

Studying Wrongful Convictions: Learning From Social Science⁺

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There has been an explosion of legal scholarship on wrongful convictions in the last decade, reflecting a growing concern about the problem of actual innocence in the criminal justice system. Yet criminal law and procedure scholars have engaged in relatively little dialogue or collaboration on this topic with criminologists. In this article, we use the empirical study of wrongful convictions to illustrate what criminological approaches—or, more broadly, social science methods—can teach legal scholars. After briefly examining the history of wrongful conviction scholarship, we discuss the limits of the (primarily) narrative methodology of legal scholarship on wrongful convictions. We argue that social scientific methods allow for more precise and accurate depictions of the multifactorial and complex nature of causation in wrongful conviction cases. In the main body of this article, we discuss and illustrate several social science approaches to the study of wrongful conviction: aggregated case studies, matched comparison samples, and path analysis. We argue these methods would help criminal law and procedure scholars to better understand the causes, characteristics, and consequences of wrongful convictions than a purely narrative approach. Finally, we offer concluding thoughts about improving the dialogue between criminal law and criminology on the subject of wrongful conviction.

I. INTRODUCTION

In the last twenty years, the media have reported numerous cases in which people who had been wrongly convicted of rape and murder years earlier were exonerated and released from prison.¹ Many of these exonerations occurred after

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¹ See generally Samuel R. Gross et al., *Exonerations in the United States 1989 Through 2003*, 95 J. CRIM. L. & CRIMINOLOGY 523 (2005).

post-conviction DNA testing established the innocence of the defendants.² In some of these cases—such as the Central Park jogger case in New York City—DNA evidence established the innocence of *multiple* defendants who had been erroneously prosecuted, convicted, and incarcerated years earlier.³ In other cases, innocent individuals were released from prison after serving many years on death row.⁴ To date, more than 230 prisoners have been exonerated by post-conviction DNA testing,⁵ and there appears to be no end to this trend.⁶ An increasing number of wrongly convicted prisoners also have established their innocence through non-DNA means of exoneration in the last twenty years.⁷

The exoneration of hundreds of wrongfully convicted but factually innocent prisoners has challenged some of our most fundamental assumptions about American criminal justice and procedure. Prior to 1989, the first year that post-conviction DNA testing was used to establish innocence,⁸ virtually all observers assumed that the innocent were rarely convicted,⁹ if at all, especially in capital cases.¹⁰ Since 1989, however, there has been a growing recognition in popular culture and among criminal justice professionals that wrongful convictions occur regularly in the American criminal justice system.¹¹ In American society, the arrival of DNA testing and the jump in factually indisputable exonerations has put the problem of wrongful conviction on the national agenda and led to a drop in public confidence about the criminal justice system.¹²

² The Innocence Project in New York documents all post-conviction DNA exonerations. See generally Innocence Project, <http://www.innocenceproject.org> (last visited Sept. 7, 2009).

³ Steven A. Drizin & Richard A. Leo, *The Problem of False Confessions in the Post-DNA World*, 82 N.C. L. REV. 891, 894–900 (2004).

⁴ See generally STANLEY COHEN, *THE WRONG MEN: AMERICA'S EPIDEMIC OF WRONGFUL DEATH ROW CONVICTIONS* (2003). See also LESLIE LYTLE, *EXECUTION'S DOORSTEP: TRUE STORIES OF THE INNOCENT AND NEAR DAMNED* (2008).

⁵ Innocence Project, Case Profiles, <http://www.innocenceproject.org/know/> (last visited Apr. 4, 2009).

⁶ See Brandon L. Garrett, *Judging Innocence*, 108 COLUM. L. REV. 55, 121–31 (2008).

⁷ See Gross et al., *supra* note 1, at 527.

⁸ BARRY SCHECK ET AL., *ACTUAL INNOCENCE: FIVE DAYS TO EXECUTION AND OTHER DISPATCHES FROM THE WRONGLY CONVICTED* 65 (2000).

⁹ Garrett, *supra* note 6, at 56 (“Actors in the criminal system long doubted whether courts ever wrongly convicted people . . .”).

¹⁰ *Id.*, at 56–57; see also Hugo Adam Bedau & Michael L. Radelet, *Miscarriages of Justice in Potentially Capital Cases*, 40 STAN. L. REV. 21 (1987).

¹¹ Garrett, *supra* note 6, at 57 (“Exoneration cases have altered the ways judges, lawyers, legislators, the public, and scholars perceive the criminal system’s accuracy.”).

¹² See generally JON B. GOULD, *THE INNOCENCE COMMISSION: PREVENTING WRONGFUL CONVICTIONS AND RESTORING THE CRIMINAL JUSTICE SYSTEM* (2008). See also FRANK R. BAUMGARTNER ET AL., *THE DECLINE OF THE DEATH PENALTY AND THE DISCOVERY OF INNOCENCE* (2008).

The DNA exonerations have given rise to an “innocence movement”¹³ in American law, seen by some as “the civil rights movement of the twenty-first century.”¹⁴ Although this is surely an overstatement, at various law schools across the United States there are now almost fifty non-profit innocence projects whose purpose is to investigate and litigate post-conviction claims of innocence as well as to propose reforms.¹⁵ In addition, six states have created innocence commissions,¹⁶ and more than forty state legislatures have passed statutes to facilitate inmate access to biological evidence for post-conviction DNA testing. Many states have even implemented legislation to address the underlying sources of wrongful conviction.¹⁷ In 2004, the United States Congress passed the Innocence Protection Act, which provides funding for state post-conviction DNA testing and raises the annual compensation for exonerated federal prisoners.¹⁸ Although the precise rate of wrongful convictions remains unknown,¹⁹ there is now a growing awareness in the legal system that erroneous convictions occur more frequently than almost anyone had previously thought.²⁰ Speaking only of wrongful conviction in capital cases, Justice Souter recently reflected this sentiment when he wrote that they happen “in numbers never imagined before the development of DNA tests.”²¹

The post-conviction DNA and non-DNA exonerations of hundreds of innocent prisoners in the last two decades have also had an effect on academic scholarship, generating a virtual explosion of academic writing on wrongful convictions.²² Strikingly, most of this scholarship has occurred in law reviews, not in peer reviewed social science and criminology journals. In the last decade, law professors and legal scholars have written extensively about the legal causes and consequences of wrongful conviction, as well as about legal and policy reforms designed to reduce their occurrence. Numerous law reviews have published symposia on the problem of wrongful convictions.²³ Beyond the large quantity of legal scholarship, there has also been a sense that a new paradigm may be

¹³ See generally Marvin Zalman, *Criminal Justice System Reform and Wrongful Conviction*, 17 CRIM. JUST. POL’Y REV. 468 (2006).

¹⁴ Daniel S. Medwed, *Innocentrism*, 2008 U. ILL. L. REV. 1549, 1550.

¹⁵ See generally Keith A. Findley, *The Pedagogy of Innocence: Reflections on the Role of Innocence Projects in Clinical Legal Education*, 13 CLINICAL L. REV. 231 (2006).

¹⁶ See generally GOULD, *supra* note 12.

¹⁷ Medwed, *supra* note 14, at 1549–50.

¹⁸ Innocence Protection Act of 2004, Pub. L. No. 108-405, § 411, 118 Stat. 2278, 2278–80 (codified at 18 U.S.C. § 3600 (Supp. 2004)).

¹⁹ See Bedau & Radelet, *supra* note 10, at 23.

²⁰ See generally GOULD, *supra* note 12; see also BAUMGARTNER ET AL., *supra* note 12.

²¹ *Kansas v. Marsh*, 126 S. Ct. 2516, 2544 (2006) (Souter, J., dissenting).

²² See generally Richard A. Leo, *Rethinking the Study of Miscarriages of Justice: Developing a Criminology of Wrongful Conviction*, 21 J. CONTEMP. CRIM. JUST. 201 (2005).

