracy in a Field Study*, 15 J. EXPERIMENTAL PSYCHOL.: APPLIED 46, 46–62 (2009).

334. Exposing the simulated jurors to the videotapes of inaccurate witnesses reduced the conviction rate from forty-nine percent to thirty-three percent. The rate was hardly affected when the witnesses were accurate (fifty percent versus forty-six percent). Margaret C. Reardon & Ronald P. Fisher, *Effect of Viewing the Interview and Identification Process on Juror Perceptions of Eyewitness Accuracy*, APPLIED COGNITIVE PSYCHOL. (forthcoming).

335. It must be acknowledged that the creation of the electronic record itself can introduce bias. Factors such as camera perspective, framing, lighting and editing can shape the narrative impact of the film. For example, research on taping interrogations has found that focusing the video camera exclusively on the suspect inflates the perceived voluntariness of the suspect's statements, which results in unwarranted trust in coerced confessions. G. Daniel Lassiter et al., *Evidence of the Camera Perspective Bias in Authentic Videotaped Interrogations: Implications for Emerging Reform in the Criminal Justice System*, 14 LEGAL & CRIM. PSYCHOL. 157–70 (2009); G.D. Lassiter et al., *Videotaped Confessions: Is Guilt in the Eye of the Camera?*, in 33 ADVANCES EXPERIMENTAL SOC. PSYCHOL. 189 (M.P. Zanna ed., 2001).

defenses. Prosecutors would be in a position to pursue strong cases more forcefully, and defense attorneys would be better equipped to defend innocent defendants and to pursue valid claims of their clients. The incidence of swearing contests between defendants and detectives is likely to decrease, thus averting the need to sort out the murky facts through the costly, cumbersome, and imprecise process of litigation.³³⁶ In sum, both plea negotiations and trials stand to become more accurate, focused, and less contentious, resulting in fewer appeals, habeas proceedings, civil suits, and damage payouts.

To be sure, the recommendation to create investigative records is bound to be met with resistance from some law enforcement agencies. The Federal Bureau of Investigation, for example, has steadfastly resisted taping custodial interrogations of crime suspects. The Bureau expressed concerns over disclosure of investigative methods, heightened risks for witnesses, prohibitive monetary costs, and the suppression of confessions due to failures to record.³³⁷ These concerns, however, have been largely dispelled by the experience of numerous law enforcement agencies in the handful of states and scores of counties where the practice is currently mandated. The consistent reaction of police personnel and prosecutors in these jurisdictions is nothing short of enthusiastic support. Transparency has turned out to be a beneficial tool in the hands of law enforcement, even as it continues to receive backing from defense attorneys.³³⁸ As stated by a Minnesota law enforcement official, the order by the state Supreme Court to tape interrogations was “the best thing we’ve ever had rammed down our throats.”³³⁹ A survey of 630 active police investigators found that eighty-one percent of the respondents believed that interrogations ought to be recorded in full.³⁴⁰ Cost and logistics are hardly a reason to thwart this initiative. Recording

336. Freeing police detectives from excessive court proceedings and hostile cross examinations should also reduce the adversarial pressures they encounter and enable them to devote more effort to solving crimes.

337. For an account and critique of the FBI’s arguments, see generally Thomas P. Sullivan, *Recording Federal Custodial Interviews*, 45 AM. CRIMINAL L. REV. 45 (2008).

338. See also Thomas P. Sullivan & Andrew W. Vail, *The Consequences of Law Enforcement Officials’ Failure To Record Custodial Interviews as Required by Law*, 99 J. CRIM. L. & CRIMINOLOGY, 221–22 (2009) (advocating against presumed inadmissibility of testimony about custodial interviews).

339. Thomas P. Sullivan, *Electronic Recordings of Custodial Interrogations: Everybody Wins*, 95 J. CRIM. L. & CRIMINOLOGY 1127, 1127 (2005) (quoting Alan K. Harris, Hennepin County Deputy Prosecutor).

340. Saul M. Kassir et al., *Police Interviewing and Interrogation: A Self-Report Survey of Police Practices and Beliefs*, 31 LAW & HUM. BEHAV. 381, 385, 393 (2007).

encounters with members of the public is becoming increasingly common, as patrol cars and even individual police officers are being equipped with electronic recording devices.³⁴¹

Critics are likely also to resist sharing investigative recordings with the defense, which would effectively afford defendants greater discovery than is currently mandated. A comprehensive debate about the merit of expanded discovery is beyond the scope of this discussion.³⁴² It should be noted, however, that here too the resistance to discovery is mostly conjectural and unnecessarily apprehensive. A number of states, including Arizona, Colorado, Florida, New Jersey, and North Carolina, have implemented liberal discovery, with no apparent regrets. In particular, these jurisdictions have not experienced the much feared increase in perjury and witness intimidation.³⁴³

While recording investigations is no panacea,³⁴⁴ there is good reason to believe that greater transparency—alongside improvements

341. Personal use of helmet cameras have been implemented in San Jose, California and in the UK. See Claudia Cowan, *Helmet Cams for Cops*, FOXNEWS.COM (Nov. 3, 2009), <http://liveshots.blogs.foxnews.com/2009/11/03/helmet-cams-for-cops/>; Alan Travis, *Police to Use Helmet Cams to Record Public Order Incidents*, GUARDIAN, July 12, 2007, <http://www.guardian.co.uk/uk/2007/jul/12/humanrights.ukcrime>.

