She Blinded Me with Science: Wrongful Convictions and the "Reverse CSI-Effect"

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SHE BLINDED ME WITH SCIENCE:  
WRONGFUL CONVICTIONS AND THE  
"REVERSE CSI-EFFECT"

By Mark A. Godsey† and Marie Alou‡

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I. INTRODUCTION

Prosecutors in the United States are often heard to complain these  
days of the "CSI-effect." When they make this complaint, they mean  
that the popularity of television shows like CSI² has made it unduly  
difficult for them to obtain convictions of guilty defendants. Jurors  
today, the theory goes, have become spoiled as a result of the prolifer-  
ation of these "high-tech" forensic shows, and now unrealistically ex-  
pect conclusive scientific proof of guilt before they will convict. The  
unfortunate result is that guilty defendants are acquitted because of a  
lack of forensic evidence in cases where, in reality, no such forensic

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speech that I gave of the same title on October 8, 2010 at the Texas Wesleyan Law  
Review Symposium entitled “Innocence and the Road to Exoneration.”

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1. See generally Simon A. Cole & Rachel Dioso-Villa, Investigating the ‘CSI Ef-  
fect’ Effect: Media and Litigation Crisis in Criminal Law, 61 STAN. L. REV. 1335, 1343,  
1345 tbl.3 (2009) [hereinafter Cole & Dioso-Villa, Investigating]; Simon A. Cole &  
Rachel Dioso-Villa, The CSI Effect: The True Effect of Crime Scene Television on the  
Justice System, 41 NEW ENG. L. REV. 435, 443–44 (2007) [hereinafter Cole & Dioso-  
Villa, Burden of Proof]; Patrice Taddonio, Putting ‘The CSI Effect’ Under the Micro-  
scope, TUFTS DAILY, Oct. 11, 2005, http://www.tuftsdaily.com/2.5512/putting-the-csi-  
effect-under-the-microscope-1.596910 (quoting a campus biology major who state that  
“shows like ‘CSI’ . . . may misrepresent the capabilities of current technology and  
make it seem like results are always conclusive, which isn’t realistic”).

2. See Donald E. Shelton, The ‘CSI Effect’: Does It Really Exist?, NAT’L INST.  
Wikipedia, “CSI: Crime Scene Investigation is an American crime drama television  
series, which premiered on CBS on October 6, 2000. The series follows Las Vegas  
criminalists as they use physical evidence to solve grisly murders in this unusually  
graphic drama, which has inspired a host of other cop-show ‘procedurals.’ An imme-  
diate ratings smash for CBS, the series mixes deduction, gritty subject matter and  
popular characters. The network quickly capitalized on its hit with spin-offs CSI:  
Scene_Investigation.
evidence was possible or realistically obtainable outside of Hollywood.

The negative impact for prosecutors resulting from the CSI Effect has been widely reported in the media. For example, one such story published in *Time Magazine* in 2002 described “a growing public expectation that police labs can do everything TV labs can.”\(^3\) The popularity of CSI was henceforth considered a prosecutorial detriment.\(^4\) Once the blueprint for covering this topic was established, the theme was reiterated and redistributed in a wide array of publications, all describing the CSI-effect as a negative impact on prosecutors. A CBS *Early Show* piece in 2005 alleged that the CSI-effect had caused jurors to acquit in criminal cases lacking forensic evidence, and specifically in cases where “juries would have convicted before the advent of the CSI franchise . . .”\(^5\) as a direct result of inflated juror expectations. In a similar vein, *The Oregonian* reported that prosecutors “worry that the shows taint the jury pool with impossibly high expectations,” and described how prosecutors have had to question prospective jurors about their television viewing habits and expend time explaining away the absence of forensic evidence to jurors.\(^6\) Similar stories have appeared in *U.S. News & World Report*, *National Geographic*, and the *New Yorker*.\(^7\) Local newspapers too, picked up on the story, frequently localizing the themes by integrating local actors and circumstances.\(^8\)

The amount of media coverage on this topic is staggering. Media mentions of CSI-effect increased substantially between 2002 and 2008. In 2002, CSI-effect was mentioned in two publications. During 2008, 43 popular media sources had reported on the topic, having hit its peak in 2006 with 78 reports.\(^9\) At the time of this essay, a Google keyword search for “CSI-effect” yielded 285,000 results in about .22 seconds.\(^10\)

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A notable characteristic of these stories is the increasingly alarmist tone that is adopted as the topic gains traction. While the earliest articles noted how district attorneys “increasingly worry” about the alleged-CSI-effect, more recent 2006 reports claim “there is no debating” the existence of the CSI-effect and that “one clear very widespread result” is that jurors seek “indisputable forensic evidence before they will convict.” In one story, in *The Times of London*, it was claimed that CSI has “given jurors a tendency to believe that defendants should be found guilty beyond scientific doubt, not just reasonable doubt.” Another news article described how “in an alarming number of cases, jurors found people not guilty of serious violent crimes because they believed police should have presented more, or different, forensic evidence.” Cole and Dioso-Villa’s study indicated that the use of words such as “alarming,” “dangerous,” and “a big problem,” became increasingly common in later stories covering the phenomenon.