²³ See, e.g., Symposium, *Wrongful Convictions Symposium*, 52 DRAKE L. REV. 587 (2004); Symposium, *Beyond Biology: Wrongful Convictions in the Post-DNA World*, 2008 UTAH L. REV. 1.

emerging, one that treats accuracy and reliability as on par with or even more important than traditional concerns about procedural due process.²⁴ Daniel Medwed has coined the term “innocentrism” to connote the emerging centrality of innocence-based arguments and scholarship in criminal law and procedure.²⁵ Yet for all the attention that academe has given to wrongful convictions, there has been relatively little dialogue on this topic between criminal law or procedure scholars and criminologists or social scientists.²⁶

In this article, we will use the empirical study of wrongful convictions to illustrate what criminological approaches—or, more broadly, social science methods—can teach criminal law scholars and professors. In Part II, we will briefly review the history of wrongful conviction scholarship to situate the role of legal scholars and social scientists in its development. In Part III, we will examine and critique the methodology of legal scholarship on wrongful convictions, which is primarily narrative and tends to focus exclusively on single case studies. In Part IV, we will describe social scientific approaches to the study of wrongful conviction, which, we argue, will allow for more precise and accurate depictions of the multifactorial and complex nature of causation in wrongful conviction cases as well as the variables that mediate between rightful acquittal and wrongful conviction. We will then discuss and illustrate several social science approaches to the study of wrongful conviction—systematic data collection, matched comparison samples, and path analysis—that will help both scholars and practitioners to better understand the causes, characteristics, and consequences of wrongful conviction than they can using purely narrative methods. Finally, in Part V, we offer concluding thoughts about improving the dialogue between criminal law and criminology on the subject of wrongful conviction. While rejecting a “gloomy”

²⁴ See generally GEORGE C. THOMAS III, *THE SUPREME COURT ON TRIAL: HOW THE AMERICAN JUSTICE SYSTEM SACRIFICES INNOCENT DEFENDANTS* (2008).

²⁵ Medwed, *supra* note 14, at 1549.

²⁶ For example, as we discuss later in this article, law professors Samuel Gross and Barbara O'Brien published an empirical study in 2008 analyzing predictors of exoneration (as opposed to execution) in two matched samples of post-*Furman* death penalty convictions. See Samuel R. Gross & Barbara O'Brien, *Frequency and Predictors of False Conviction: Why We Know So Little, and New Data on Capital Cases*, 5 J. EMPIRICAL LEGAL STUD. 927 (2008). However, Gross and O'Brien's study missed important literature that predated their study, such as criminologist Talia Harmon's similar matched comparison sample study of post-*Furman* death penalty exonerations and executions published seven years earlier in 2001 and another related study of post-*Furman* death penalty exonerations and executions published by Harmon and fellow criminologist William Lofquist in 2005. See Talia Roitberg Harmon, *Predictors of Miscarriages of Justice in Capital Cases*, 18 JUST. Q. 949 (2001) [hereinafter Harmon, *Predictors of Miscarriages*]; Talia Roitberg Harmon & William S. Lofquist, *Too Late for Luck: A Comparison of Post-Furman Exonerations and Executions of the Innocent*, 51 CRIME & DELINQ. 498 (2005). See *infra* text accompanying notes 92–98. Neither study is mentioned in a recent review article by Gross. See Samuel R. Gross, *Convicting the Innocent*, 4 ANN. REV. L. & SOC. SCI. 173 (2008). While Professors Gross and O'Brien's contributions are valuable, they leave to other scholars the task of preparing a thorough and up-to-date review of the pertinent research literature on this topic.

assessment of research into wrongful convictions,²⁷ we argue that legal scholars should draw more deliberately from criminological and social science methods to refine our understanding of the multiple factors and conditions that lead to erroneous convictions of the innocent.

II. A SHORT HISTORY OF WRONGFUL CONVICTION SCHOLARSHIP

The study of wrongful convictions has a long history in American scholarship.²⁸ For almost a century, a number of writers have documented numerous convictions of the innocent and described their causes and consequences. The writer generally credited with kick-starting the study of wrongful conviction is Yale law professor Edward Borchard, who first wrote about the subject in a 1913 article published in the *Journal of the American Institute of Criminal Law and Criminology* (continued by the *Journal of Criminal Law and Criminology* in 1931).²⁹ Yet, it is his 1932 book, *Convicting the Innocent*, that is generally regarded as the breakthrough historical work on the subject. In that time, he documented sixty-five cases in which innocent defendants were wrongfully convicted, identified the legal causes underlying these convictions, and proposed reforms to remedy the problem.³⁰

Convicting the Innocent was significant because it shifted the debate away from whether actually innocent individuals were wrongfully convicted in the American criminal justice system to the question of why they were wrongfully convicted and what could be done to correct the problem. Borchard, in effect, created the template that would be used to study wrongful convictions for many years to come: identify wrongful conviction cases, describe their legal causes, and propose reforms to prevent future miscarriages. In the late 1940s, Erle Stanley Gardner, the author of the fictional Perry Mason thrillers, created “the Court of Last Resort,” an unofficial body to investigate suspected cases of wrongful conviction—in effect, the first innocence project in America. In 1952, Gardner would publish a book (bearing this title³¹) in the same template created by Borchard, as would the famous judge Jerome Frank (with his daughter) in 1957,³²

²⁷ Gross & O'Brien, *supra* note 26, at 958.

²⁸ See generally Leo, *supra* note 22.

²⁹ Edwin M. Borchard, *European Systems of State Indemnity for Errors of Criminal Justice*, 3 J. AM. INST. CRIM. L. & CRIMINOLOGY 684 (1913). As Rory Little has pointed out, the early history of actual innocence “has been largely forgotten.” Rory K. Little, *Addressing the Evidentiary Sources of Wrongful Convictions: Categorical Exclusion of Evidence in Capital Statutes*, 37 SW. U. L. REV. 101, 103 n.5 (2008).

³⁰ See EDWIN M. BORCHARD, *CONVICTING THE INNOCENT: ERRORS OF CRIMINAL JUSTICE* (1932).

³¹ ERLE STANLEY GARDNER, *THE COURT OF LAST RESORT* (1952).

³² JUDGE JEROME FRANK & BARBARA FRANK, *NOT GUILTY* (1957).

and Edward Radin in 1964.³³ Written by lawyers and journalists, these books were driven both by a narrative methodology and a moral outrage over the unjust fate of the wrong man convicted. Although they were compelling, the exoneration narratives described in these books failed to persuade others that wrongful convictions represented a systemic problem in the criminal justice system as opposed to a few anomalous, if deeply troubling, travesties of justice. For decades, the problem of wrongful conviction generated very little interest among criminal justice officials, policy-makers or the public.

Hugo Bedau and Michael Radelet attempted to change that with their watershed 1987 *Stanford Law Review* article, *Miscarriages of Justice in Potentially Capital Cases*,³⁴ which marked the beginning of a new era of research on the problem of wrongful conviction. Bedau and Radelet documented and systematically analyzed 350 cases of wrongful conviction—based mostly, but not entirely, on official declarations of innocence—in potentially capital cases from 1900 to 1985, twenty-three of which led to executions.³⁵ By documenting so many cases of erroneous conviction, and demonstrating that they occurred even in capital cases, Bedau and Radelet sought to challenge traditional assumptions about the fallibility of human judgments in the criminal justice system, especially in its most serious cases. Bedau and Radelet also analyzed patterns in the sources of errors, sources of discovery of the errors, and sources of exoneration across these cases.

Bedau and Radelet's article raised fundamental questions about the phenomenon of wrongful conviction in capital cases, triggering intense debate about the risk of executing the innocent. Following Bedau and Radelet's lead, more scholars and journalists began to write about the problem of wrongful convictions in the late 1980s and early 1990s.³⁶ Radelet, Bedau, and colleagues continued to collect, analyze, and publish research on wrongful convictions in capital cases, and others reanalyzed their data.³⁷ But, to some extent, Bedau and Radelet's message became mired in disagreements about whether a small number of individuals in their study were actually guilty and, more generally, about whether their scholarship was just another ideological move in the contentious

³³ EDWARD D. RADIN, *THE INNOCENTS* (1964).

³⁴ Bedau & Radelet, *supra* note 10.