342. For a discussion, see LAFAVE ET AL., *supra* note 262, § 20.1.

343. For a discussion, see THE JUSTICE PROJECT, EXPANDED DISCOVERY IN CRIMINAL CASES; A POLICY REVIEW (2007), available at http://www.thejusticeproject.org/~jmiller/wp-content/uploads/polpack_discovery-hirez-native-file.pdf. Critics might oppose this proposed measure also on the grounds that it alters the principle of “orality,” a central feature of the Anglo-American criminal trial by which testimony is heard live, in open court. Crawford v. Washington, 541 U.S. 36, 50–52 (2004). The proposition, however, should not be seen as a challenge to the principle of orality, as the recorded testimony should supplement, rather than replace, oral testimony. The admission of investigative records into evidence is bound to raise various issues with the rules of evidence, notably with connection to the doctrines on hearsay and the authentication of evidence. A full discussion of these issues is beyond the boundaries of this Article. For now, suffice it to say that the proposed regime will need to be reconciled with extant evidence law.

344. It must be acknowledged that the creation of the electronic record itself can introduce bias. Factors such as camera perspective, framing, lighting, and editing can shape the narrative impact of the film. For example, research on taping interrogations has found that focusing the video camera exclusively on the suspect inflates the perceived voluntariness of the suspect’s statements, which results in unwarranted trust in coerced confessions. G. Daniel Lassiter et al., *Evidence of the Camera Perspective Bias in Authentic Videotaped Interrogations: Implications for Emerging Reform in the Criminal Justice System*, 14 LEGAL & CRIMINALOGICAL PSYCHOL. 157, 159–60 (2009).

It is inevitable also that some investigations will go unrecorded, whether due to equipment failure, witness noncooperation, or police misconduct. Based on the experience with taping of custodial interrogations, there is reason to believe that the majority of investigations will be taped, primarily because it will be in the police’s best interests to do so. Sullivan & Vail, *supra* note 338, at 221–22 (describing the reasons that police officers prefer to tape interrogations).

in investigative procedures³⁴⁵—should enhance the integrity of the evidence from which criminal verdicts are made. This should make plea negotiations and trials more accurate, focused, and less contentious, thus resulting in fewer appellate and habeas proceedings, civil suits, and damage payouts. This state of affairs should increase the prospects of determining the culpability of guilty defendants and the innocence of those who committed no crime.³⁴⁶

CONCLUSION

The research discussed in this Article leads to the conclusion that the cognitive processing involved in determining the facts in difficult criminal cases is more complex, fickle, and vulnerable to manipulation than is generally believed. As a result, the adjudicative process falls short of reliably distinguishing between guilty and innocent defendants. Thus, the process fails to deliver the level of diagnosticity that befits its epistemic demands and the certitude it proclaims. This shortfall is generally ignored or denied by those entrusted with governing the criminal justice system, and is not adequately recognized in the scholarly debate. This Article has suggested ways to ameliorate some of the issues identified here. Still,

345. Elsewhere, I offer specific proposals to improve lineup procedures, interviews with cooperative witnesses, interrogations of suspects, and management of the investigative process. See SIMON, *supra* note 9, chs. 2–5. Although implementing reform of investigative procedures across the numerous police departments is no easy feat, it is encouraging to note that a number of states and jurisdictions have already made commendable progress in this regard. Notable examples include reforms of lineup procedures that been put into effect in Wisconsin, New Jersey, North Carolina, and various counties. Mandatory taping of interrogations is in force in Minnesota, Alaska, Illinois and other counties. See THE INNOCENCE PROJECT, FIX THE SYSTEM: PRIORITY ISSUES (2010), available at <http://www.innocenceproject.org/fix/Priority-Issues.php> (detailing efforts to reform eyewitness identification, false confessions, DNA testing access, evidence preparation, forensic oversight, innocence commissions, and exoneree compensation).

346. When all else fails, mistaken convictions can be corrected at the very end of the process, via “innocence commissions,” such as those established in the UK, Norway, and the state of North Carolina. In general terms, these quasi-judicial agencies are commissioned to review possible wrongful convictions and refer valid cases back to the court system. See CRIMINAL CASES REVIEW COMM’N, ANNUAL REPORT AND ACCOUNTS 2008, at 8–10 (2009). On the North Carolina Innocence Inquiry Commission, see N.C. GEN. STAT. § 15A–1460 to 1475; N.C. INNOCENCE INQUIRY COMM’N, <http://www.innocencecommission-nc.gov/index.htm> (last visited Nov. 11, 2010) (describing the work and structure of the Commission in detail). While having to drudge through the entire criminal justice process can take a heavy toll on the life of an innocent inmate, belated justice is far superior to injustice.

as long as the ascertainment of factual truth will remain a human endeavor, the accuracy of criminal verdicts will inevitably be constrained by the imperfect human cognition that makes them possible.