As a scholar of wrongful convictions and a director of an Innocence Project, I see this picture a little differently—or perhaps, in my opinion, a little more fully. While prosecutorial claims of the CSI Effect have not been empirically verified, I do not doubt that, perhaps in some instances, jurors have had their expectations raised by television shows, and that these raised expectations have played out to a prosecutor’s unfair disadvantage in the courtroom.

What I have come to notice, however, is a different kind a reverberation from the CSI-type shows that I believe often hurts defendants and benefits the prosecution. While not reported or discussed in the popular media as is the “CSI Effect,” the other side of the coin, which I will call the “Reverse CSI Effect,” may be more damaging to the criminal justice system and the interests of justice than the opposite impact of which prosecutors complain.

The “Reverse CSI Effect,” as I call it, can be stated as follows: while jurors may have come to expect, as a result of CSI-type shows, high-tech forensic testimony in criminal cases, and may inappropriately acquit when such evidence is lacking, these same jurors, as a result of these same CSI-type shows, often place too much weight on forensic evidence in cases where forensic evidence is in fact produced by the prosecution, resulting in convictions in cases where the defendant probably should have been acquitted. To say it another way, in cases where no forensic evidence is introduced by the prosecution, jurors give the lack of such forensic evidence too much weight to the prosecution’s unfair detriment (the “CSI Effect”), and in cases where forensic evidence IS produced by the prosecution, these same jurors

12. Id. at 466.
give too much weight to this evidence to the defendant’s unfair detriment (the “Reverse CSI Effect”).

If we truly believe the axiom that “It is better that ten guilty men escape than one innocent suffer,”14 then the Reverse CSI Effect may be more worrisome than the opposite effect of which prosecutors complain.

I make no claim in this Essay that empirical proof of the Reverse CSI Effect exists. Like prosecutors, I have become aware of the impact of CSI-type shows through anecdotal experience. I merely raise the specter of a previously unrecognized impact that may counteract the well-known CSI Effect. I believe that, before we purport to know the true impact of forensic-based television shows on the criminal justice system, both sides of the coin need to be fully studied and empirically researched.

Part I of this Essay explores the problem of “junk science” in this country that has led to a plethora of wrongful convictions of the innocent. In this Part, I suggest that, contrary to the beliefs of many CSI-watching jurors, the state of forensics in this country is far from how it is portrayed by Hollywood.

Part II then discusses my anecdotal experience with cases in which jurors, who, while seemingly unaware of the problems that have been documented in this country with junk science, have convicted defendants on little more than what many in my field know to be highly questionable forensic testimony. I ponder whether CSI-type shows have contributed to jurors’ over-reliance on forensic testimony that is, in reality, often quite dubious and offer my anecdotal experience, which suggests that they have. In conclusion, I call for further research of these issues before we definitively assert that CSI-type shows damage the prosecution the most, damage innocent defendants the most, or equally impact both sides of the adversarial system.

II. Junk Science and the State of Forensics in the U.S.

I remember the first time I saw one of the CSI-type shows on television. One scene in particular has remained in my memory. The scene depicted a scientist looking through a microscope at blood or some other biological material that had been found on a man’s (the suspect’s) necktie. After peering through the microscope for a second or two, the scientist stood up, squinted her eyes, and peered at the ceiling as if lost in deep thought. The episode then cut back in time to a scene that showed how the blood had ended up on the suspect’s tie, and this was in a manner that clearly incriminated the suspect in the crime. The scene made clear that the necktie-wearing suspect “did it.” The camera then cut back to the scientist who nodded her head know-

ingly as her pensive look turned to one of steely resolve. She had figured it out. The suspect was guilty, and from peering through a microscope, she knew with Hollywood-type clarity step-by-step just how the crime had unfolded.

A closer examination shows that the state of forensics in the United States is nowhere close to how it is portrayed on television. Faulty forensic testimony is one of the leading causes of wrongful conviction in this country, and was present in more than 50% of the 261 DNA-based exonerations nationally. The advent of DNA testing has been like a crystal ball being handed to the criminal justice system, and has allowed us to go back and re-examine old cases with greater clarity than ever before. Post-conviction DNA testing has taught us that entire fields of so-called “science” that were invented by detectives or crime scene investigators in the quest to convict are, in actuality, quite unreliable.

I will provide just a few examples, of which there are many. First, many defendants have been convicted in the past few decades based on expert “bite mark” testimony. In such cases, the victim typically was found with a bite mark on his or her body, and a forensic odontologist was called by the prosecution to testify at trial that the bite mark found on the victim’s body matches, or is consistent with, the bite mark impression left by the defendant on dental impressions that the court ordered him to provide for comparison purposes. Although only a small percentage of convictions involve bite mark testimony, when DNA testing entered the landscape in the mid-1990s it flatly disproved the primary bases of conviction in many of these cases. In case after case where inmates convicted on bite mark evidence were able to obtain DNA testing of the saliva found on the skin or clothing where the bite mark occurred, the DNA testing proved that they had not in fact been the biter/perpetrator.