³⁵ Bedau and Radelet have since argued that a 24th innocent person, Jessie Tafero, was executed in 1994. See Hugo Adam Bedau et al., *Convicting the Innocent in Capital Cases: Criteria, Evidence, and Inference*, 52 *DRAKE L. REV.* 587, 598 (2004).

³⁶ See, e.g., DONALD S. CONNERY, *CONVICTING THE INNOCENT: THE STORY OF A MURDER, A FALSE CONFESSION, AND THE STRUGGLE TO FREE A "WRONG MAN"* (1996); MARTIN YANT, *PRESUMED GUILTY: WHEN INNOCENT PEOPLE ARE WRONGLY CONVICTED* (1991).

³⁷ See, e.g., Samuel R. Gross, *The Risks of Death: Why Erroneous Convictions Are Common in Capital Cases*, 44 *BUFF. L. REV.* 469 (1996); James Acker et al., *No Appeal From the Grave: Innocence, Capital Punishment, and the Lessons of History*, in *WRONGLY CONVICTED: PERSPECTIVES ON FAILED JUSTICE* 154 (Saundra D. Westervelt & John A. Humphrey eds., 2001).

debate about the desirability of the death penalty in American scholarship and society.³⁸

In the late 1980s, the renewed interest in wrongful convictions was catapulted forward by the introduction of DNA testing in criminal cases.³⁹ In 1989, DNA was used to exonerate an innocent prisoner, Gary Dotson, who had been wrongfully incarcerated for ten years in Illinois for a rape he did not commit.⁴⁰ In the twenty years since Dotson's exoneration, post-conviction DNA testing has led to the release of more than 230 additional wrongly convicted prisoners,⁴¹ and appears to have dramatically changed official and popular attitudes about the criminal justice system. Many of the individual DNA exonerations have garnered tremendous coverage in print and electronic media,⁴² and the DNA cases collectively have provided an unprecedented opportunity to better understand the nature and consequences of factual error in the American criminal justice system. These DNA exonerations, and the substantial media attention they have received, have inspired extensive legal scholarship to the point that law reviews are now full of articles on the various legal causes and problems of wrongful conviction cases as well as proposed reforms.⁴³

Much of this scholarship illustrates a traditional narrative or "familiar structure"—one that dates back to Borchard and the template he first laid down—but with new and updated cases.⁴⁴ Perhaps no book illustrates the modern version of this story better than Barry Scheck, Peter Neufeld, and Jim Dwyer's, *Actual Innocence: Five Days to Execution, and Other Dispatches From the Wrongly Convicted*, which may be the signature document of the modern innocence movement. Written by two well-known criminal defense lawyers, one of whom is also a law professor,⁴⁵ and a journalist, *Actual Innocence* is the rare book that has been both an influential work of legal scholarship and a popular best-seller.⁴⁶ In

³⁸ See generally Stephen J. Markman & Paul G. Cassell, *Protecting the Innocent: A Response to the Bedau-Radelet Study*, 41 STAN. L. REV. 121 (1988); Hugo Adam Bedau & Michael L. Radelet, *The Myth of Infallibility: A Reply to Markman and Cassell*, 41 STAN. L. REV. 161 (1988); Acker et al., *supra* note 37.

³⁹ DNA testing was first allowed into court as evidence in the New York case of *People v. Wesley*. GOULD, *supra* note 12, at 17.

⁴⁰ Gross et al., *Exonerations*, *supra* note 1, at 523.

⁴¹ Innocence Project, Mission Statement, <http://www.innocenceproject.org/about/Mission-Statement.php> (last visited Sept. 4, 2009).

⁴² Leo, *supra* note 22, at 202 ("In the past decade, there have been more newspaper stories, magazine articles, and television documentaries on the plight of the wrongfully convicted than ever before.")

⁴³ As Dan Medwed points out, twelve major law reviews have published symposia on issues related to wrongful convictions from 2002–2008. Medwed, *supra* note 14, at 1550.

⁴⁴ Leo, *supra* note 22, at 203, 207.

⁴⁵ Barry Scheck is a clinical law professor at Cardozo Law School in New York City.

⁴⁶ See, e.g., Corinna Barrett Lain, *Deciding Death*, 57 DUKE L.J. 1, 45 (2007) ("By all accounts, *Actual Innocence* was an enormously influential book; indeed, its haunting narratives were

the next section, we will discuss this book and other examples of legal scholarship on wrongful convictions to frame the issue of what we believe criminal law and procedure scholars can learn from social science approaches on this topic.

III. LAW'S NARRATIVE METHODOLOGY AND THE STUDY OF WRONGFUL CONVICTION

Unlike the social and physical sciences, legal scholarship is premised on doctrinal, not empirical, research. Although there has been a move of late to bring empirical skills to legal scholarship,⁴⁷ neither quantitative nor qualitative methods are endemic to legal study, nor would a typical law professor be expected to acquire a facility with these methods. The typical path to the law professoriate is either through legal practice or a series of status markers based on one's performance as a law student (good grades and law review, leading to a prestigious judicial clerkship and an impressive first job). By contrast, scholars in the social sciences receive substantial methodological training and undergo an extensive apprenticeship while in graduate school to become proficient empirical researchers.

Our point is not to criticize or reject legal scholarship but to point out the inherent differences between legal and social science research. By default, the methodology of law is doctrinal, reflecting the traditional legal training that law professors received in law school, as well as American law's obsession with cases as a means of making and expressing law, resolving disputes, and achieving justice. Cases are, of course, stories, and that is what legal scholarship primarily trades in: to the extent that legal scholarship has a methodology, it is case-based description, analysis, and prescription. Narratives are powerful and compelling vehicles for communicating injustices. As Radelet, Bedau, and Putnam have noted, "Everyone knows that a good story is more gripping than the best sociological research or philosophical analysis."⁴⁸ Perhaps more so than any other area of law, criminal cases make especially good stories.⁴⁹ And "wrong man" cases—exoneration narratives—make the best stories of all. As Susan Bandes points out, "The lure of the innocence cases lies in their simplicity and clarity—their promise of a clear line between the deserving and the undeserving. The stories are vivid; the injustice is easy to understand on an emotional level."⁵⁰

instrumental in causing conservative commentator George Will to publicly express his own doubts about the death penalty's efficacy and fairness.").

⁴⁷ Witness the recent rise of the annual Conference on Empirical Legal Studies, its associated blog (www.elsblog.org), and the creation of the *Journal of Empirical Legal Studies*.

⁴⁸ MICHAEL L. RADELET ET AL., *IN SPITE OF INNOCENCE: ERRONEOUS CONVICTIONS IN CAPITAL CASES* ix-x (1992).

⁴⁹ See, e.g., *CRIMINAL PROCEDURE STORIES* (Carol S. Steiker ed., 2006).

⁵⁰ Susan A. Bandes, *Framing Wrongful Convictions*, 2008 UTAH L. REV. 5, 9.

Scheck, Neufeld, and Dwyer's *Actual Innocence* tells many such vivid stories of injustice—the stories of the first sixty-two DNA exoneration cases, to be more exact.⁵¹ Some of these innocents spent decades in prison before being exonerated and released, others came within days or weeks of being executed, some were convicted wrongfully not once but twice,⁵² and all suffered enormous indignities, pain, and loss. Each chapter of *Actual Innocence* tells one or more of these stories and illustrates the various legal causes of wrongful conviction—eyewitness misidentification, police-induced false confessions, junk science, jailhouse informant perjury, prosecutorial misconduct, incompetent defense lawyers, and racism—around which most of the chapters are organized. Scheck, Neufeld, and Dwyer also tell these stories to illustrate how the erroneous convictions were discovered, the lessons they teach us about the criminal justice system, and to propose a series of systemic reforms, including abolition of the death penalty.

Although *Actual Innocence* was written for a popular, rather than academic or legal, audience, it essentially tracks much of the legal scholarship on wrongful convictions. Like those publications, *Actual Innocence* is, first and foremost, a narrative exposition of wrong man cases.⁵³ Its method is the case study told through the exoneration narrative. Like virtually all legal scholarship on wrongful convictions since Borchard, it uses exoneration narratives to survey the traditional legal categories of error and propose systemic reforms. Many, if not most, law review articles about wrongful conviction essentially do the same thing.⁵⁴ Some law review articles are focused on a single case study,⁵⁵ some are focused on multiple cases,⁵⁶ some are focused on a particular legal cause or causes of wrongful conviction,⁵⁷ and many are focused on proposed reforms.⁵⁸

⁵¹ SCHECK ET AL., *supra* note 8.

