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Court Review

Volume 48, Issues 1-2

THE JOURNAL OF THE AMERICAN JUDGES ASSOCIATION

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Court Review

THE JOURNAL OF THE AMERICAN JUDGES ASSOCIATION
Volume 48, Issues 1-2 2012

EDITOR'S NOTE

This special issue on eyewitness identification includes some of the world's premier researchers and commentators, along with some of their best students. The six articles provide judges with easy-to-understand, state-of-the-art information on various social-science perspectives relevant to eyewitness identification tailored to a judicial readership.

In his introductory article, James Doyle provides judges with an argument for why you should care about what social scientists have documented in their research. It is followed by an article by Laura Smalarz and Gary Wells that reviews eyewitness research, focusing on mistaken identifications and false certainty by witnesses. Their reviews point out the need for judges to be vigilant in making sure that eyewitness identifications are accurate.

Accurate identifications are the subject of the article by Richard Wise and Martin Safer, who present a method for analyzing the accuracy of eyewitness testimony that can help judges in ensuring correct outcomes for defendants. It is a challenging task for judges.

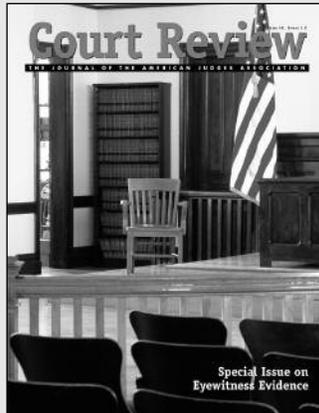
Fiona Gabbert and her colleagues from the United Kingdom and U.S., Daniel Wright, Amina Memon, Elin Skagerberg, and Kat Jamieson, discuss their research, and the research of others, showing that eyewitness memory can be influenced by post-event information, with advice to police and attorneys (and judges) regarding how they can try to protect against faulty identifications by witnesses.

A cross-national team of researchers from New Zealand and the U.S., Jeffrey Foster, Maryanne Garry, and Elizabeth Loftus, provide a brief report on recent research studies they conducted showing that repeated erroneous information can influence witnesses and jurors, once again raising the problems of faulty eyewitness identifications.

Similarly, Brian Bornstein and Joseph Hamm report on several studies they conducted that show how judges can use jury instructions to protect against errors in eyewitness identifications.

The challenge is great for judges, but we owe it to defendants and victims to get it right.

I close by noting that we have reprised the cover photo used in a 1999 issue of *Court Review* that also looked at the legal and scientific issues involved with eyewitness testimony.—Alan Tomkins



Court Review, the quarterly journal of the American Judges Association, invites the submission of unsolicited, original articles, essays, and book reviews. *Court Review* seeks to provide practical, useful information to the working judges of the United States and Canada. In each issue, we hope to provide information that will be of use to judges in their everyday work, whether in highlighting new procedures or methods of trial, court, or case management, providing substantive information regarding an area of law likely to be encountered by many judges, or by providing background information (such as psychology or other social science research) that can be used by judges in their work. Guidelines for the submission of manuscripts for *Court Review* are set forth on page 13 of this issue. *Court Review* reserves the right to edit, condense, or reject material submitted for publication.

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Photo credit: Cover photo, Mary Watkins. The photo was taken in the Linn County Courthouse in Mound City, Kansas.

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President's Column

On the Road to Making Better Judges™

Kevin S. Burke

The American Judges Association Executive Committee had a fascinating discussion last spring. Like many things in life the topic wasn't planned; it just happened. The discussion began with reflection: what does the American Judges Association stand for? What is it that our association can do to justify judges joining? The answer was simple: The mission of the AJA is to make better judges. And so we modified our motto. Yes, the AJA will continue to be the Voice of the Judiciary®, but our goal is not just to be a voice for judges, but also to seek to make better judges.

This edition of *Court Review* is as important as any we have ever published because the entire focus is on helping judges better understand and deal with eyewitness-identification issues. I hope you do two things with it. First, take the time to read this issue. Second, after you read it, share this issue of *Court Review* with a colleague who is not currently a member of the AJA. Better yet, share the edition and offer your colleague a free one-year membership. Just send an email with your colleague's name and address and email it to Shelley Rockwell (srockwell@ncsc.org). For AJA to be an effective voice and an influence on making better judges, we need to expand our membership.

Justice William J. Brennan, Jr. once wrote, “[t]here is almost *nothing more convincing* than a live human being who takes the stand, points a finger at the defendant, and says ‘That’s the one!’” Any trial judge knows all too well just how right Justice Brennan was. Researcher Elizabeth Loftus demonstrated the strength of eyewitness testimony in a mock-trial experiment: some jurors heard a case with an eyewitness, some without. With no eyewitness, only 18% of jurors gave guilty verdicts; with an eyewitness, the guilty rate rose to 72%. Even when the identification was impeached with strong evidence, the guilty rate was still 68%. But since Justice Brennan wrote, social scientists have proven that eyewitness identification is not only powerful—it also is often unreliable.

Despite this, the United States Supreme Court limited the constitutional challenges to eyewitness testimony in a case decided earlier this year. A man named Barion Perry had been

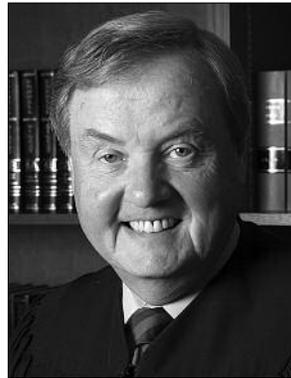
detained at the crime scene, handcuffed after being suspected of breaking into cars. Without specifically being asked by police to identify the suspect, a neighbor pointed out Perry from a nearby window as the alleged thief. In an opinion written by Justice Ginsburg, the Court held that there was no due-process violation when law-enforcement officers haven't engaged in any improper conduct, and officers hadn't arranged for neighbor's identification of the handcuffed defendant. Even

so, Justice Ginsberg did warn police and prosecutors to be careful about the trustworthiness of eyewitness testimony, and Justice Sotomayor issued a forceful dissent.

Although the United States Supreme Court has decided the due-process issue at the federal level, other issues—how to treat eyewitness testimony, what instructions to give, and what judges can learn from social scientists—remain alive.

Faced with these problems, the New Jersey Supreme Court devoted considerable time to examining what judges should do about eyewitness testimony. As a result, New Jersey jurors will be getting instructions from judges encouraging them to consider eyewitness testimony more skeptically. Also new are evidence-gathering rules spelling out how law enforcement and other investigators should record details on how an identification is made. While some proponents of the New Jersey rules claim that these changes will strengthen the justice system, save money, and reduce appeals, the real issue is this: Can we tolerate convicting and incarcerating people for crimes in which they are actually innocent?

In an article written right before the oral argument in Barion Perry's case Adam Liptak of the *New York Times* said, “Every year, more than 75,000 eyewitnesses identify suspects in criminal investigations. Those identifications are wrong about a third of the time, a pile of studies suggest.” The system of justice inherently involves human error and it always will. As Katharine Graham once said, “A mistake is just another way of doing things.” The goal of good judges must be to get it right all of the time. This issue of *Court Review* is our contribution toward reaching that goal.



Ready for the Psychologists: Learning from Eyewitness Errors

James M. Doyle

Over a century ago, Dean John Henry Wigmore published a famous demolition of pioneering psychologist Hugo Munsterberg in the *Illinois Law Review*.¹ Munsterberg had complained in his best seller, *On the Witness Stand*, that while other disciplines and professions were hustling to learn the lessons about eyewitness memory that his new field of experimental psychology was beginning to teach, “the lawyer alone is obdurate.”² Munsterberg charged that the lawyers chose traditional primitive ignorance over scientific enlightenment. Wigmore could not sit still for that. His satirical response is still remembered by psychologists as the blood-thirsty slaughter of psychology as a discipline by the greatest evidence scholar that the Anglo-American tradition ever produced: a grisly paradigm of the kind of welcome social scientists should expect from the legal system and its practitioners. If this is what you get from the great Wigmore, researchers reasoned, just imagine the treatment you will receive from an ordinary legal tribesman.