Ray Krone, for example, was convicted of the murder of Kim Ancona, who he found stabbed to death in the men’s bathroom of his bar.\(^\text{15}\) Little evidence had been left behind. There were not fingerprints and no semen. The one crucial piece of evidence that remained was the killer’s bitemarks left on Ancona’s neck and left breast. Krone was the immediate suspect, and his dental impression was subsequently matched to the bites on Ancona’s body. According to the Supreme Court of Arizona’s opinion on his 1995 appeal,

“The bite marks were crucial to the State’s case because there was very little other evidence to suggest Krone’s guilt. But there was some. Although Krone had been seen socializing with Ancona in the past, he was evasive with the police about his relationship with her. A witness testified that Ancona told her, hours before the murder, that Ancona did not need help closing the bar because Ray was

going to help her close. Material from a shuffleboard table at the bar was found in Krone’s car, but it was undisputed that Krone had for some time been a customer of the bar. Other physical evidence could neither exclude nor include Krone. Without the bite marks, the State arguably had no case.\textsuperscript{16}

At trial, the forensic odentologist testified that he was “certain” that Krone’s teeth caused bites on the victim, and that it was “a very good match.” He went on to say that bite mark comparison “has all the veracity, all the strength that a fingerprint would have.” The prosecution failed to disclose that an FBI expert had examined the bite marks and said they were not from Krone. Krone was not exonerated until 2002, when he was cleared by DNA testing that also identified the true murderer.

Another more common example of often-faulty forensics is the “science” of microscopic hair comparison. Before DNA testing (and today in locations where DNA testing is too expensive or otherwise hard to come by), if a hair was found at the crime scene in a probative location (murder victim’s clutched hand or rape victim’s underwear), a forensic examiner would often be called upon to compare the hair under a microscope to the victim and the suspect to determine from whom the hair originated. If the examiner issued a report saying that the mystery hair belonged to or was “consistent with” the hair of the suspect, this would often eventually become the lynchpin forensic link to the defendant in the prosecution’s case at trial. DNA testing of hairs from these old convictions has proven microscopic hair comparison to be junk science. Numerous innocent people have been convicted because some “expert,” for example, testified at their trial that the crucial pubic hair found at the crime scene likely came from the defendant. But years later, after the defendant had served perhaps decades in prison, DNA testing would prove that that crucial hair could not have come from the defendant, and in fact came from someone else entirely.

Kenneth Adams, for example, spent more than 17 years in prison as a result of flawed hair analysis before being exonerated by DNA testing of the hairs in question. At his trial, an analyst testified that hairs from the crime scene matched those from Adams, stating that:

“I couldn’t distinguish if I was looking almost at two hairs. They looked just like one.” The analyst said the hairs were “just like if you drop two dollar bills and you see dollar bills on the floor. You see two one dollar bills. It’s obvious. And that’s how it looked there.”\textsuperscript{17}

\textsuperscript{16} Id. at 622.

Worse still is the case of Chester Bauer, also exonerated by DNA, in which the analyst described the match of Bauer's hair to a crime scene hair as a probability that "would be the multiplication of both factors so as an approximately using that 1 out of 100, you come out with a number like 1 chance in 10,000." An analyst in Wilton Dedge's trial, later exonerated by DNA testing, testified that "it would not be a million white people" who would possess such hairs, and that "out of all the pubic hairs I have examined in the laboratory, I have never found two samples, two known samples to match in their microscopic characteristics." In Timothy Durham's case an analyst testified that the crime scene hair and Durham's were both so distinct that he had never seen such characteristics in Caucasoid hair, and that hue of the hairs has been observed in "less than 5% of the hairs [he] examined." Durham spent more than 3 years in prison before he was exonerated.

While the advent of DNA testing has helped us realize the problems with many forensic disciplines, the problem has been laid bare even in cases that do not have any DNA to test. In the 1980s and 1990s, many people were convicted in what have become known as the "shaken baby syndrome" cases (SBS cases). The fact pattern in these cases are usually pretty similar to the following generic set of facts: 1) a 911 call comes in indicating that a baby was found unconscious or is otherwise in severe distress; 2) the baby eventually dies or suffers permanent injury to the brain; 3) the only person with the baby at the time the 911 call came in was the caller herself or himself; 4) the coroner or other doctor working for the prosecution renders an opinion that the baby's death or injuries were caused by someone shaking the baby at or near the time of the 911 call; 5) the person who was responsible for the baby at the time, and who made the 911 call, is then convicted for murdering/injuring the baby.

The expert testimony in SBS cases focused on certain types of brain injuries that medical community agreed, at one point in time, could only come from someone shaking the baby. While scores of individuals are currently serving prison time for having allegedly shaken and killed the babies they were charged with watching, new scientific studies are calling into question whether it is true or not that the injuries present in the SBS cases could only have come from violent shaking. At least one such conviction has now been overturned based on new understandings in the medical field, and similar convictions are being challenged all across the country.