⁵² For example, Kirk Bloodsworth, Ronald Cotton, Rolando Cruz, Alejandro Hernandez, Willie Raigne, and Dennis Williams were all wrongfully convicted twice before being exonerated by DNA. See Innocence Project, Browse the Profiles, <http://www.innocenceproject.org/know/Browse-Profiles.php> (last visited Sept. 4, 2009).

⁵³ Some law review articles are individual case studies that do the same thing. See, e.g., Daniel S. Medwed, *Anatomy of a Wrongful Conviction: Theoretical Implications and Practical Solutions*, 51 VILL. L. REV. 337 (2006). See also Susan Rutberg, *Anatomy of a Miscarriage of Justice: The Wrongful Conviction of Peter J. Rose*, 37 GOLDEN GATE U. L. REV. 7 (2006).

⁵⁴ See Leo, *supra* note 22, at 207.

⁵⁵ See, e.g., Medwed, *supra* note 14; Rutberg, *supra* note 53.

⁵⁶ See, e.g., Garrett, *supra* note 6.

⁵⁷ See, e.g., Sandra Guerra Thompson, *Beyond a Reasonable Doubt? Reconsidering Uncorroborated Eyewitness Identification Testimony*, 41 U.C. DAVIS L. REV. 1487 (2008); Alexandra Natapoff, *Beyond Unreliable: How Snitches Contribute to Wrongful Convictions*, 37 GOLDEN GATE U. L. REV. 107 (2006); Welsh S. White, *Confessions in Capital Cases*, 2003 U. ILL. L. REV. 979; Simon A. Cole, Comment, *The Prevalence and Potential Causes of Wrongful Conviction By Fingerprint Evidence*, 37 GOLDEN GATE U. L. REV. 39 (2006).

⁵⁸ For example, see the symposia on wrongful convictions in the *Drake University Law Review* and *Wisconsin Law Review*. See, e.g., Symposium, *Wrongful Convictions*, 52 DRAKE L. REV. 587 (2004); Symposium, *Reflections on Innocence*, 2006 WIS. L. REV. 237.

We mention *Actual Innocence* not to criticize—it is a well-written and important book that appears to have had a transformative effect both on American popular attitudes about wrongful conviction and on public policy discussions and reforms⁵⁹—but to use it as an example of the narrative methodology of much legal scholarship about miscarriages of justice. The strength of narrative legal scholarship on wrongful convictions is that it tells and analyzes compelling stories of injustice. Scholarship based on exoneration narratives helps us better understand the contexts of erroneous convictions and may motivate others to think harder about potential reforms.

But the narrative method has significant limitations. Foremost among these, scholarship based on stories about wrongful conviction tends to oversimplify causation. As sociologist Charles Tilly points out, “Even when they convey truths, stories enormously simplify the processes involved [S]tories will omit a large number of likely causes, necessary conditions and, especially, competing explanations of whatever happened Stories simplify actors, actions, causes, and effects. Their rationales gain clarity through simplification.”⁶⁰

Rarely does legal scholarship delve deeply or systematically into the multifactorial, interactive, and complex nature of human and institutional causation in wrongful conviction cases. Instead, wrongful conviction scholarship tends to portray causation as unidimensional—one case illustrates the problem of eyewitness misidentification, another case demonstrates the problem of false confession, a third case exhibits the problem of junk science, etc.—even though we know that cases of wrongful conviction have multiple sources.⁶¹ Consider the cases that one of us uncovered in the work of the Innocence Commission for Virginia (ICVA). The ICVA investigated eleven exonerations from rape or murder convictions in Virginia, identifying seven categories of errors common in these cases. These included faulty eyewitness identification procedures, problematic interrogation methods, shoddy forensic science, inadequate defense representation, failure to disclose questionable evidence, tunnel vision, and ineffective post-conviction procedures. Yet not a single case had a sole cause.⁶² In some cases, like that of David Vasquez, a suspect of low intelligence fell victim to high-pressure interrogation methods, an error that was compounded by the tunnel vision of police and prosecutors and amateurish hair comparison.⁶³ In other cases, like that of Jeffrey Cox, upwards of six factors were associated with a wrongful

⁵⁹ See Lain, *supra* note 46; Little, *supra* note 29, at 104 n.8.

⁶⁰ CHARLES TILLY, *WHY?* 65, 70, 72 (2006).

⁶¹ GOULD, *supra* note 12, at 127. As we discuss further below, understanding causation in social phenomena is rarely simple. As Tilly notes, “In our complex world, causes and effects always join in complicated ways. Simultaneous causation, incremental effects, environmental effects, mistakes, unintended consequences, and feedback make physical, biological, and social processes the devil’s own work—or the Lord’s—to explain in detail.” TILLY, *supra* note 60, at 65.

⁶² GOULD, *supra* note 12, at 127.

⁶³ *Id.* at 112–19.

conviction. Not only was Cox initially fingered as a suspect by unreliable and self-interested witnesses, but he was also failed by police, prosecutors, his own attorney, and the courts, all of whom relied on questionable, and in some cases hidden, evidence.⁶⁴ In such cases, it is impossible (and methodologically inappropriate) to speak of there being a primary cause for the wrongful conviction.⁶⁵

If we were to halt the investigation at exoneration narratives, we would rob the literature of deeper analysis that could unpack the unique causes, characteristics, and consequences of wrongful conviction. For example, comparison samples—which match cases of rightful acquittal (or rightful conviction) against cases of wrongful conviction—will likely tell us more about causation than exoneration narratives.⁶⁶ Yet legal scholarship and its descriptive method oversimplifies cause and effect relationships, in turn offering accounts and findings that are not always representative of the full range and complexity of wrongful conviction phenomena.

IV. LEARNING FROM SOCIAL SCIENCE

A. General

Social science is primarily concerned with understanding the world as it is rather than as it ought to be. The goal of traditional social science is generalizable knowledge. Empirical social scientists draw on five primary methods of data gathering—experiments, field observation, surveys, interviews, and analysis of documents—to produce valid and reliable knowledge about social phenomena. These methodologies are foreign to most law professors and legal scholars. Social scientists study cases and narratives as well, but the researchers are more likely to describe these as sources of data than as a method or methodology. They are also more likely to study narratives to discern identifiable—generalizable—patterns and explanations across cases.

Empirical social science also seeks to identify more precisely the causal relationships found in social phenomena. However, social scientists recognize that studying causation can be elusive. Observed patterns or events may indicate that two variables are associated or co-vary because they are correlated rather than because one causes the other. Strictly speaking, social scientists can only infer causal relationships with certainty through experiments or randomized control trials in which they can randomly assign subjects, introduce a stimulus on the experimental group (and a placebo on the control group), and measure the independent effect of the stimulus on the observed outcome. But in the study of

⁶⁴ *Id.* at 94–99.

⁶⁵ *See id.* at 127–28.

⁶⁶ *See* Leo, *supra* note 22, at 216–17. We address paired samples later in this article. *See infra* text accompanying notes 81–96.

many social phenomena—including most aspects of wrongful conviction—it is not possible to conduct meaningful experiments for ethical and/or logistical reasons (e.g., researchers cannot expose research subjects to coercive interrogations in order to induce false confessions).⁶⁷ But, as we will discuss in greater depth below, social scientists (and a few non-traditional legal scholars) have relied on other empirical approaches to attempt to make more precise causal statements about patterns and risk factors in the study of wrongful convictions.

By contrast, more traditional legal scholars have tended to view wrongful convictions through law's more simplified model of cause and effect: a wrongful conviction occurred, a cause is presumed, and the trigger is sought in order to prevent its harmful effects in the future. It is not surprising that legal research on erroneous convictions should appear this way, since law school teaches that wrongs have causes, that causes can be prevented, and that injuries from an unacceptable cause warrant recompense to the victim and punishment to the wrongdoer. Indeed, that is the very basis of both criminal and tort law.