Wigmore’s withering cross-examination of the wretched “Professor Muensterberg” in this article is so lengthy and so humiliating that there are moments when a slightly creepy sadistic pleasure seems to be animating the dean. But sadism wasn’t the problem. The problem was Wigmore’s cloddish professorial attempts at humor—Wigmore’s sarcasm created a misimpression that he tried to correct for the rest of his life. Wigmore did want to issue a call to order: to correct Munsterberg’s overstatements and to address Munsterberg’s misapprehensions about legal practice. But Wigmore was far from an enemy of psychology as a discipline; he was actually one of psychology’s earliest advocates, the best legal friend that psychology had.

The real purpose of Wigmore’s article was to illuminate the potential in a law and psychology relationship and to throw his prestige behind its inception. Wigmore’s goal was to herald the day when the lawyers and psychologists could move forward in “a friendly and energetic alliance in the noble cause of justice.”³ Yes, Munsterberg had jumped the gun in announcing the immediate utility of such an alliance; Wigmore thought that was still on the distant horizon. Even so, Wigmore looked forward to the day of its arrival, and he was confident that day would come. “When the psychologists are ready for the courts,” he announced in a subsequent piece, “the courts will

be ready for the psychologists.”⁴

Various signs and portents—among them, this special issue—indicate that the courts finally are ready to mobilize the lessons taught by Munsterberg and his heirs; or at least that the courts are ready to take steps to get ready. This is an important moment in the vexed history of the law and eyewitness psychology relationship.

To understand where we are it helps to understand a little about both how we got here and where we could be going. The “friendly and energetic alliance” will have more than one path to choose from as it moves ahead. The path that realizes the fullest potential of the alliance is not the most obvious path, and finding it will require a new examination of the deep nature of the catalyst—the devastating catalog of DNA exonerations in eyewitness cases—that is pushing us forward.

Something more than a minor adjustment to judicial practice is called for here: this is an opportunity for judicial leadership.

DIAGNOSES AND PROBABILITIES

Hugo Munsterberg’s pronouncements on the usefulness of contemporary psychology were overconfident and premature, but they were also remarkably prescient in anticipating future research. Munsterberg began to explain some of eyewitness memory’s mechanisms and some of its particular dangers. He showed, for example, that humans do not have a permanent stable memory capacity like a videotape or a DVR available to be summoned for accurate replay whenever required. He showed that memory was malleable and reconstructive.⁵ He also showed how forensic evaluations of memory evidence could go astray. For example, he showed that a witness’s confidence was an unreliable indicator of the witness’s accuracy.⁶ But for current purposes, Munsterberg’s method was as important as his findings.

Munsterberg’s signature tool (at least for public display) was the staged demonstration. A man interrupts a lecture; he yells; he fires a gun; later, the audience of eyewitnesses is questioned about the event. Next, inaccuracies in the audience’s responses are totaled. The number of errors in the witnesses’ responses is shocking. Lots of eyewitnesses make lots of mistakes. These results grabbed attention, but they were not terribly useful for the legal system. They indicated that there were many mistakes,

Footnotes

1. John H. Wigmore, *Professor Muensterberg and the Psychology of Testimony: Being a Report of the Case of Cokestone v. Muensterberg*, 3 ILL. L. REV. 399 (1909).
2. HUGO MUNSTERBERG, *ON THE WITNESS STAND* (1908). The story of the encounter and its aftermath is told in some detail in JAMES M. DOYLE, *TRUE WITNESS: COPS, COURTS, SCIENCE, AND THE BATTLE AGAINST MISIDENTIFICATION* (2005).

3. Wigmore, *supra* note 1, at 406. In fact, Wigmore may have had a better grasp of contemporary psychological research than Munsterberg himself. See Brian H. Bornstein & Steven D. Penrod, *Hugo Who? G.F. Arnold’s Alternative Early Approach to Psychology and Law*, 22 APPLIED COGNITIVE PSYCHOL. 759, 762 (2008).
4. JOHN HENRY WIGMORE, *THE SCIENCE OF JUDICIAL PROOF* (1937).
5. MUNSTERBERG, *supra* note 2, at 60.
6. *Id.*, at 56.

and they argued for an increased general skepticism about eyewitness accounts. But, as Wigmore pointed out, the legal system's concern is not with the general reliability of witnesses as a class; it is with the reliability of particular verdicts in individual cases. The legal problem arose in separating the mistaken from the correct—not the rate of mistakes, but their distribution. There, Munsterberg had little or nothing practical to offer.

When Robert Buckhout picked up Munsterberg's fallen banner in the 1970s, he relied on a modernized version of the same approach.⁷ For example, he induced a New York television station to broadcast a staged crime and invite viewers to make choices from a staged lineup. The number of correct identifications this process yielded was lower than would have been achieved by random guessing.⁸ But while his method may have been similar, Buckhout's temperament was very different from Munsterberg's. Munsterberg was an academic who retreated when faced with Wigmore's onslaught. Buckhout knew his science, but he was a happy warrior, a cheerful agitator who carried the battle into the courts and into the popular media. He not only accepted opposition, he gloried in it.

He published an accessible survey article on eyewitness error in *Scientific American*.⁹ He testified on the unreliability of eyewitness testimony in the trial of California radical Angela Davis and was instrumental in winning her acquittal. He seized every opportunity to comment in the media (for example, opining on the case of a butcher identifying his own pork chops from a pork-chop lineup) where the lessons of eyewitness psychology could be taught. His science was aligned with his politics. He believed that criminal defendants, particularly poor and minority indigent defendants, were getting screwed by the legal system's complacent reliance on an antique view of how memory worked. He made an enormous impact, and he almost immediately rallied two groups of partners.

The first group was a cohort of idealistic younger psychologists, like Elizabeth Loftus, who were anxious to see their science have an impact in the world. Loftus attacked the eyewitness issue in a radically different way: she "did science" in the form of rigorously controlled experiments, changing one variable while holding all others constant. The results she began to produce were striking. She showed, for example, that when questions about a white barn were introduced into interrogations of witnesses who had viewed a film of an auto accident, over 20% of those viewers later reported seeing a white barn although in fact there had been no white barn in the film.¹⁰ This was a crucial finding for eyewitness cases: it showed that eyewitness memory not only decayed, but also *changed*. It showed how a witness could not only forget the right man but also—after being unknowingly influenced by viewing mug shots or show-ups (which operate as "post-event information" like the white barn in an interview question)—could remember the *wrong* man.

Loftus's findings mounted quickly, and they went to the heart of the eyewitness experience. Taken together they indicated that in an eyewitness case, the memory of the witness is for all practical purposes the scene of the crime. They showed that memory evidence was in effect "trace evidence": difficult to collect, easy to contaminate, but impossible to test for contamination after any contamination has occurred. At the same time, Loftus's scrupulous scientific methods were winning her work admission to the blue-ribbon, peer-reviewed academic journals, and encouraging younger academic psychologists to extend and challenge her research. You could study eyewitnesses and have a scholarly career. Experimental findings such as Loftus's (unlike the demonstrations of Munsterberg and Buckhout) could be replicated or falsified. The number of published studies multiplied.¹¹

And at this point, Buckhout's second group of recruits, the desperate criminal defense lawyers, joined in. Buckhout's testimony in the Angela Davis case got their attention, and his *Scientific American* article quickly circulated through the defense bar. Elizabeth Loftus published her popular general audience account of eyewitness science, *Eyewitness Testimony*,¹² at about this time, and that was buttressed by an influential *Stanford Law Review* comment written by Frederick Woocher (a trained psychologist, then in law school), which provided a blueprint for arguments for conveying psychological science through expert witnesses. Defense lawyers began to demand the admission of expert testimony by Loftus, Buckhout, and their colleagues, aimed at debunking faith in eyewitness evidence.

This point of entry was bad luck for anyone who hoped for a "friendly and energetic alliance." That wasn't obvious at the time. Persistent litigation over admissibility did help to keep the issue of eyewitness science alive in the courts, and feedback from skeptical courts did help to provoke new, better-targeted research. But these benefits came at a steep price.