For example, recent studies have demonstrated that children suffering from fatal head injuries may be "lucid" for more than seventy-two

18. Id. The determinations in this table are based on trial transcripts and other official sources. Many of these determinations are based on underlying research from Professor Brandon Garrett and Peter Neufeld for Invalid Forensic Science Testimony and Wrongful Convictions, 95 Va. L. Rev. 1 (2009).
19. Id. at 6.
hours before death. The prospect of a lucid interval provides for doubt with regards to the time and perpetrator of the child’s injuries. It is on these grounds that Audrey Edmunds, a day care provider previously convicted for inflicting SBS on a child in her care, was able to procure a re-evaluation of her conviction.

Edmunds was the childcare provider for a seven-month-old infant, Natalie, who suffered fatal injuries on October 16, 1995. Natalie had been fussier than usual, after her mother had dropped her off at about 7:25 that morning, and after Natalie’s mother left, she was placed in the master bedroom while Edmunds assisted her own children in getting dressed. When Edmunds came back to the bedroom at 8:35 a.m., Natalie was limp and unresponsive. Although Natalie was flown to University Hospital, the doctors were unable to save her and she died that night.

At trial, Edmunds denied that she had shaken or struck Natalie, and absent any other eyewitnesses, the case hinged on expert testimony regarding SBS. The physicians who testified for the State said that her major injuries resulted from “extremely vigorous shaking” and as the result of “severe force,” comparable to that exerted in an automobile accident or in falling from a second story window. There was no evidence that the severe injuries Natalie sustained could have been the result of an accident, rather than intentional, forceful conduct, directed specifically at Natalie. At the time she was injured, Natalie was not quite seven months old, weighed twenty-two pounds and was twenty-four inches tall.

On appeal, the judge who presided over Audrey Edmunds’s trial over a decade earlier conducted a five-day evidentiary hearing in support of her motion for a new trial based on newly discovered evidence, in light of defense expert testimony providing that since the mid-1990s, significant research has undermined the scientific foundations for SBS, challenging some of the universally accepted theories at the time of Edmund’s trial. Numerous weaknesses in the theory of SBS were raised, including new scientific evidence that questioned whether SBS associated head injuries necessarily lead to an immediate

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20. See, e.g., Kristy B. Arbogast et al., Initial Neurologic Presentation in Young Children Sustaining Inflicted and Unintentional Fatal Head Injuries, 116 PEDIATRICS 1608 (2005); M.G. Gilliland, Interval Duration Between Injury and Severe Symptoms in Non-Accidental Head Trauma in Infants and Young Children, 43 J. FORENSIC SCI. 723 (1998).
24. Id.
25. Id. at 294.
26. Edmunds, 2008 WI App ¶6, 308 Wis. 2d at 380–81, 746 N.W.2d at 593.
27. Id. ¶15, 308 Wis. 2d at 385–86, 746 N.W.2d at 596.
loss of consciousness. Most compelling about this testimony was the fact that it came from those experts that had previously testified for the State at Edmund’s trial. While the trial court did not find this evidence compelling enough to warrant a new trial, the Court of Appeals felt that such evidence may have led to reasonable doubt for the jury. Audrey Edmunds was granted a new trial.  

Months later, all charges against her were dismissed.  

Arson science is another discipline or field that has undergone significant evolution in recent decades. Previously, many people were convicted across the country on so-called expert testimony that the fire in question—a fire that either destroyed property or resulted in death—was started intentionally by use of an accelerant such as gasoline. Experts would render such opinions based on the burn patterns that appeared on the floors of the buildings that caught on fire. If only one person was present when the fire started, or survived the fire, and an expert believed, based on burn patterns, that the fire was started intentionally, then that person would often be convicted of arson based on little but the expert’s opinion. Now this “science” is widely regarded as imperfect. Convictions are being challenged and overturned all across the country based on new studies showing that those same burn patterns can occur from accidental fire or fire caused by non-human elements.

Earnest Willis’s conviction, for example, rested largely upon expert testimony of “pour pattern evidence” alleged as proof of arson. Pour patterns were once believed to be caused by the burning of accelerants in arson fires, but are now known to be caused by everything from fallen objects to the combustion of synthetic components in carpets and flooring adhesives. At Willis’s trial, investigators noted that pour patterns extended from one end of the house to the other, originating near a couch that Willis had allegedly been sleeping on. Based on this information, the investigators opined that, had Willis actually slept on the couch as he had said, he would not have escaped the fire because of the intense heat that results from the use of accelerants, thus he must have started the fire. This allegation, they believed, was further supported by the fact that Willis was the only

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28. Id. ¶23, 308 Wis. 2d at 391–92, 746 N.W.2d at 599.
32. Id.
person to escape the fire uninjured. The jury apparently agreed, and sentenced Willis to death for the arson and arson-related deaths of the two women who did not escape the fire.