Social science offers a better model to understand the nature of causation in wrongful convictions. Wrongful convictions do not appear to have a simple explanation of cause and effect. To call the traditional factors that lead to wrongful conviction—eyewitness misidentifications, false confessions, informant perjury, junk science, tunnel vision, police, and prosecutorial error, etc.—“causes” is to miss the fact that many of these forces are found in other cases that do not end in erroneous convictions. In other words, as both of us have pointed out elsewhere, many of the same factors that are present in cases that lead to wrongful convictions are also present in cases that lead to both rightful acquittals and rightful convictions.⁶⁸ Moreover, it is difficult to speak of a single cause of any particular wrongful conviction because, as mentioned above, wrongful conviction cases typically involve more than one of these factors—in most cases we are likely dealing with a “perfect storm” of errors that together have led to the conviction of an innocent person. This is not unlike other social phenomena. As Michael Rutter has noted, “a causal effect is usually composed of a constellation of components acting in concert There is no such thing as a single basic necessary and sufficient cause.”⁶⁹

⁶⁷ The empirical study of eyewitness misidentification is an exception. There have been hundreds of ecologically valid experimental studies that have given us great insight into the reasons why police line-up and photo-spread procedures lead to eyewitness errors and what police can do differently to prevent such misidentifications. See, e.g., Steve Clark et al., *Regularities in Eyewitness Identification*, 32 LAW & HUM. BEHAV. 187 (2008); Gary L. Wells et al., *Eyewitness Identification Procedures: Recommendations for Lineups and Photospreads*, 22 LAW & HUM. BEHAV. 603 (1998). See also Thompson, *supra* note 57.

⁶⁸ Leo, *supra* note 22, at 217 (noting that many of the same factors that are present in wrongful convictions are also present in rightful acquittals). See also GOULD, *supra* note 12, at 127.

⁶⁹ Michael Rutter, *Proceeding From Observed Correlation to Causal Inference: The Use of Natural Experiments*, 2 PERSP. PSYCHOL. SCI. 377, 377 (2007).

Social science approaches to studying the problem of wrongful conviction are preferable to the simplifying narrative methodology of traditional legal scholarship because they allow for more accurate, robust, and precise depictions of the complex and unpredictable constellation of factors that likely cause wrongful conviction.⁷⁰ They also do a better job of capturing the interaction of effects and variables that mediate between the outcomes of wrongful conviction and rightful acquittal. Social science approaches thus permit more accurate and sophisticated—as well as more generalizable—causal judgments about the factors that do and do not lead to wrongful conviction. In the remainder of this article, we describe and illustrate three types of social scientific approaches to studying wrongful conviction—aggregated case studies, matched comparison samples, and path analysis—to better understand why they are more informative, rigorous, and potentially predictive than traditional legal methods.

B. Social Science Approaches

1. Aggregated Case Studies

As we have seen, legal wrongful conviction scholarship tends to rely on storytelling and exoneration narratives in individual cases. We have argued that this simplifies and omits, creating an incomplete understanding of the causes and consequences of wrongful conviction. But social science approaches sometimes also rely on narratives and case data. One way to make more systematic the study of cases is to aggregate them, create a coding instrument to classify (demographic, legal, case, outcome) variables found in them and then identify and analyze the patterns, correlations, and outcomes that emerge from the aggregated data.

One of the under-appreciated contributions of Bedau and Radelet's research on miscarriages of justice was their use of the aggregate case study method to identify, quantify, and describe the sources of error, and the sources of discovery of error, in potentially capital wrongful conviction cases. Bedau and Radelet continued to extend and publish articles from this data set,⁷¹ including some with additional co-authors,⁷² and others have analyzed patterns in Bedau and Radelet's data set for additional insights into the causes and consequences of wrongful

⁷⁰ As sociologist Charles Tilly points out, "Even when they convey truths, stories enormously simplify the processes involved. They single out a small number of actors, actions, causes, and effects for easy understanding, and articulate far better with assignments of responsibility than do ordinary scientific explanations." TILLY, *supra* note 60, at 65.

⁷¹ See Michael L. Radelet & Hugo Adam Bedau, *The Execution of the Innocent*, 61 LAW & CONTEMP. PROBS. 105 (1998).

⁷² These authors include William S. Lofquist and Constance E. Putnam. See, e.g., Michael L. Radelet et al., *Prisoners Released From Death Rows Since 1970 Because of Doubts About Their Guilt*, 13 T.M. COOLEY L. REV. 907 (1996); RADELET, ET AL., *supra* note 48; Bedau et al., *supra* note 35.

conviction in capital cases.⁷³ Bedau and Radelet have also inspired other scholars to use the aggregated case study method to analyze the wrongful conviction phenomena more broadly,⁷⁴ as well as specific legal causes of wrongful conviction such as police induced false confessions⁷⁵ and jailhouse informant perjury.⁷⁶ In addition to Bedau and Radelet's watershed study, there are thus several other prominent examples of the use of the aggregated case study method in the wrongful conviction literature.⁷⁷

These studies have been valuable in more systematically advancing our knowledge of miscarriages of justice. They have helped us to identify and analyze patterns and outcomes in the aggregate more clearly and thus to make more empirically accurate generalizations about the legal causes and consequences of wrongful conviction. So far, however, the assembled data sets have only been used to provide descriptive, not inferential, statistics. The reason, we believe, is that existing aggregated case studies, such as those by Bedau and Radelet⁷⁸ and Gross and colleagues,⁷⁹ have consisted of cases with only one outcome (i.e., dependent) variable—wrongful conviction of the innocent. In order to estimate the influence of the potentially explanatory (i.e., independent) variables—such as eyewitness misidentification, false confession, tunnel vision, and bad lawyering—on case outcomes, future aggregated case studies need to include more variation in case outcomes.⁸⁰ Otherwise, we are limited to describing what factors are common in wrongful conviction cases rather than explaining how cases of erroneous conviction differ from rightful acquittals or convictions.

As a next step, scholars need to collect descriptive data about a broader set of cases—comparing cases of wrongful conviction with those of rightful conviction or rightful acquittal—in order to statistically analyze the role of potential explanatory variables in accounting for these different outcomes. The traditional

⁷³ See, e.g., Gross, *The Risks of Death*, *supra* note 37.

⁷⁴ See, e.g., Richard A. Leo & Richard J. Ofshe, *The Consequences of False Confessions: Deprivations of Liberty and Miscarriages of Justice in the Age of Psychological Interrogation*, 88 J. CRIM. L. & CRIMINOLOGY 429 (1998). See also Drizin & Leo, *supra* note 3.

⁷⁵ See, e.g., Drizin & Leo, *supra* note 3; Leo & Ofshe, *supra* note 74.

⁷⁶ ROB WARDEN, CENTER ON WRONGFUL CONVICTIONS RESEARCH REPORT, THE ROLE OF FALSE CONFESSIONS IN ILLINOIS WRONGFUL MURDER CONVICTIONS SINCE 1970 (2003), <http://www.law.northwestern.edu/wrongfulconvictions/issues/causesandremedies/falseconfessions/FalseConfessionsStudy.html> (last visited Sept. 15, 2009).

⁷⁷ See, e.g., Gross et al., *supra* note 1; Leo & Ofshe, *supra* note 74.

⁷⁸ See, e.g., Bedau & Radelet, *supra* note 10.

⁷⁹ See, e.g., Gross et al., *supra* note 1.

⁸⁰ Some aggregated case studies allow us to make inferential comparisons about the risk of error. For example, we know that black men accused of raping white women are at a higher risk of being wrongfully convicted than white men accused of raping white women. We also know that juveniles are at a greater risk of being coerced into falsely confessing than other suspects. These are merely two examples of the kind of empirical knowledge we can acquire through aggregated case studies. See generally Gross et al., *supra* note 1; Drizin & Leo, *supra* note 3.

technique for such inferential analysis is multivariate regression, which permits researchers to evaluate how much of the variation in particular outcomes is explained by specific case variables and which variables predict and do not predict different case outcomes. Inferential statistics would also allow us to control for the effects of explanatory variables on one another and to determine whether or not certain observed correlations between two variables—such as the race of the defendant and the likelihood of wrongful conviction, for example, are statistically significant (i.e., not due to chance) and thus likely to be causally related.