The initial environment has affected discussions of eyewitness science ever since. Admissibility questions arise at the most acutely adversarial moments of the criminal process, and their resolution (at least in the eyes of the advocates) may determine who wins and who loses. Prosecutors—goaded by inflammatory rhetoric from Buckhout—quickly denounced eyewitness findings as enemy pseudoscience: a trick designed to let criminals go free by unnerving credulous lay jurors and sliming all eyewitnesses, most of who were right, and many of who were crime victims. For many prosecutors—then and

Loftus's research "showed how a witness could not only forget the right man but also... could remember the wrong man."

7. DOYLE, *supra* note 2, at 49-68, discusses Buckhout's history and influence.
8. Robert Buckhout, *Nearly 2,000 Witnesses Can Be Wrong*, 2 SOCIAL ACTION & L. 7 (1975).
9. Robert Buckhout, *Eyewitness Testimony*, 231 SCI. AM. 23 (1974).
10. Elizabeth F. Loftus & John C. Palmer, *Reconstruction of Automobile*

Destruction: An Example of the Interaction Between Language and Memory, 13 J. VERBAL LEARNING & VERBAL BEHAV. 585 (1974).
11. BRIAN CUTLER & STEVEN PENROD, *MISTAKEN IDENTIFICATION: THE EYEWITNESS, PSYCHOLOGY AND THE LAW* (1995).
12. ELIZABETH LOFTUS, *EYEWITNESS TESTIMONY* (1979).

“Wells argued that preventing mistakes [during the] investigation would be better than trying to catch mistakes....”

now—eyewitness science is simply a shield for the guilty. For many judges, the cumulative price of the skirmishing over marginally interesting science the experts offered seemed enormous in terms of hours, dollars, and distended docket backlog.

While the battles over admissibility of expert testimony continued to grind on, another of Buckhout’s recruits, Gary Wells,

was engineering a paradigm shift.¹³ Wells admired Loftus and accepted her findings as good science, but he also pointed out their limited utility.

Precisely because Loftus was a scrupulous scientist, she isolated and studied a single factor (e.g., the wording of a question, the stress of the event, the presence of post-event information) at a time. Wells noted that these studies yielded statistical results that could tell you what happened eight times out of ten, but could not tell you whether *this* case was one of the eight, or one of the two. Even worse, every criminal event incorporates many factors, not just one, and there was no science-based mechanism for combining these factors and assessing their interactions. From Wells’s point of view, offering post-hoc diagnosis of eyewitness error from the witness stand was the wrong way to mobilize the solid (but inherently probability-based) science that Loftus and a generation of their colleagues were producing.¹⁴

Wells successfully argued for the new orientation that has dominated criminal justice policy discussions about eyewitnesses for the past decade. He noted that some factors Loftus had studied (e.g., lighting, age of witness, stress of event) are not under the criminal justice system’s control. He called these “estimator variables.” But he also noted that there were other factors (e.g., lineup construction, lineup administration, witness interview technique) that the system’s actors *do* have power over. If you understood how these “system variables” could be modernized, you could reduce the rate of error. Wells argued that preventing mistakes by identifying new best practices in investigation would be better than trying to catch mistakes from the witness stand after they happened. A torrent of research followed, exploring and refining new elements of “system-variable” design. The task of psychological science in this conception was the prevention of eyewitness errors as evidence was being produced, not the retrospective inspection of eyewitness testimony to see if an error had occurred. That research has now coalesced around the “double-blind sequential” photo-

array and lineup protocol discussed later in this issue.

Then, just as that research matured, the DNA exoneration cases arrived. The eyewitness cases dominated the lists of wrongful convictions; the system-variable research was well developed, and its salience was immediately obvious. Influential actors such as Attorney General Janet Reno were eager to apply the researchers’ lessons.¹⁵ Expert-witness litigation does continue, and a gradual but definite trend toward the admission of eyewitness expert testimony in trials has gained momentum in the courts.¹⁶ But the policy conversation has turned toward prevention: toward the design of system-variable “best practice” reforms of lineup and other investigative procedures. An accelerating wave of jurisdictions has been adopting the science-based eyewitness-evidence protocols.

If this is where we are, then where are we going? The answer to that question will depend in part on how we understand the lessons of the DNA eyewitness exoneration cases.

THE WRONG MAN AND THE WRONG PATIENT

Wigmore’s “friendly and energetic alliance” received a dramatic push forward from the exoneration cases, but it would be a mistake to settle for the most obvious lessons that the eyewitness wrongful convictions seem to offer.

Smalarz and Wells are not wrong when they write that “[a]n increasingly strong case can be made for the argument that mistaken-eyewitness identification is the primary cause of the conviction of the innocent in the United States,”¹⁷ but their familiar formulation uses “cause” in a shorthand sense that may mask both the complexity of the issue and the opportunities for mobilizing science in reform that the collision of eyewitness psychology and the DNA exonerations provide.

One very good way to see those complexities and opportunities is to examine contemporary medicine’s encounter with its own version of the problem.

Just as the criminal justice system is haunted by the fact that it sometimes convicts the wrong man, medicine is haunted by the fact that it sometimes operates on the wrong patient. But when modern medical researchers began to look carefully into wrong-patient events, they uncovered surprising insights. For example, one intensive examination of a wrong-patient surgery discovered not just one but at least seventeen errors. The patient’s face was draped so that the physicians could not see it; a resident left the lab assuming the attending physician had ordered the invasive surgery without telling him; conflicting charts were overlooked; and contradictory patient stickers were ignored. But the crucial point for the researchers was that *no single one of the seventeen errors they catalogued could have caused the wrong-patient surgery by itself.*¹⁸

13. DOYLE, *supra* note 2, at 142-167.

14. Gary L. Wells, *Applied Eyewitness-Testimony Research: System Variables and Estimator Variables*, 36 J. PERSONALITY & SOC. PSYCHOL. 1546 (1978).

15. DOYLE, *supra* note 2, at 163-170.

16. See generally ELIZABETH LOFTUS, JAMES M. DOYLE & JENNIFER DYSART, *EYEWITNESS TESTIMONY: CIVIL AND CRIMINAL* (4th ed. 2007) at 369-377.

17. Laura Smalarz & Gary L. Wells, *Eyewitness Identification Evidence:*

Scientific Advances and the New Burden on Trial Judges, 48 CT. REV. 14, 14 (2012) (this issue). Recent investigations of non-DNA exonerations indicate that false testimony cases may outnumber eyewitness cases in certain varieties of false convictions. NATIONAL REGISTRY OF EXONERATIONS, <http://www.law.umich.edu/special/exoneration/Pages/about.aspx> (last visited July 9, 2012).

18. Mark R. Chassin & Elise C. Becher, *The Wrong Patient*, 136 ANNALS INTERNAL MED. 826, 829-31 (2002).

Analysis showed not only mistakes by individual doctors and nurses, but also latent systemic problems. Communications among staff were terrible; computer systems did not share information. When teams failed to function, no one was surprised or bothered because of a culture of low expectations that “led [staff] to conclude that these red flags signified not unusual, worrisome harbingers but rather mundane repetitions of the poor communication to which they become inured.”¹⁹ Deviations from good practice had become normal, and a tragedy resulted.

What this meant to medical reformers was that the lessons of closely studied events such as the Chernobyl meltdown and the space shuttle *Challenger* launch disaster could be applied to healthcare. Like those tragedies, the wrong-patient surgery was an “organizational accident.” No single error is sufficient to cause an organizational accident; the errors of many individuals (“active errors”) converge and interact with system weaknesses (“latent conditions”), increasing the likelihood that individual errors will do harm. The practitioners and organizations involved in these tragedies did not choose to make errors—they *drifted* into them.²⁰ The disasters required no villains; they involved normal people, doing normal work, in normal organizations.²¹ They suffered, in Charles Perrow’s memorable phrase, “normal accidents.”²² Like the *Challenger* launch decision, the medical tragedies were caused by “mistake[s] embedded in the banality of organizational life.”²³

These insights apply to a wrong-man conviction.²⁴ Our traditional wrongful-conviction narrative (the witness picked the wrong guy; the cops and the D.A. believed her; so did the jury) is not adequate. Nor is it adequate to isolate the performance of one operator or the imperfections one investigative technique employed in the case—for example, the traditional non-blind, simultaneous lineup—as either a sole cause or a silver-bullet solution.