Willis spent 17 years on death row. His release, which came within two days of his execution date, was a fluke that was initiated when he received a new trial based on unrelated legal issues. The Pecos County District Attorney, Ori White, ordered a review of the arson evidence prior to deciding whether to retry Willis. Willis' case was reopened by a new District Attorney who found that, according to today's arson investigation standards, pour-pattern evidence has been largely discredited as it has become known that these patterns can be created by any number of variables. The D.A. decided not to retry Willis and dropped the case as a result of his review that concluded that there was no evidence of arson.

Not all individuals have been so lucky. Cameron Todd Willingham was executed in 2004 by the State of Texas for the arson related deaths of his three daughters. Texas disregarded his steadfast claims of innocence, but a Chicago Tribune investigation into his case indicated that Willingham's conviction rested heavily on since-debunked arson theories. According to the Tribune's fire experts, not only was the original investigation flawed, but the fire may have even been accidental.

Among the indicators of arson found in Willingham's home were crazed glass, floor burn patterns, and charring of wood under the aluminum threshold. Prosecutors, in their own defense, still point to "other" evidence against Willingham, like the jailhouse informant who claimed that Willingham had confessed to him and witnesses who said that Willingham didn't try hard enough to save his children.

Edward Cheever, one of the state deputy fire marshals who worked on Willingham's original investigation, has stated that with regards to the recent criticisms of their investigation, "At the time of the Corsicana fire, we were still testifying to things that aren't accurate today. They were true then, but they aren't now."

His case primarily rested on the testimony from Fire Chief Doug Fogg and Deputy State Fire Marshal Manuel Valquez who attested to the numerous arson indicators that have more recently been debunked. Fogg still stands behind his investigation, stating "Fire talks to you. The structure talks to you. You call that years of experience. You don't just pick that knowledge up overnight." These statements sound eerily similar to Valquez's testimony, so many years ago: "The

33. Id.
35. Id.
36. Id.
37. Id.
38. Id.
fire tells a story. I am just the interpreter. I am looking at the fire, and I am interpreting the fire. That is what I know. That is what I do best, and the fire does not lie. It tells me the truth.  

Certainly, one hopes that Valquez's statements were as accurate as they were confident because as he further testified, of the 1,200 to 1,500 fires he had investigated, nearly all of them had been arson. And he had never been wrong.

Gov. Rick Perry refused to stop the execution. Willingham avowed his innocence to the end, stating, "I am an innocent man, convicted of a crime I did not commit." Willingham, as he was strapped to the gurney that would lead him to his death proclaimed, "I have been persecuted for 12 years for something I did not do."  

This problem with convictions based on unreliable sciences, or sciences that have not been validated, had become so well recognized that the National Academy of Sciences ("NAS") began studying the problem by 2005. The groundbreaking NAS Report, finally issued in 2009 and entitled "Strengthening Forensic Science in the United States: A Path Forward," perfectly illustrates that we are, in reality, a long way from Hollywood's version of CSI. The report notes:  

For decades, the forensic science disciplines have produced valuable evidence that has contributed to the successful prosecution and conviction of criminals as well as to the exoneration of innocent people. Over the last two decades, advances in some forensic science disciplines, especially the use of DNA technology, have demonstrated that some areas of forensic science have great additional potential to help law enforcement identify criminals. Many crimes that may have gone unsolved are now being solved because forensic science is helping to identify the perpetrators. Those advances, however, also have revealed that, in some cases, substantive information and testimony based on faulty forensic science analyses may have contributed to wrongful convictions of innocent people. This fact has demonstrated the potential danger of giving undue weight to evidence and testimony derived from imperfect testing and analysis. Moreover, imprecise or exaggerated expert testimony has sometimes contributed to the admission of erroneous or misleading evidence.

One of the most important findings of the NAS in its report was that Coroner's Offices, CSI Teams and the like are often not neutral, unbiased participants in the criminal justice system like many in the public believe. These individuals and entities are often too close to the pros-
ecutor's office and suffer from various types of biases as a result. These biases result in exaggerated claims as to what the forensics can truly prove in a given case, as well as the creation of junk sciences, or the phenomenon of invalidated sciences presented in court as validated, reliable and conclusive.\textsuperscript{44} The NAS went so far as to recommend that, because of this problem, all such government entities be

\textsuperscript{44} See Thomas A. Busey & Itiel E. Dror, Special Abilities and Vulnerabilities in Forensic Expertise, in The Fingerprint Sourcebook 15-3, 15-3 (Alan McRoberts ed., 2011), http://www.ncjrs.gov/pdffiles1/nij/225335.pdf. Bias has been found to exist even in the field of fingerprinting, long thought to be the gold standard in forensics, as was demonstrated by Busey and Dror's recent study. \textit{Id.} at 15-17 to -18. This study demonstrated that the subjective aspect of the examiner's practice had the ability to, either consciously or unconsciously, adjust their findings to reflect an existing expectation. \textit{Id.} at 15-3. As Dror notes, "the human mind is not a camera and we do not passively process information." \textit{Id.} Dror points out that human cognition allows the desires and expectations held by a person to influence their perceptions and interpretations of what they observe, and plays an influencing role in the observations and conclusions drawn by fingerprint analysts. \textit{Id.} at 15-15 to -16. In other words, the results of observation depend upon the state of the observer as well as the thing observed. \textit{Id.} at 15-14 to -15.