2. Matched Comparison Samples

Another related social science methodology involves the use of matched comparison samples. This involves identifying two separate groups of cases that are matched on similar independent variables (such as type of crime, prior felony record, etc.) in order to, in effect, control for the potential explanatory effect of these influences on case outcomes. A matched comparison sample methodology would allow scholars to more accurately determine what factors are uniquely present in wrongful conviction cases, as well as to statistically test hypotheses about what factors may be causally related to or predict wrongful conviction. For example, researchers could compare a set of wrongful conviction cases against a set of rightful acquittal cases or with a set of rightful conviction cases. The former would explore the differences between cases where some innocent defendants are convicted and those in which they are acquitted; the latter would allow scholars to more systematically test the differences between cases in which the innocent are convicted and those in which the guilty are convicted.

So far there have been four studies of wrongful convictions using a matched sample methodology, two by criminologists⁸¹ and, very recently, two by non-traditional criminal law scholars.⁸² In the first study, Talia Harmon assembled a data set of seventy-six cases from 1970 to 1998 in which death row prisoners were exonerated and released. She also assembled a comparison data set of a random sample of matched inmates “convicted at trial and executed, from the same states and in numbers comparable to those of the inmates who were released from death row.”⁸³ The comparison cases were also matched “with releases according to jurisdiction and year of conviction.”⁸⁴ Harmon used logistic regression equations to test which factors (i.e., independent variables) predicted judicial exonerations in capital cases, finding that the discovery of new evidence, allegations of perjury,

⁸¹ Harmon, *Predictors of Miscarriages*, *supra* note 26; Harmon & Lofquist, *supra* note 26.

⁸² Garrett, *supra* note 6; Gross & O'Brien, *supra* note 26.

⁸³ Harmon, *Predictors of Miscarriages*, *supra* note 26, at 958. Harmon adds: “I matched the comparison cases with the releases according to the state and year of conviction. If more than one match existed for a particular case, I selected at random, using a random numbers table. If a match could not be accomplished with the same year of conviction, I used the closest year possible.” *Id.*

⁸⁴ *Id.* at 951.

and type of attorney⁸⁵ were all statistically significant predictors of judicial exonerations in capital cases. Harmon found that the amount of evidence introduced at trial was also a statistically significant predictor of exonerations—namely that fewer types of evidence were used in capital cases that eventually resulted in exonerations.⁸⁶

In a second, more recent matched comparison sample study,⁸⁷ Harmon and criminologist William Lofquist compared not the innocent to the guilty in capital cases, but the innocent to the innocent—eighty-one judicial exonerations of innocent death row prisoners to sixteen executions of death row prisoners whom they believed to be innocent.⁸⁸ Their goal was to identify factors that would statistically predict case outcomes of death row prisoners with strong claims of factual innocence—i.e., why some individuals wrongly convicted of capital crimes were exonerated while others were executed. As in Harmon's previous study, Harmon and Lofquist used a logistic regression model to test several hypotheses. They found that allegations of perjury, multiple types of evidence, a prior felony record, type of attorney at trial, and the race of the defendant were all significant predictors of case outcomes. In short, defendants who had a private or resource center lawyer representing them at trial (as opposed to a public defender) were significantly more likely to have their capital conviction (correctly) overturned and be exonerated than be (erroneously) executed. The same was true for convicted capital defendants, whose prosecutors relied on fewer forms of evidence at trial, who raised allegations of perjury on appeal, who did not have a prior felony record, or whose case involved an African-American defendant and a white victim.⁸⁹

Perhaps the most comprehensive study of wrongful convictions using a matched comparison sample methodology is Brandon Garrett's recent analysis of the first 200 innocent prisoners who were released after post-conviction DNA testing exonerated them.⁹⁰ Of these, Garrett selected the 121 non-capital cases that contained a written decision and assembled a matched comparison group of 121

⁸⁵ This variable measured whether the defendant was represented by a private appellate attorney or legal resource center. *Id.*

⁸⁶ Harmon also found that allegations of Brady violations, allegations of police misconduct, the type of attorney at trial, and the defendant's race were not statistically significant predictors of judicial exonerations. Harmon, *Predictors of Miscarriages*, *supra* note 26, at 961–66.

⁸⁷ See Harmon & Lofquist, *supra* note 26.

⁸⁸ Of course, post-execution estimates can be tricky. One of the sixteen executed individuals included in Harmon & Lofquist's study was Roger Keith Coleman, who was executed in 1992. Many scholars and activists believed that Coleman was innocent and executed for a crime (rape-murder) that he did not commit. See JOHN C. TUCKER, *MAY GOD HAVE MERCY: A TRUE STORY OF CRIME AND PUNISHMENT* (1997). In January of 2006, DNA testing established that Coleman was, in fact, guilty of the rape-murder for which he was executed. See generally Todd E. Pettys, *Killing Roger Coleman: Habeas, Finality, and the Innocence Gap*, 48 WM. & MARY L. REV. 2313 (2007).

⁸⁹ See generally Harmon & Lofquist, *supra* note 26.

⁹⁰ Garrett, *supra* note 6.

non-capital cases that lacked DNA evidence showing innocence or guilt. These cases were randomly selected using a Westlaw search to find all cases that had a published decision from the same state and same year as the DNA exoneration cases and involved a conviction for the same crime. Unlike the studies by Harmon and Lofquist, Garrett sought to understand how the criminal justice system handled the cases of persons wrongly convicted but eventually exonerated by post-conviction DNA testing. The matched comparison sample, thus, provided a non-DNA control group of sorts, but, as Garrett points out, he did not know how many in the matched comparison group were innocent. In addition, the matched comparison group contained less available information about the evidence supporting the convictions because there were no news reports about these cases, unlike in the DNA exonerations, many of which were high profile.

For the most part, the criminal justice case processing of the matched control group in Garrett's study appears similar to the group of DNA exonerations. Although one to two percent of criminal cases are generally reversed following appellate review, the figure was ten percent for the matched comparison sample and nine percent for the DNA exonerations, a statistically insignificant difference suggesting that non-capital rape and murder cases are highly prone to post-conviction reversal compared to other criminal cases. The DNA exoneration cases and matched comparison sample were also similar insofar as both groups challenged the facts underlying their convictions at similar rates, and received reversals based on factual (as opposed to procedural) claims at similar rates. The DNA exonerees did pursue post-conviction review more often than the matched comparison sample (raising innocence claims more frequently), but ultimately this did not matter for their respective reversal rates.

Ironically, the real import of Garrett's study for wrongful conviction scholars comes not so much from the comparison to the matched sample, but from what his descriptive statistics of the first 200 DNA exonerations tell us: namely, that courts repeatedly misjudged the defendants' innocence and that lawyers, existing legal procedures, and actual innocence all failed to prevent these individuals from being wrongfully convicted. Garrett also describes why this occurred. As he notes, "[t]hese exonerees could not effectively litigate their factual innocence, likely due to a combination of unfavorable legal standards, unreceptive courts, faulty criminal investigation by law enforcement, inadequate representation at trial or afterwards, and a lack of resources for factual investigation that might have uncovered miscarriages."⁹¹

Most recently, Samuel Gross and Barbara O'Brien have compared a sample of 105 cases of capital defendants who were sentenced to death and exonerated between 1976–2003 with a random sample of 137 executions carried out in the same period.⁹² The two samples are thus matched for type of case and time period in which they occurred. Gross and O'Brien raise the question: what is unique

⁹¹ Garrett, *supra* note 6, at 131.