Lots of things have to go wrong before the wrong man is convicted. Yes, the witness has to choose the wrong man from an array, but the police have to put him into the array in the first place and design the format of the array and the execution of the identification. Forensic evidence on the crime scene could have been overlooked or, although properly collected and tested in the lab, distorted in the courtroom presentation. Cell-phone records, Metrocard data, or other alibi information could have been ignored. Tunnel vision, augmented by clearance rate and caseload pressures from above, may have overwhelmed the investigators and the prosecutors. Poorly funded or untrained defense counsel may have failed to investigate alternative explanations or to execute effective cross-examination. The witness erred; the cops erred; the technicians erred; the prosecutors erred; the defense erred; the judge and the jury erred; the appellate court erred, too. No single one of these errors would have been enough without the others. The errors

combined and cascaded; *then* there was a tragedy—and a “no-villains” tragedy at that.

When we ask who is responsible for a wrongful conviction, the right answer is usually “everyone involved,” to one degree or another—if not by making a mistake, then by failing to catch one. And “everyone” includes not only cops and lawyers at the sharp end of the system, but also legislators, policymakers, funders, and appellate judges far from the scene of the events who dictated the conditions under which the sharp-end operators work. Look twice at the DNA-exposed wrongful convictions and you see that, as Charles Perrow noted, “[T]ime and again, the operator is confronted by unexpected and usually mysterious interactions among failures, [so that] saying that he should have zigged instead of zagged is possible only after the fact.”²⁵ This is as true of a whole spectrum of criminal justice errors—mistaken releases, prisoners lost in prisons, and cold cases that stayed cold too long—as it is of wrongful convictions.

The habit of treating horrific wrongful convictions as single-cause events, and then totaling up, ranking, and prioritizing these causes, has produced useful innovations such as the double-blind sequential protocol and, in some places, has led those reforms to be integrated into practice, but it does not really engage the deeper nature of the problem. The solutions it has generated stop short of fundamentally improving future system reliability.

All new sets of best practices or checklists have to operationalized and executed, and they have to be maintained, monitored, evaluated, and perhaps junked and replaced when environments change or science advances. No new set of best identification practices can cover every circumstance, so an irreducible zone of discretion always survives, and operators are forced to manage life within that zone. From the moment it is written, every new checklist is under immediate and constant assault from clearance-rate pressure, docket-list backlog, and other environmental factors. “Drift” toward failure remains a threat to our new best practices just as it was to their discredited predecessors. No one had more checklists than NASA; NASA launched *Challenger* anyway.

Many tragic mishaps could never have been predicted (and cannot now be explained) by reference to the features of individual component parts. These tragedies are “emergent” events, results of the “greater than the sum of its parts” properties inherent in all systems.²⁶ Going “down and in” to find a broken component will not be enough to explain these happenings; we also have to go “up and out” to assess the envi-

“When we ask who is responsible for a wrongful conviction, the right answer is usually ‘everyone involved’...”

19. *Id.*, at 829-830.

20. SIDNEY DEKKER, *DRIFT INTO FAILURE* (2011).

21. SIDNEY DEKKER, *JUST CULTURE* (2007).

22. CHARLES PERROW, *NORMAL ACCIDENTS* (1984).

23. DIANE VAUGHAN, *THE CHALLENGER LAUNCH DECISION: RISKY TECHNOLOGY, CULTURE, AND DEVIANCE AT NASA*, xiv (1996).

24. This argument is made at greater length and in greater detail in James M. Doyle, *Learning from Error in American Criminal Justice*, 100 J. CRIM. L. & CRIMINOLOGY 109 (2010).

25. PERROW, *supra* note 22, at 9.

26. DEKKER, *supra* note 20.

“A modern approach to ‘best practices’ in collecting eyewitness-memory evidence is plainly called for....”

ronment that chose the component, allowed the component to fail, and made the failure catastrophic.²⁷ Making good design choices between alternative single components of the criminal process (e.g., between “simultaneous” and “sequential” lineups) will aid progress but it won’t finally answer the challenge.

It is axiomatic in high-reliability organizations that optimizing individual components is a poor route to overall system quality.²⁸ The double-blind sequential-lineup protocol is a more conservative screening test for guilt, but it isn’t a perfect one.²⁹ Individual cases with idiosyncratic histories will still have to be decided. Even after modernizing reforms, judges will still have to answer the question that medicine asks when offered a more conservative screening test for, say, prostate cancer or breast cancer: What does *the rest* of our system do with this new pattern of test results?

Could a “friendly and energetic alliance” of science and legal procedure give us new tools to “screen out” the higher number of cases that less conservative show-ups or traditional simultaneous lineups currently “screen in?” Or give us alternative ways to apprehend the perpetrators “missed” in the new, more conservative sequential lineups? To help judges gauge the impact of minor variations from accepted “best practice”? To develop a “forward-looking accountability” that helps us understand past mistakes to prevent future ones?

The answer to all of these questions will be “no” unless the judiciary plays an informed part. If eyewitness science does advance Wigmore’s “noble cause of justice,” it won’t happen in a single clap of thunder; it will happen as working judges apply the science with delicacy, to small details, in many decisions, and throughout the lives of many cases.

PRODUCERS AND INSPECTORS

Detectives speak of making cases; lawyers speak of trying them. The police operate a production stage in which they construct the case; the lawyers are elements of an inspection stage, during which the legal system evaluates the investigators’ product.

Judges can have an important impact on improving both the production stage and the inspection stage if they master the

basics of the eyewitness science. Something like that happened in medicine. When medical reformers accepted the “organizational accident” model of “iatrogenic” (caused by doctors or treatment) injuries to patients and understood that they were system errors, and not just the work of “bad apples,” they opened a window both on a more comprehensive understanding of past events and a more productive way to move forward as a profession to prevent future tragedies. Wrongful convictions are “iatrogenic” too, and judges can do something about them.

Direct judicial intervention in the business of producing evidence in eyewitness cases dates from at least the Warren Court’s exclusionary-rule cases in the 1970s. As several contributors to this issue point out, the scientific findings of recent decades have substantially undermined the Warren’s Court’s analysis of the problem. The sort of conscious police misconduct that can be deterred by exclusion is not the predominate issue, and the “reliability” test that the Warren Court instituted is largely obsolete. A modern approach to “best practices” in collecting eyewitness-memory evidence is plainly called for, and to their credit the law-enforcement authorities that must execute any best practices are moving to use science-based principles to renovate their procedures.³⁰

In this new context, exclusive reliance on the “nuclear option” of complete suppression of identification testimony every time some investigator varies marginally from the new “best practices” will be unworkable. This doesn’t mean that mistakes are inconsequential, but it does seem clear that judges will only rarely face one simple “in/out” decision about eyewitness testimony,³¹ while they will frequently (often many times within the same case) face smaller opportunities to exercise discretion about the admissibility of elements of testimony, the control of experts, the drafting of limiting instructions, and the provision of cautionary instructions,³² to deal with variances from the new accepted practices. Judges’ careful, graduated responses to the impacts of suboptimal practices will become crucial to their supervision of the production phase of cases.³³

The accuracy of these responses will depend on the individual judge’s knowledge of the basics of the science of memory, not on the judge’s mastery of broad lines of precedential appellate authority.³⁴ It is important, to take one example, that judges understand that the “strength” of a memory is a crucial factor in calculating the harm likely to have been caused by a suboptimal investigative practice. A “strong memory” formed in a lengthy encounter in bright light in calm conditions will be less affected by later procedural shortcomings than a

27. *Id.*

28. Donald Berwick, *Continuous Improvement as an Ideal in Healthcare*, 320 NEW ENGL. J. MED. 53, 53-55 (1989).

29. GARY L. WELLS, NANCY K. STEBLAY, & JENNIFER E. DYSART, A TEST OF THE SIMULTANEOUS VS. SEQUENTIAL LINEUP METHODS (2011).