In a series of studies designed to control for contextual bias among fingerprint examiners, it was determined that the analysis was clearly not performed in isolation from human cognition, or potentially biasing information sources. \textit{Id.} at 15-16. In one study, pairs of fingerprints (some clearly matches some clearly not, and others ambiguous) were represented to nonexperts. \textit{Id.} Then prior to allowing participants to examine the prints, they were provided with contextual information about the crime at issue. \textit{Id.} "Half of the time, the context was neutral. Participants had to judge whether there was sufficient information to make a sound judgment and, if so, whether the prints matched. The other half of the time, the prints were presented within a highly emotional condition, with photos that were scientifically proven to provoke emotional reactions. The results showed that emotional context and mood affected how fingerprints were matched. However the effect of emotional context was dependant on the difficulty of making a match. The emotional manipulation only affected matching decisions when the pairs of fingerprints were ambiguous and there was not enough data to make a clear and simple identification or exclusion decision." \textit{Id.} at 15-16 to -17.

Even in studies involving experts, bias was found. \textit{Id.} at 15-17 to -18. On study employed covert data collected form fingerprint experts during routine work. \textit{Id.} The experiment was designed to examine the judgments made by experts on identical pairs of fingerprints but presented in different contexts. \textit{Id.} Pairs of fingerprints were collected from archives that the same experts being examined, had examined and judged approximately 5 years earlier as a clear and definite match or excluding. \textit{Id.} These previous Identifications/exclusions were taken from real criminal investigations. \textit{Id.} These prints were re-presented to the same experts, but were now presented with the extraneous context that may bias their identifications. \textit{Id.} There were a total of 53 pairs of prints presented to 11 experienced latent fingerprint experts. \textit{Id.} 8 of the 11 experts made some inconsistent decisions that conflicted with their previous decisions on the same pair of prints. \textit{Id.} These conflicting decisions mainly occurred in the more difficult prints, and with prints that were originally judged as identifications. \textit{Id.} Some inconsistencies occurred with relatively easy prints, and with prints that were originally judged as exclusions. \textit{Id.} Some inconsistencies occurred during the control condition where prints were not presented with any contextual manipulation. \textit{Id.}

Dror concluded that "there is strong evidence that some fingerprint specialists can be biased by contextual information . . . . not necessarily based solely on the ridge detail when comparing images. \textit{Id.} at 15-18. More importantly, the biases effect was most
restructured to be separate and apart from prosecutors and police agencies.

III. Anecdotal Evidence of the Reverse CSI Effect

As a co-founder and director of a very active Innocence Project, I have spent a considerable percentage of the last decade reviewing the files of hundreds of cases involving claims of alleged wrongful conviction of the innocent. I have also studied many of the more than 260 cases proven by DNA testing to involve actual wrongful convictions of the innocent. Several of those cases were my own.

One has to remember that the vast majority of post-conviction cases involving inmates who have steadfastly claimed innocent have no DNA in them to provide a definite result for two reasons. First, most criminal cases simply have no DNA in them from the outset. As I often observed during complex comparison trials, where experts faced ambiguity in their comparisons, DNA evidence can be very destructive.

Even when computer databases have been utilized to streamline and perfect this system, human error and bias can cause very destructive results. For instance, Brandon Mayfield, an Oregon man, was wrongly arrested for a terrorist attack in Spain as a result of a false fingerprint identification. Mayfield v. United States, 504 F. Supp. 2d 1023, 1026-29 (D. Or. 2007). On March 11, 2004, in the wake of the terrorist bombing of commuter trains in Madrid, Spain, the Spanish National Police ("SNP") recovered fingerprints from a plastic bag containing explosive detonators, found in a Renault van near the bombing site. Id. at 1027. Two days later the SNP submitted digital photographs of the latent fingerprints lifted from the plastic bag to Interpol Madrid, which then transmitted the digital photographs to the FBI in Quantico, Virginia. Id. On that same day, the Latent Print Unit of the FBI initiated an Automated Fingerprint Identification System ("AFIS") search that did not locate a fingerprint match. Id.

A second AFIS search was performed using higher resolution images of the prints, and 20 candidates whose known prints had features in common with what was identified as Latent Fingerprint # 17 ("LFP # 17"). Id. Each candidate was identified by an AFIS "score," a number that reflected a rank as to how closely candidate's fingerprint matched LFP # 17, along with an identification number for each candidate that allowed the FBI to retrieve the names, original fingerprint cards, and demographic information of each candidate on the list. Id. Demographic information included name, date of birth, sex, race, and social security number, allowing the FBI to perform background checks on these candidates. Id.