⁹² Gross & O'Brien, *supra* note 26.

about capital cases that lead to exonerations versus those that lead to execution? This is the same question Talia Harmon asked and analyzed seven years earlier with a similar data set in the first study of wrongful convictions using a matched comparison sample methodology.⁹³ Yet Gross and O'Brien do not discuss Harmon's similar published research or findings about predictors of exonerations in post-*Furman* capital cases.⁹⁴

Gross and O'Brien's analysis implicitly assumes that the convicted capital defendants who were executed are guilty and the ones who were exonerated are innocent, though they are careful to qualify this point by attributing judgments about sufficiency of evidence to the legal system.⁹⁵ Unlike Harmon and Lofquist's study (which compared the *innocent executed* to the *innocent exonerated*) but like Harmon's study, Gross and O'Brien compare the *innocent exonerated* to the *guilty executed*.⁹⁶ Using chi-square tests rather than regression models, Gross and O'Brien identify several statistically significant differences between the capital convictions leading to exoneration and those leading to execution. Defendants who were exonerated were significantly less likely to be reported as mentally ill, more likely to have been tried for crimes that involve two or less victims, more likely to have been tried for crimes that involve children as victims, less likely to have confessed, more likely to have claimed innocence at trial, and more likely to have had an extensive criminal record (especially violent felonies).⁹⁷ In addition, in the capital cases leading to exonerations, the time from crime to arrest was significantly much longer than in the cases leading to execution.⁹⁸ Gross and O'Brien's analysis demonstrates that these differences are modest predictors of exoneration in capital cases.

⁹³ Harmon, *Predictors of Miscarriages*, *supra* note 26.

⁹⁴ Gross and O'Brien's article is a good example of the disconnect or lack of communication between scholars from the disciplines of law and criminology. Both Gross and O'Brien are law professors, both Harmon and Lofquist are criminologists. Although their research question, data, methods and findings are similar, Gross & O'Brien missed Harmon's 2001 article and Harmon & Lofquist's 2005 article on statistical predictors of judicial exoneration in post-*Furman* capital cases. *See supra* note 26. Because of these omissions, it is unclear how Gross and O'Brien's recent article on statistical predictors of judicial exonerations in post-*Furman* capital cases builds on the earlier scholarship of Harmon and Lofquist on statistical predictors of judicial exonerations in post-*Furman* capital cases.

⁹⁵ Gross & O'Brien, *supra* note 26, at 948 ("For those who were put to death, the legal system concluded that there was no evidence of innocence sufficient to stop the executions. For those who were exonerated, the system determined there was sufficient evidence of innocence to require that the defendants be cleared and released.").

⁹⁶ Harmon and Lofquist compared the innocent (wrongly convicted) to the innocent (wrongly executed). Harmon & Lofquist, *supra* note 26. Garrett explicitly disavowed any knowledge about whether the convicted defendants in his comparison sample were either innocent or guilty. Garrett, *supra* note 6, at 61.

⁹⁷ Gross & O'Brien, *supra* note 26, at 952-57.

⁹⁸ *Id.* at 956-57.

C. Path Analysis

One of the criticisms of matched comparison samples is that they identify a set of common factors that distinguish categories of cases from each other without necessarily identifying a root cause(s) for the different outcomes. In the Gross and O'Brien study, for example, we know that the exonerated were more likely to be tried for crimes against children than were defendants accurately convicted of capital crimes, but it would be folly to say that a child victim "caused" the wrongful conviction. What Gross and O'Brien show, instead, is an association, or correlation, between case characteristics and case outcomes. Indeed, the association is even less predictive when researchers use, as Gross and O'Brien have, a chi-square test of correlation, rather than seeking to conduct a regression that offers more informative inferential statistics.

As one of us previously wrote, social scientists distinguish between the concepts of correlation and causation, the former suggesting that two events are linked, and the latter concluding that no other factor could "explain away" the ability of one event to lead to the other.⁹⁹ A classic example is racial profiling, where researchers have uncovered disproportionate patterns of police stopping or citing minority motorists, but police groups argue that other acceptable indicators of criminality justify their behavior.¹⁰⁰

The causation/correlation distinction in criminal cases has created difficulty for the courts. Consider, especially, *McCleskey v. Kemp*,¹⁰¹ in which the Court was asked to consider a meticulous quantitative study of capital punishment in Georgia. Led by University of Iowa law professor David Baldus, a research team found that the murderers of white victims were four times more likely to be sentenced to death than were the killers of African Americans.¹⁰² Yet, despite the courts' willingness to premise liability in other contexts on disparate impact,¹⁰³ neither the Eleventh Circuit nor the Supreme Court considered these disparities—on an issue that literally involved the distinction between life and death—as violative of the Eighth or Fourteenth Amendments to the U.S. Constitution. As Justice Powell said for the Court, "[Statistics cannot] *prove* that race enters into any capital sentencing decisions or that race was a factor in *McCleskey's* particular case [emphasis in the original]. . . . At most, the Baldus study indicates a discrepancy that appears to correlate with race."¹⁰⁴

⁹⁹ GOULD, *supra* note 12, at 128.

¹⁰⁰ See generally STEVEN J. MUFFLER, RACIAL PROFILING: ISSUES, DATA AND ANALYSES (2006).

¹⁰¹ 481 U.S. 279 (1987).

¹⁰² *Id.* at 286–87.

¹⁰³ In the area of employment discrimination, policies that may appear neutral on their face but that have a disproportionate, negative impact on workers of one race or gender are constitutionally suspect. See generally *Griggs v. Duke Power Co.*, 401 U.S. 424 (1971).

¹⁰⁴ *Id.* at 308, 312.

The Court has been justly criticized for its failure to comprehend statistics in *McCleskey*,¹⁰⁵ but its correlation/causation distinction is, nonetheless, relevant in examining the nature of wrongful convictions. Rather than using matched samples to compare case characteristics and outcomes, researchers might employ contingency or path analysis to distinguish between the sources of wrongful convictions. Path analysis is more generally understood as a decision tree. One begins with an initial condition regarding a case and then traces the possible progression of that case through competing scenarios. A true path analysis can stretch for pages, but for present purposes, consider an example that one of us has previously offered concerning eyewitness identification in cases of stranger rape.¹⁰⁶ This analysis offers only a few paths of a possible scenario, for there obviously are numerous potential outcomes from this tree, depending on the specific facts of the individual case.

Stranger Rape and Eyewitness Identification.

Q₁: Did the victim see the perpetrator?

A₁: No. Unlikely that she will later be able to identify him.

A₂: Yes. Continue to next query.

Q₂: Does the victim remember the perpetrator's depiction and believe she can identify him?

A₁: No. Unlikely that she will later be able to identify him.

A₂: Yes. Continue to next query.

Q₃: Was a composite sketch drawn?

A₁: No. Potentially more difficult to catch a perpetrator or for the victim to identify a suspect later. Explore why the sketch was not made.

Q₄: Did officers provide photos of potential suspects for the victim to observe?

A₁: No. Potentially more difficult to catch a perpetrator. Explore why no photos were provided.

A₂: Yes. Continue to next query.

Q₅: How were the photos presented?

A₁: Simultaneously and/or with feedback. Identification may be more likely yet less accurate. Risk of wrongful conviction rises. Continue to next query.

A₂: Sequentially without feedback. Any identification is likely to be more accurate. Continue to next query.

Q₆: Did the victim identify a perpetrator from the photos?

¹⁰⁵ A law clerk from that term, Edward Lazarus, has lambasted the justices in his 1999 book, *Closed Chambers: The First Eyewitness Account of the Epic Struggles Inside the Supreme Court*. According to Lazarus, Baldus' findings left little explanation for the disparity in capital sentencing other than racial animus on the part of jurors or prosecutors.

¹⁰⁶ GOULD, *supra* note 12, at 129-30.

A₁: No. More difficult to catch the perpetrator.

A₂: Yes. Continue to next query.

Q₇: How certain was the victim in her identification?

A₁: Certain. Continue to next query.

A₂: Doubtful. May continue to the next query depending on officers' judgment. Officers may discount the identification, search for additional evidence to corroborate the identification, or pursue the suspect identified. The risk of wrongful conviction rises if officers lock onto a suspect to the exclusion of others when identifications are weak or doubtful.

Q₈: Was the suspect stopped/seized?

A₁: No. Case remains unsolved.

A₂: Yes. Continue to next query.

Q₉: Do law enforcement officers believe the suspect matches the victim's earlier description, identification, or composite sketch?