30. See, e.g., Susan Gaertner & John Harrington, *Successful Eyewitness Identification Reform: Ramsey County’s Blind Sequential Lineup Protocol*, POLICE CHIEF, Apr. 2009, at 26; Amy Klobuchar et al., *Improving Eyewitness Identifications: Hennepin County’s Blind Sequential Lineup Pilot Project*, 4 CARDOZO PUB. L., POL’Y, & ETHICS J. 381 (2006).

31. This is qualified by the fact that a better understanding of the fundamental nature of eyewitness memory should make it clear to

judges that the idea of an “independent source” for courtroom testimony subsequent to a biased pretrial identification comes close to being a convenient fiction. See, e.g., Brandon Garrett, *Eyewitnesses and Exclusion*, 65 VANDERBILT L. REV. 201 (2012).

32. See Brian H. Bornstein & Joseph A. Hamm, *Jury Instructions on Witness Identification* 48 CT. REV. 22 (2012) (this issue).

33. See generally Richard A. Wise & Martin A. Safer, *A Method for Analyzing the Accuracy of Eyewitness Testimony in Criminal Cases*, 48 CT. REV. 22, 24-34 (2012) (this issue). For examples of courts wrestling with this recognition, see *Henderson*, 27 A.3d 872 (N.J. 2011); *Commonwealth v. Silva-Santiago*, 453 Mass. 782 (2009).

34. Smalarz and Wells, *supra* note 17.

“weak” memory formed in a fleeting, violent episode. But it is also crucial that the judges making assessments understand the sources of “strength of memory” and remember that “strength of memory” is not the same as “witness confidence.” Often, witnesses’ self-reports of “strength” indicate only memory contamination, not meaningful memory “strength.”³⁵

The final inspection stage of the criminal process—the jury trial—does address the diagnostic problem that Gary Wells emphasized in his path-breaking “system-variable” article: the riddle of how to *combine* the psychological factors present in an event and investigation that impact eyewitness reliability. The trial uses an ancient but flexible aggregating device: narrative. Jurors do not count and weigh piles of factors, or apply Bayesian formulae to arrive at probabilities; they generate and assess stories.³⁶ In the minds of the jurors, the psychological factors interact over time as a narrative unfolds. This feature of our inspection stage also has a fundamental political importance: the lay-citizen jury’s one-time concentration on a specific unique narrative provides a bracing challenge to the official practitioners’ endemic tendency to believe that since we know the odds in our fields we can simply play those odds. The professionals tend to believe that if we know what happens 90% (or 80%, or even 51%) of the time, then we know what to do 100% of the time. If things go right under the story model, every accused gets an individualized jury judgment, not a roll of the probabilistic dice.

An important part of the trial judge’s role is to manage the “story-model” core of the jurors’ work, and the science of identification indicates that eyewitness cases present particularly difficult problems in this regard. This task doesn’t require a Ph.D. in psychology, but it does require more than reading appellate-suppression and expert-testimony precedents.

Many jurors, if left to their own devices, will default to a “videotape” story—the witness recorded the event like a camera, stored it on a permanent tape, and is now replaying it—that is contradicted by the scientific truth that memory evidence is malleable “trace evidence.” It is also pretty clear that traditional tools such as cross-examination will be insufficient to convey much of the new science of memory because the jurors’ vulnerability is not on the level of specific missing pieces of data (e.g., “the witness was/was not confident”) but on the level of the general background interpretive principles that no cross-examiner can reach (e.g., “confidence means accuracy”) no matter how clever his or her questions.³⁷

The “estimator variable” story of the crime event must be complemented by the “system variable” story of the *investigation* before the story-model inspection can be effective. The eyewitness research indicates that in administering the story model, judges will have to attend to not only general juror “common-sense” principles that may be mistaken, but also specific pieces of data that scientists have learned are necessary to the story-testing process but that upstream operators have

not preserved or disclosed. These data will not be available unless science-informed judges act to make them available.

This means that judges must incorporate into their daily practice the recognition that the production and the inspection stages of an eyewitness-based prosecution are reciprocally related. Inevitably, while the judges “downstream” are trying to adjust for the exigencies of upstream investigative operations, the “upstream” law-enforcement operators are trying to adjust their conduct in anticipation of the inspection that awaits their cases downstream.

It is axiomatic in medicine and other industries that end-of-process inspection schemes, although necessary components of their systems, are poor routes to overall system quality.³⁸ Practitioners who are subject to inspection are resourceful in both avoiding the inspection altogether or in gaming the inspection when they cannot avoid it. Those being inspected usually end up owning the process, and their primary goal is usually their own safety. Criminal-justice-system operators are not immune to these tendencies. The fact that only a tiny portion of criminal cases receives jury scrutiny certainly has something to do with the costs of jury trials in terms of time and money, but it also reflects professional practitioners’ disinclination to submit to inspection by unpredictable lay jurors, especially when that inspection takes place in an exposed zero-sum courtroom contest where one side wins (and one side loses) everything.

Here’s an example. There is a segment of the eyewitness-exoneration list that catalogs trial prosecutors’ failures to turn over exculpatory material. It does not show that those prosecutors lusted to frame known innocents, but rather it illuminates an impulse to shape the adversary trial inspection stage so that it comes out (from the prosecutors’ perspective) the “right” way. Sometimes, prosecutors don’t disclose eyewitness exculpatory material because they simply don’t understand what factors are influential in eyewitness performance. Sometimes, prosecutors withhold information to convict the men the prosecutors believe are guilty without interference from “red herrings” that defense lawyers might manufacture out of dissonant facts.

The trial prosecutors in the wrongful-conviction *Brady* cases, like workers in most production processes, evidently adopted a “covert work system.”³⁹ They decided to evade formal disclosure requirements and buried alternative narratives because they believed sharing the exculpatory facts would interfere with achieving what they saw as the “real” goal tac-

“[J]udges must incorporate into their daily practice... the production and the inspection stages of an eyewitness-based prosecution....”

35. *Id.* at 18.

36. See Nancy Pennington & Reid Hastie, *Explaining the Evidence: Tests of the Story Model for Juror Decision Making*, 62 J. PERSONALITY & SOC. PSYCHOL. 189 (1992).

37. DOYLE, *supra* note 2, at 35-49. Jules Epstein, *The Great Engine That Couldn't: Science, Mistaken Identifications, and the Limits of Cross-*

Examination, 36 STETSON L. REV. 727 (2007).

38. ATUL GAWANDE, THE CHECKLIST MANIFESTO: HOW TO GET THINGS RIGHT, 185 (2009).

39. See, e.g., *Connick v. Thompson*, 131 S. Ct. 1350 (2011); David D. Woods, *Conflicts Between Learning and Accountability in Patient Safety*, 54 DEPAUL L. REV. 485 (2005).

“Judges cannot dictate all the choices made by the system’s other actors, but they can influence them.”

itly assigned to them by officials (or the public) to whom they were accountable. Turning a blind eye to these practices encourages upstream tunnel vision by rewarding practitioners’ surrender to tunnel vision with a “cleaner” trial inspection for the hypothesis that they prematurely decided is accurate.

Tunnel vision is a “cause” of wrongful convictions, but tunnel vision is also an *effect* of the sharp-end operators’ discomfort with the demands of the end-stage inspection machinery. A resulting wrongful conviction is an “organizational accident”: the police make the wrong choice; the prosecutors buy it too quickly; and the defense and the jury are crippled in their inspectors’ roles.