Mayfield, an American citizen born in Oregon and reared in Kansas, had an AFIS "score" ranked # 4 on the list of 20 candidates. Id. Mayfield is an American citizen born in Oregon and reared in Kansas. At that time, he had not traveled outside the United States since 1994, and he had never been arrested. Id. Mayfield was ultimately arrested and imprisoned from May 6, 2004, through May 20, 2004, at which point it was revealed, that Spain had matched the Madrid fingerprint with an Algerian, Ouhane Daoud. Id. at 1029. Mayfield was released from prison the following day. Id.

45. The Ohio Innocence Project has reviewed more than 5,000 cases since opening its doors in 2003. Although I did not, of course, personally review all of these cases, a significant portion of my career since 2001 has been spent reviewing files of inmates who make claims to actual innocence.

46. See Matt Kelley, When There's No DNA, CHANGE.ORG, Oct. 23, 2009, http://news.change.org/stories/when-theres-no-dna. Although no definite studies have been done, those with extensive experience reviewing post-conviction claims of actual inno-
always say when giving speeches on the subject, if someone walks by the window of the lecture hall where I am speaking and shoots me through a window, there will be no DNA from the perpetrator left at the crime scene. Typically, only in rape cases where the perpetrator ejaculated, or in murder cases where the perpetrator bled or left saliva, sweat or sufficient skin cells, will conclusive DNA testing be an option. And out of the small percentage of cases where DNA was actually left by the perpetrator, nearly 2/3rds of the time the DNA has been lost or destroyed by the authorities by the time the inmate is able to convince a court to grant him DNA testing years later.  

Only the lucky few inmates have DNA in their cases that is still available for testing ten, twenty, or thirty years after their conviction. It is out of this small sliver of the total number of inmates claiming innocence that the 260+ number of innocents has been identified.  

Throughout the years and today, when I read cases of inmates in prison seeking my help—the cases of claimed wrongful conviction as opposed to proven wrongful conviction—several thoughts are recurring ones. One frequent thought I have is, “This guy is clearly guilty and is trying to waste my time by claiming innocence.” Another frequent thought is, “Regardless of whether this guy is guilty or innocent, this defense attorney was unbelievably horrible.”  

But of all my frequently recurring thoughts, the following is almost always at or near the top of the list: “I have no idea if this guy is innocent or guilty, but either way I cannot believe the jury convicted him on nothing more than what I know to be very shaky and exaggerated ‘forensic’ testimony presented by the state’s expert.” In other words, I am keenly aware of the unreliability of many types of forensics used to convict people in this country, but it is clear to me that juries are not aware at all. In case after case I have reviewed, I have seen juries convict based on “scientific” evidence that leaves me shaking my head—the type of “scientific” evidence that, after the NAS examined did its review, left the NAS shaking its head as well. In case after case, I have seen the juries follow the local coroner or state CSI-type witness to conviction like sheep, while I sit amazed at the disparity between perception and reality.


Let me give a few generic examples, of which there are too many to count. In one case I examined, the victim was tied up with a particular orange, nylon rope that one can buy at Wal-Mart or similar store. One of the suspects in the rape and attempted murder of the victim was a man who, when questioned, was found with a piece of the same type of rope in his car. He was convicted on circumstantial evidence and testimony from a local state expert who said that, when viewed under a microscope, he could conclude that the piece of rope found in the defendant’s car was once attached to the piece of rope used to tie up the victim. In other words, the jagged cut on the end of the defendant’s piece of rope was the yin to the yang that was found on the end of the rope used to tie up the victim.

This was a case where the DNA evidence had been lost or destroyed by the authorities, so nothing could be done. As I said to my students when we reviewed the case, “This guy might be guilty, or he might be innocent. We’ll never know for sure. The DNA is lost. But I can tell you that this so-called expert has never taken a class in rope-end matching. There are no statistics regarding margin of error or how many cut ropes would have ends that are similar to the ends of these ropes. This was, in effect, a made-up science that was made up just for this case.”

In another Ohio case my office is currently litigating, the CSI-type state expert testified that the crowbar found in the defendant’s possession was the same crow bar that was used by the perpetrator to break open the cigarette machine at the bar where the robberies/murders occurred. The expert examined the defendant’s crowbar and the marks on the cigarette machine created when the perpetrator broke the machine open. The expert claimed he could conclude that only the defendant’s crowbar could have made the particular marks on the machine. I know enough about this area to know that such testimony is exaggerated nonsense.

These are just composite examples of which I have seen tens if not hundreds. I have examined case after case of people being convicted on unreliable bite mark evidence, debunked gun shot residue analysis, discredited arson testimony, and other “disciplines” like the rope-matching example above that seem so idiosyncratic that they appear to have been made up on the spot just for the particular case at hand. It is clear to me that jurors in this country often accept state forensic testimony as if each prosecution expert witness is the NASA scientist who first put man on the moon.49

49. My anecdotal experience does not account for cases where the prosecution presents forensic testimony and the jury acquits. This is because I deal only with post-conviction claims of inmates who claim actual innocence, so those who were acquitted at trial never enter my radar screen. But even if the acquittal rate in such cases were high (which I doubt, as the acquittal rate is generally very low in most jurisdictions) it
Admittedly, in many of the cases I have reviewed, the convictions occurred before CSI aired. So television could not have accounted for the jury’s sheep-like acceptance of prosecutors’ expert testimony. But I have seen many examples of this type of juror behavior post-CSI, and I’ll provide a key example now.