A₁: Yes. Arrest and charge are likely.

A₂: No. Move to next query.

Q₁₀: If law enforcement officers have doubts about the connection between the suspect and the prior depiction/sketch, do they act on those doubts?

A₁: No. Officers may arrest and charge the suspect, arrest and hold him while seeking corroborating evidence, or arrest the suspect and leave the charging decision to the prosecutor. The risk of wrongful conviction rises when officers arrest and charge suspects whose guilt they doubt.

A₂: Yes. Depending on the depths of the officers' doubts and their willingness to intercede, they may release the suspect and pursue other potential perpetrators or wait to charge the suspect while seeking corroborating evidence. In either case, the risk of wrongful conviction is ameliorated.¹⁰⁷

This example is just one of the many possible paths a criminal investigation might take. In some cases, a composite sketch may be too vague to assist in catching the perpetrator, and in others the victim may be so certain of the suspect's identity that neither a mug shot nor a sketch is necessary. The point is not that this particular analysis applies to every case but instead to illustrate the process of path analysis, which can help researchers to understand why cases conclude as they do. Other parts of a case should be analyzed like this as well, for collectively the process of custodial interrogations, the work of defense attorneys, and even the decisions of prosecutors to open their case files all serve to raise or reduce the risk of a wrongful conviction.¹⁰⁸ For example, if detectives or prosecutors wait to seek

¹⁰⁷ *Id.*

¹⁰⁸ *Id.* at 131.

corroborating evidence, they may refrain from relying too heavily on a flawed identification process. Similarly, a questionable confession may be challenged and discounted if defense counsels are able to discover inconsistent facts in the prosecutor's files.

V. CONCLUSION

This article has used the empirical study of wrongful conviction to address the question of what criminal law and criminal procedure scholars can learn from criminology and social science. The lessons, we believe, are primarily methodological. We have argued that most scholarship on wrongful conviction—which, in recent years, has been overwhelmingly written by law professors and legal scholars—has been primarily descriptive and has relied almost exclusively on a narrative case-study method to illustrate the traditional legal causes of wrongful conviction and to propose policy reforms. As we have seen, the narrative method of legal scholarship oversimplifies the multifactorial, complex, and contingent nature of causation in wrongful conviction cases. It also tends to elevate individual factors over institutional ones, omit alternative hypotheses or explanations, repeat old findings with new stories, and simplify the larger systemic context of wrongful convictions. Criminologists, as well as a few non-traditional legal scholars, have used social science methods to provide insights into the phenomena of wrongful conviction that go beyond what can be learned only through a narrative case study methodology. We have discussed and illustrated the use of three such approaches in this article: aggregated case studies, matched comparison samples, and path analysis.

Although we have argued that the lessons from criminology and social science for legal wrongful conviction scholarship are primarily methodological, we end on a more substantive point. In their recent study of the systematic differences between a sample of exonerations and a sample of executions in capital cases, Gross and O'Brien decry "our pervasive ignorance" about the empirical study of wrongful conviction: "Our main message is gloomy," they write. "We do not know much about false convictions, and it will be difficult to learn more."¹⁰⁹ We disagree. The empirical study of wrongful convictions of the innocent in America is almost a century old,¹¹⁰ and there are now more than one-thousand documented cases of wrongful conviction.¹¹¹ There have been hundreds of studies, in one form or another,¹¹² of these wrongful conviction cases, and there have also been

¹⁰⁹ Gross & O'Brien, *supra* note 26, at 958.

¹¹⁰ See *supra* notes at 6–10 and accompanying text.

¹¹¹ JAY ROBERT NASH, *I AM INNOCENT!: A COMPREHENSIVE ENCYCLOPEDIA HISTORY OF THE WORLD'S WRONGLY CONVICTED PERSONS* (2008).

¹¹² One of us has argued elsewhere that the field or scholarship on wrongful conviction is divided into three genres, the big picture studies of wrongful convictions, narrative non-fiction studies of wrongful conviction cases, and the specialized social scientific literature on the causes and consequences of wrongful conviction. See Leo, *supra* note 22.

thousands of empirical studies on the traditional legal causes of wrongful conviction, especially eyewitness misidentification¹¹³ and police-induced false confession.¹¹⁴

Although Gross and O'Brien correctly point out, as have many other scholars before them,¹¹⁵ that the frequency of wrongful convictions is unknown and unknowable, it is not necessary to know the incidence or prevalence of a phenomenon to study it empirically or scientifically. Virtually every aspect of the study of American crime and criminal justice contains some incomplete or missing information. Scholars need not exaggerate the significance of the "dark figure" of wrongful conviction or the implications of imperfect knowledge or the absence of pristine pre-existing data sets. In this age of 24/7 media coverage, electronic media and scholarly databases, specialized websites and blogs, Lexis, Westlaw and Google, advanced internet search engines, and innocence projects and innocence commissions, there is no shortage of public information about wrongful convictions in America. Moreover, the hundreds of DNA and non-DNA exonerations in the last two decades have provided wrongful conviction scholars with more—and more easily accessible—primary and secondary source data than ever before. In short, the data on wrongful convictions is there to be discovered, documented, and analyzed. We have argued in this article that more systematic and sophisticated research strategies are necessary to analyze the data in ways that will lead to more precise, more complete, and more generalizable knowledge about the causes, characteristics and consequences of wrongful convictions.

Our disagreement with Gross and O'Brien's "gloomy message" is not merely an academic matter. Wrongful convictions cry out for reform and prevention. It bears remembering that there is no worse routine error in the American criminal justice system—that *the criminal justice system itself causes*—than the wrongful conviction of a factually innocent person. There is no worse error, period, in the criminal justice system than the wrongful execution of a factually innocent person, which numerous scholars and activists believe has already occurred many times over in the United States.¹¹⁶ We need more and better research methods in the

¹¹³ See, e.g., Wells et al., *supra* note 67. See also JAMES M. DOYLE, TRUE WITNESS: COPS, COURTS, SCIENCE, AND THE BATTLE AGAINST MISIDENTIFICATION (2005).

¹¹⁴ See, e.g., RICHARD A. LEO, POLICE INTERROGATION AND AMERICAN JUSTICE (2008); see also GISLI H. GUDJONSSON, THE PSYCHOLOGY OF INTERROGATIONS AND CONFESSIONS: A HANDBOOK (2003).

¹¹⁵ Bedau & Radelet, *supra* note 10, at 26–27; Leo & Ofshe, *supra* note 74.

¹¹⁶ Bedau & Radelet, *supra* note 10, at 73 (arguing that twenty-three innocent individuals were wrongly convicted and wrongly executed in America from 1900–1985). See HELEN PREJEAN, THE DEATH OF INNOCENTS: AN EYEWITNESS ACCOUNT OF WRONGFUL EXECUTIONS (2005) (arguing that Dobie Gillis Williams and Joseph Roger O'Dell were wrongly executed); Hugo Bedau et al., *supra* note 35, at 598 (arguing that a twenty-fourth innocent person, Jessie Tafero, was executed in 1994); Richard A. Leo & Richard J. Ofshe, *The Truth About False Confessions and Advocacy Scholarship*, 37 CRIM. L. BULL. 293, 316–28 (2001) (arguing that Barry Lee Fairchild was wrongly executed); William S. Lofquist & Talia R. Harmon, *Fatal Errors: Compelling Claims of Executions of the Innocent in the Post-Furman Era*, in WRONGFUL CONVICTION: INTERNATIONAL PERSPECTIVES ON

legal study of wrongful convictions not only to improve the discourse in our scholarship, but also to provide policy-makers with better information to improve the quality of American justice.

MISCARRIAGES OF JUSTICE 93–115 (C. Ronald Huff & Martin Killias eds., 2008) (arguing that fifteen executed individuals were almost certainly innocent); Mandy Welch & Richard Burr, *The Politics of Finality and the Execution of the Innocent: The Case of Gary Graham*, in MACHINERY OF DEATH: THE REALITY OF AMERICA'S DEATH PENALTY REGIME 127–43 (David R. Dow & Mark Dow eds., 2002) (arguing that Gary Graham was wrongly convicted and executed).