One of the lessons of the eyewitness-exoneration cases is that judges must develop (and incorporate in their inspection-stage calculations) an awareness of the gravitational pull away from comprehensive and transparent investigation that is always acting on production-stage practitioners. Science-conscious judges can put a brake on this rush down the “organizational-accident” tunnel by making it clear that *they* know what matters in eyewitness-evidence collection and that they will insist on detailed documentation and disclosure. The story model of aggregating eyewitness factors cannot work if details (e.g., confidence-boosting comments, exposure to co-witnesses, neglected alternative suspects) are not available to be considered as part of the story. Diagnosing eyewitness errors requires weighing not just catastrophic contradictions (e.g., the defendant is tall, the crime-night police report described a midjet) but also small narrative details (e.g., brief exposures to co-witness accounts, or mug-book pictures of the defendant) that accumulate and ultimately constitute the story of inadvertently corrupted eyewitness memory traces.

The categorical exclusion of identification evidence because of misconduct may become less frequent as law enforcement gradually absorbs and adapts the modern “system variable” science. But pretrial hearings that will allow the trial judge to assess (on some basis other than laconic police reports) the source and quality of the eyewitness evidence that is *not* excluded and to decide which judicial tools—for example, *in limine* edits of evidence, cautionary instructions—will assist the jurors’ story-model inspection and will become more important.⁴⁰ Unless alert and informed judges play an active role in protecting these aspects of story-model testing, sharp-end practitioners worried about inspections will simply shift from “don’t turn it over” to “don’t write it down,” a practice that will end up hampering not only inspectors, but their fellow investigator-producers, who could be exploring alternative theories and correcting their tunnel vision.

JUDICIAL-SYSTEM LEADERS: BEYOND INSPECTION

There is no arrangement of gears and switches in criminal justice, no system in that sense that we can reach for and fix with a wrench or a hammer. But, like it or not, the world of criminal justice is a complex functioning ecosystem like a pond or a swamp where well-meaning actions on this coast can have disastrous, unanticipated impacts on the far shore. Ignoring this fact will fulfill the axiom that the cause of problems is solutions. Judges cannot dictate all the choices made by the system’s other actors, but they can influence them. In fact, the nature of the system guarantees that judges cannot *avoid* influencing those choices. Even judicial silence and inaction will always have an impact.

There is opportunity as well as danger in this interdependency of criminal justice’s operators. A recent episode in the history of the “friendly and energetic alliance” provides an example. Law-enforcement practitioners were intrigued in the aftermath of the DNA exonerations by the potential of the “double-blind sequential” system-variable approach, but they were uncomfortable that it had not been tested in the field. A well-meaning, go-it-alone attempt by the general counsel of the Chicago Police Department to conduct a field study to fill the gap resulted in a kind of scientific travesty.⁴¹ But when an actual alliance of science and law enforcement was formed by a team composed of researchers, the Police Foundation, the Center for Problem-Solving Policing, and the American Judicature Society to design and execute a scientifically rigorous field examination of the issue, it largely vindicated the hopes of the advocates of that reform.

In the process of organizing the study the researchers developed—and the frontline practitioners tested the practicality of—a laptop-housed program that allows for both the effective administration and the meticulous documentation of double-blind sequential eyewitness-identification procedures. Seen from the system level, this is an example of errors spurring us to learn how the conditions facing the sharp-end investigators *and* the inspecting trial courts could both be substantially improved by an investment made by officials distant from the scene in cooperatively identifying and disseminating a relatively simple (and relatively inexpensive) technological improvement. As we enter an era in which every patrol car will have a laptop and every court will face subtle eyewitness evidentiary issues, this is a development that all of the operators jointly responsible for eyewitness “organizational accidents” can work together to accelerate. Recognizing that the judiciary doesn’t draft law-enforcement budgets or vote on law-enforcement appropriations isn’t quite the same thing as saying that the judiciary can’t find ways to signal its support for such an effort.

But it is also worth focusing for a moment on the *practice* of nonblaming learning from error, apart from that practice’s immediate products.

Working steadily on “organizational-accident” error analysis can create an increased system consciousness among the practitioners who staff the components of the criminal process.

40. See, e.g., *State v. Henderson*, 27 A.3d 872 (N.J. 2011).

41. Daniel Schacter et al., *Policy Forum: Studying Eyewitness Identifications in the Field*, 32 L. & HUM. BEHAV. 3, 4 (2007).

A disciplined commitment to non-blaming, team analysis of error can lay the foundation for mobilizing the new ideal of continuous quality improvement that is transforming the culture of contemporary medicine in criminal justice.

Inspection of the prosecution's case during an adversary trial before a lay jury is a permanent feature of our system. It expresses fundamental American convictions about the relationship between the accused individual and the state. But the goal of the trial process is to protect *this* innocent citizen from the state. The DNA exonerations have raised concerns about the adversary trial's weaknesses even in that specific role,⁴² but no one ever claimed that the trial's role is to analyze the investigative and charging processes and make them more reliable in future cases. A jury that believes that it has caught a faulty investigation says "not guilty" and nothing more. Appellate courts review the legal procedures; they do not reconsider the facts, and their review is entirely backward looking. Both are necessarily uninformative.

The criminal justice system currently lacks the capacity for "forward-looking accountability"⁴³ that not only catches past mistakes, but also anticipates and precludes future ones.

The challenge for the judiciary presented by a new "organizational-accident" understanding of how eyewitness errors happen is not protecting a presumptively safe system from the misconduct of sloppy (or even evil) human components—the approach taken by the Warren Court in its misconduct-based suppression cases. The challenge judges will confront is how to invigorate and support a culture of constant, routine attention to safety and reliability in the criminal process.

The missing weapon in our approach to error is not the once-in-a-decade, blue-ribbon panel of dignitaries at the chief justice and superintendent level, convened to redesign the architecture of the criminal justice system. We have examples of that vehicle now, and the judiciary has played a leading role in several of them.⁴⁴ When the goal is changing structural elements of the system by legislation or rulemaking, the political heft of those high-ranking players can be useful, even essential.⁴⁵

What we are missing is a consistent commitment to regular, routine review of known errors and "near misses," conducted by experienced practitioners and stakeholders (for example, victims' rights professionals) supplemented where appropriate by subject-matter experts and (at least in the beginning) by specialists in analyzing the sources of system error and in the error-review process itself. As Lucien Leape argued in his seminal essay *Error in Medicine*:

The emphasis is on *routine*. Only when error is accepted as an inevitable, although manageable, part of everyday practice will it be possible to shift from a punitive to a creative frame of mind that seeks out and identifies the underlying system failures.⁴⁶

42. Dan Simon, *The Limited Diagnosticity of Criminal Trials*, 64 VANDERBILT L. REV. 143 (2011).

43. Virginia A. Sharpe, *Promoting Patient Safety: An Ethical Basis for Policy Deliberations*, HASTINGS CENTER REPORT, SPECIAL SUPPLEMENT NO. 33 (2003).

44. See Christine C. Mumma, *The North Carolina Actual Innocence*

For many reasons the best hope for breathing life into the "friendly and energetic alliance in the noble cause of justice" may lie in the judiciary: in judges who exercise their power to convene criminal justice stakeholders outside their familiar adversary bunkers. The alliance can serve the noble cause not only by asking the system's actors to do a better job playing "Whac-A-Mole"

and catching past errors one at a time, but also by asking them to uncover and address the abiding latent weaknesses of the system that will survive to cause future errors.

What if, when the next wrongful eyewitness conviction is revealed, the local judiciary amazes the world by calling for a dispassionate, all-stakeholders examination of the error? Or what if, when DNA results come back from the lab six months after an arrest and show that law enforcement arrested the wrong guy on the night of the crime, the judges suggest that a team examination of this "near miss" might pay dividends, both in terms of what worked and what nearly didn't?

Just as all aviation-industry participants and the public expect the National Transportation Safety Board to convene a mixed team of specialists to give an account of what happened when a plane goes down, criminal practitioners and the public could learn to expect that we will marshal a team including an investigator or patrol supervisor, a prosecutor, a forensic scientist, a defender, a judge, a victims' representative, and the jurisdiction's risk management officers, joined by additional specialists as needed, in a nonblaming process of dissecting the record of what happened and sharing the account they have developed. The goal would be to understand the gritty facts, to do the sort of clinical fact-finding that inevitably suffers when everyone in a turf-conscious, blue-ribbon group is anxiously looking over his or her shoulder at potentially sweeping and unwelcome law reforms.