In 2009, the “trial of the decade” in my home city, Cincinnati, caught the public’s imagination for months. It was the case of Ryan Widmer, a recent college graduate and newlywed who was accused of drowning his new wife in their bathtub.\(^5\) The case followed the same generic fact pattern of the SBS cases: a 911 call came in, the responding paramedics found someone dead in the home, only one person was in the home with the victim at the time of death, and suspicions then arose that the death could have been intentional rather than accidental.\(^5\)

It was undisputed in the Widmer case that the wife had had what appeared to be strange medical problems, such as possible narcolepsy, because she had a history of falling fast asleep in bizarre situations.\(^5\) She also had a splitting headache before she took her bath on the night that she died.\(^5\) It was shown later at the trial that if someone was in a bath and went unconscious from a diagnosed medical condition, the autopsy would likely show signs of drowning.\(^5\)

The physical evidence as a whole was contradictory and inconsistent. There were bruises and marks on the wife’s neck, but this could have been caused either by forceful drowning by her husband or by the resuscitation efforts from the paramedics.\(^5\) The wife’s manicured nails were fully intact and did not have Ryan’s DNA under them.\(^5\) There were no signs of a struggle.\(^5\) The only fact that really seemed to indicate murder without any indecision was the Coroner’s opinion

would not change the fact that I have seen convictions in many, many cases where there was little more than questionable forensic testimony offered by the prosecution.


\(^5\) Morse, supra note 50.

\(^5\) Morse, *Widmer Witness*, supra note 52.


\(^5\) Id.
that, after considering all the evidence and reconstructing the crime scene, the victim had been intentionally drowned.58 Just like with the SBS cases, that opinion, coupled with the fact that Ryan was the only one home with his wife at the time of her death, was sufficient to charge Ryan Widmer, the prosecution believed.59

The case caught my attention from the beginning because, guilty or innocent, in my humble opinion the Coroner’s reconstruction of how the death occurred, and his “scientific” opinion that this was an intentional killing, were simply insufficient grounds on which to convict. I have simply learned too many lessons over the years about the fallibility of this type of testimony to believe that such evidence was sufficient, by itself, to convict.

What bothered me more than the typical case was that there appeared to be no motive in this case, and much of the evidence pointed against the conclusion that this was murder. But given all the convictions I have seen on similar evidence from my years of reviewing potential Ohio Innocence Project cases, I was not shocked when the jury came back and convicted Ryan of murder.

After the conviction, I was retained (outside of the Ohio Innocence Project) to represent Ryan on appeal. Before the appeal moved forward, however, news surfaced of improper conduct by the jurors who had convicted Ryan. My role quickly shifted from appellate lawyer to someone who was investigating juror misconduct and attempting to win a new trial for Ryan in the lower court. I, along with other lawyers on my team, was eventually successful in winning a new trial for Ryan. Relevant to this essay, however, was the fact that I was given the opportunity during this investigation to interview many of the jurors. Even those who admitted to misconduct were quick to tell me of their view that Ryan was guilty. And when I listened to their reasons, the “Reverse CSI” effect I had suspected for years was written all over them.

The reasons given by the jurors for convicting Ryan essentially amounted to this: “The CSI-types know what they’re doing—they can solve anything—and here they seemed pretty confident it was murder.60 The defendant’s competing forensics experts we all know were simply hired guns who had little credibility.”61 Period. That was it.

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That was all it took for some of these jurors to convict. Put someone on the stand who normally wears a white lab coat, and who works for the government, and have them tell the jury that they have used advanced sciences and crime scene reconstruction techniques to conclude that a murder occurred, and these jurors were willing to close the deal and go home.

IV. Conclusion

As I said previously, I make no claim to scientific proof of a Reverse CSI Effect. One anecdotal case certainly does not prove that such an effect exists. But I have seen undue reliance on state forensic testimony in perhaps hundreds of cases since starting the Ohio Innocence Project. I believe that anyone who has seen what I have witnessed, and who has studied the NAS Report and the data underlying the NAS Report, would come to the belief that, if anything, jurors give too much weight to forensic testimony presented by the prosecution. At a minimum, before we accept the rhetoric proliferated by prosecutors that CSI-type television shows always disproportionately hurt prosecutors and help defendants, more empirical research must be performed.

Prosecutors have already developed well-honed strategies to combat the CSI Effect. If we believe in the old axiom that “It is better that ten guilty men escape than one innocent suffer,”62 then we must take the possibility of a Reverse CSI Effect seriously. If it is found to exist, then defense attorneys need to take a page from the prosecutors’ books and develop strategies and techniques to combat its ill effects.