Continually working on improving system reliability means changing the system's culture, not just its architecture. Overhauling institutional arrangements, identifying best lineup practices, and devising checklists, as difficult as these tasks might be, are the easy parts. Working on changing the culture means concentrating on giving a primary place to workmanship and professionalism instead of blame and discipline. It means learning—as medicine learned—to treat errors as "sentinel events" to be studied, not as embarrassments to be buried.

The history of the eyewitness cases illuminates the potential in a coherent program of nonblaming learning from error that

"Working steadily on 'organizational-accident' error analysis can create an increased system consciousness...."

Commission: Uncommon Perspectives Joined by a Common Cause, 52 DRAKE L. REV. 647 (2004).

45. Stephen Saloom, *Adversaries as Allies: Joining Together to Prevent Criminal Injustice*, 73 ALBANY L. REV. 1235 (2010).

46. Lucian L. Leape, *Error in Medicine*, 272 JAMA 1851, 1854 (1994).

includes the evaluation of “near misses,” and offers rewards both within local systems and across scattered systems. A common national template for error review, enacted locally and informed and challenged by diverse local experiences, could substantially mitigate the fragmentation of American criminal justice.

These advantages can be multiplied if a simple mechanism—a clearinghouse, or a wiki-style community of practitioners, researchers, and policymakers—could be developed for distributing and commenting on the reports of errors.⁴⁷ Reading of a distant system’s experience of completed accidents can alert currently isolated practitioners to the operation of dangerous latent features in their own local systems. Reading studies of remote “near misses” can reveal both those dangerous latent features and potential fail-safe devices or procedures that are *not* present locally, but which provided resilience and kept the near miss in another jurisdiction from becoming a tragic “hit.” It can counteract the tendency of today’s best practice to calcify into a ceiling that blocks future improvements.

After an exoneration it is often very easy to see in hindsight where a wrong decision was made. But congratulating ourselves on recognizing past bad choices won’t get us very far. We have to learn why the last bad decision looked like a *good* decision from the perspective of the mistaken detective or prosecutor or defender or judge at the time it was made. If we don’t, the root causes of the last tragedy will continue to lie in wait for the next decision maker who comes along. Accounts of eyewitness wrongful-conviction cases give striking evidence of how much we could learn about latent system defects from a close, all-stakeholders analysis that incorporates the scientific contributions⁴⁸ that follow in this issue and the operations-oriented insights of the sharp-end participants who do the work on the streets and in the courts.

The judiciary is uniquely well placed to stake out the common ground on which criminal-justice-system actors could meet, to invite the participants onto that ground, and to help them to defend that ground against the short-term pressures for public pillories filled with scapegoats.

The DNA exonerations have killed the illusion of an infallible justice system forever. From now on, the legitimacy of the criminal justice system in the public’s eye will depend significantly on that system’s willingness to confront its own failures.⁴⁹ We will never have an exact count of those failures, but when the most careful analyses we can muster suggest that the wrongful-conviction rate may be as high as 6-15% in sexual-assault cases,⁵⁰ the exact count becomes almost irrelevant. All of us in criminal justice have some explaining to do, and we could start by explaining our practices to each other, without trying to point fingers and assign blame.

We have some prevention to do as well. When medicine

adopted its new approach to iatrogenic “sentinel events” and moved toward self-consciously creating a culture of safety, it quickly saved 120,000 patients’ lives in eighteen months.⁵¹ The eyewitness cases, with their wrongfully convicted defendants and their wrongfully free perpetrators (and the later victims those perpetrators find) make a strong argument that the criminal justice system’s natural leaders—the judges—armed with an important body of scientific knowledge available for application, could do some leading in that direction.



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47. See Doyle, *supra* note 24.

48. An excellent comprehensive analysis of the scientific literature bearing on the criminal process as a whole is found at DAN SIMON, IN DOUBT (2012).

49. See generally TOM R. TYLER, WHY PEOPLE OBEY THE LAW: PROCEDURAL JUSTICE, LEGITIMACY AND COMPLIANCE (2006).

50. JOHN ROMAN, KELLY WALSH, PAMELA LACHMAN & JENNIFER YAHNER, POST-CONVICTION DNA TESTING AND WRONGFUL CONVICTION 57 (2012).

51. CHARLES KENNEY, THE BEST PRACTICE: HOW THE NEW QUALITY MOVEMENT IS TRANSFORMING MEDICINE 270-272 (2008).

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Eyewitness-Identification Evidence:

Scientific Advances and the New Burden on Trial Judges

Laura Smalarz & Gary L. Wells

An increasingly strong case can be made for the argument that mistaken-eyewitness identification is the primary cause of the conviction of the innocent in the United States. The strongest single body of evidence in support of this proposition is the collection of cases in which forensic DNA testing was used to exonerate people who had been convicted by juries and were serving hard time (some on death row). These cases are well documented and tracked at the Innocence Project website and, as of this writing, there were 267 fully exonerated cases, of which 203 (76%) were cases involving mistaken-eyewitness identification.¹

This set of DNA exoneration cases is extremely interesting because simple math and logic indicate that the number of undiscovered cases has to be much larger than 203. Consider just two simple multiplying factors. First, these 203 exonerees were the lucky ones for whom the DNA-rich biological evidence was preserved post-conviction. Most cases that were tried prior to the advent of forensic DNA testing can never be tested because the biological evidence was never properly collected or because it was destroyed, was lost, or has deteriorated to a non-testable state. But perhaps the biggest factor of all is that only a small fraction of cases can ever be solved with forensic DNA testing to begin with. Virtually every DNA exoneration case among the 203 was a case of sexual assault.² This is not because sexual assault witnesses are poor eyewitnesses; in fact, they are perhaps the best single category of eyewitnesses because they get a closer and longer look at the perpetrator than do victims of most other types of crimes. Instead, the reason most DNA exonerations are almost exclusively cases of sexual assault is because sexual-assault cases are the ones that leave behind biological evidence (principally semen) that can be tested for claims of innocence and exclusion. And yet, sexual-assault cases account for fewer than 5% of all eyewitness-identification cases. This fact alone means that the 203 exonerations figure needs to be multiplied by a factor of 20 (yielding 4,060 cases) to account for cases of eyewitness misidentification for crimes in which there was likely no biological evidence. And even this number is a conservative estimate because it assumes that the 203 discovered wrongful convictions represent the full number of wrongful convictions for sexual-assault cases, which cannot be true because of the sexual-assault cases for which the evidence was not properly collected or was lost, was destroyed, or has deteriorated. Hence,

the 203 cases (which continue to grow) can only represent the tip of a much larger problem. In addition, because forensic DNA testing can only solve a small subset of criminal cases, it means that we are still heavily dependent on eyewitness-identification evidence for solving crimes.

Although members of the public and much of the legal system generally think of the eyewitness-identification problem as having been “discovered” via the forensic DNA exonerations, psychological scientists were “blowing the whistle” on eyewitness-identification evidence long before the advent of forensic DNA testing, which only began in the 1990s. Starting in the 1970s, cognitive and social psychologists began conducting controlled experiments in which unsuspecting people witness a staged crime and later have to try to identify the “perpetrator” (actually an accomplice of the researchers) from a lineup.³ Throughout the last half of the 1970s and continuing to this day, psychological scientists have published these experiments in peer-reviewed social science journals and have derived a large number of conclusions and recommendations based on a better understanding of how mistaken identifications happen.

In the development of this social science literature on eyewitness identification, psychological scientists have placed a premium on a particular type of variable called a “system variable.”⁴ System variables are those that affect the chances of mistaken identification, but over which the criminal justice system has control. For instance, a lineup in which the suspect is the only one who fits the witness’s description of the perpetrator increases the chances of a mistaken identification, and this is under the control of the criminal justice system. In contrast, there are variables that affect the chances of mistaken identification over which the criminal justice system has no control but instead can only estimate their impact; these are called “estimator variables.” An example of an estimator variable is whether the race of the perpetrator matches the race of the witness. Research consistently shows that cross-race identifications are less reliable than are within-race identifications, but the justice system cannot control whether the race of the witness is the same versus different from the race of the perpetrator.

The system-variable versus estimator-variable distinction is important because only system variables can inform the justice system about ways to improve the accuracy of eyewitness iden-

Footnotes

1. THE INNOCENCE PROJECT, *available at* <http://www.innocenceproject.org> (last visited May 9, 2012).
2. Often, these are cases of sexual assault plus robbery, or sexual assault plus murder, but sexual assault is the common element because that is where the DNA evidence is found.
3. A special issue of *LAW & HUMAN BEHAVIOR* (volume 4, issue 4) in 1980 devoted to eyewitness behavior illustrates this early work.

4. The system-variable concept in eyewitness identification was first introduced in 1978 as a way of focusing the research experiments on methods to improve the accuracy of eyewitness identifications rather than simply showing that eyewitness identifications are often unreliable. Gary L. Wells, *Applied Eyewitness Testimony Research: System Variables and Estimator Variables*, 36 *J. PERSONALITY & SOC. PSYCHOL.* 1546 (1978).

tifications. Numerous jurisdictions have adopted a particular “package” of lineup-procedure reforms based on psychological scientists’ system-variable research—states such as New Jersey, North Carolina, Ohio, and Wisconsin as well as places like Dallas, Denver, Minneapolis, Boston, and Tampa, among others. This package of reforms includes better ways to select lineup fillers, better instructions to witnesses prior to their viewing a lineup, the use of a sequential lineup procedure,⁵ the use of double-blind lineup procedures,⁶ and the securing of a certainty statement at the time of identification (prior to the opportunity for extraneous factors to affect the witness’s certainty). All of these reforms are meant to increase the reliability of the identification and are based on empirical evidence that these system factors are critical to the chances that the identification is mistaken.

For the most part, these system-variable findings and recommendations have been directed at law-enforcement agencies because they are the ones in control of the procedures that are used to collect eyewitness-identification evidence. But, as we argue in this article, trial judges also play a very important role. There is no guarantee that a given eyewitness identification came from a lineup that followed procedural recommendations, but once that identification evidence is presented at trial, it makes a strong and compelling case against the defendant. Research has found that jurors are likely to accept eyewitness testimony as accurate as long as the eyewitness is confident and consistent.⁷ Thus, it is critical that identification evidence is evaluated with scrutiny to ensure that only reliable identifications make it into the courtroom to be heard by a jury.

Trial judges are the ultimate arbiters of whether to accept identification evidence as reliable. Commonly, this is played out in a suppression hearing in which the defense might argue that the identification was obtained in a way that was so suggestive or otherwise problematic that it should be suppressed. Accordingly, our goal in this article is to report some key scientific findings regarding eyewitness identification that are relevant to the trial court’s function of assessing eyewitness-identification reliability. In doing this, it is useful to remember that reliance on the suppression hearing and the ruling of the trial court regarding admissibility was fully in play for the 203 mistaken identifications that resulted in convictions and the unknown number of others that (due to the absence of DNA evidence) will never be detected. Just as in those cases, about the only thing standing between a mistaken identification and wrongful conviction is the ability of the trial court to make

effective rulings on the reliability of eyewitness identifications in pretrial hearings.

SOME CRITICAL SCIENTIFIC FINDINGS

The scientific literature on eyewitness identification is too large and vast to fully summarize here. There are a number of extensive published treatments that are useful for a more complete understanding of these issues.⁸ Here, we extract some of the more useful general principles that help us understand how mistaken identifications and false certainty (being certain but mistaken) occur. Then, in the next section (the *Manson Test*) we relate some of these general observations to the task of the trial judge.

RELATIVE JUDGMENTS

One of the staple conceptualizations of eyewitness-identification errors is called the relative-judgment process. This conceptualization holds that witnesses tend to make identifications from a lineup based on their judgments about who looks the *most* similar to their memory of the perpetrator relative to the other lineup members. Although this process often leads witnesses to make accurate identifications when the culprit is present in the lineup, it creates a dangerous situation when the lineup does not contain the actual culprit because there is always someone who looks more like the culprit than do the remaining lineup members.⁹ The absence of the culprit in a lineup simply means that the police have focused their investigation on the wrong person. It is an extremely difficult task for a witness to detect the absence of the perpetrator in a lineup, in part because the relative-judgment process does not provide a mechanism by which witnesses may decide to “reject” the lineup. To the extent that witnesses assume that the police are showing them a lineup that contains the perpetrator, witnesses relying on a relative-judgment process will tend to make positive identifications in instances in which they should be saying, “It’s none of them.” There is no way to know how often the suspect in the lineup is actually the culprit, but because there is no reasonable-cause criterion to place

“For the most part... system-variable findings and recommendations have been directed at law enforcement agencies[, but...] trial judges also play a very important role.”

5. A sequential lineup is one in which the witness does not view all members of the lineup at the same time (a simultaneous lineup) but instead views one photo at a time and makes a decision on that one before viewing the next. Research generally supports the finding that the sequential procedure produces fewer mistaken identifications. Nancy Steblay, Jennifer Dysart, & Gary L. Wells, *Seventy-Two Tests of the Sequential Lineup Superiority Effect: A Meta-Analysis and Policy Discussion*, 17 *PSYCHOL. PUB. POL’Y. & L.* 99 (2011).
6. A double-blind lineup procedure is one in which the person administering the lineup is unaware of which lineup member is the person of interest and which are merely fillers so as to prevent

- the types of influence on the witness that are mentioned later in this article. See GARY L. WELLS, *EYEWITNESS IDENTIFICATION: A SYSTEM HANDBOOK* (1988).
7. Gary L. Wells, Amina Memon, & Steven Penrod, *Eyewitness Evidence: Improving Its Probative Value*, 7 *PSYCHOL. SCI. PUB. INT.* 45 (2006).
 8. For a broad, general treatment of eyewitness-identification research, see *HANDBOOK OF EYEWITNESS PSYCHOLOGY (VOL. 2): MEMORY FOR PEOPLE* (Roderick C. L. Lindsay et al. eds., 2007).
 9. Gary L. Wells, *The Psychology of Lineup Identifications*, 14 *J. APPLIED SOC. PSYCHOL.* 89 (1984).

“Given what we know about the relative-judgment process, a biased lineup drastically increases the chances that an innocent suspect will be mistakenly identified.”

someone in a lineup (police can conduct a lineup based on a mere hunch), the number of culprit-absent lineups being shown to witnesses could potentially be quite high. Indeed, in all of the DNA exoneration cases involving eyewitness identifications, the actual culprit was not in the lineup and the witnesses made identifications nevertheless.

Perhaps the best evidence of the operation of the relative-judgment process is from experiments that use the “removal without replacement”

procedure.¹⁰ This procedure involves showing witnesses to a staged crime one of two lineups. Some witnesses view a lineup that contains a picture of the culprit among a set of filler photos, and other witnesses view the exact same lineup except that the photo of the culprit is removed and is not replaced with another photo. If positive identifications of the culprit in the culprit-present lineup are a result of true recognition rather than a relative-judgment process, then all of the positive culprit identifications should shift to “not there” responses when the culprit is excluded from the lineup. In an experiment testing this idea, 200 eyewitnesses to a staged crime were shown either a culprit-present lineup or a lineup in which the culprit was removed without replacement. As Table 1 shows, the majority of the witnesses who identified the culprit in a culprit-present lineup would simply have identified someone else (primarily #2, whose rate of identification went from 13% when the culprit was present to 38% when the culprit was removed) if the culprit had not been present. Hence, it seems that rather than choosing the culprit because they genuinely recognized him, witnesses simply chose whichever person best fit their memory of the perpetrator.

The degree to which the suspect seems to fit the witness’s memory of the perpetrator is highly dependent on the proper-

ties of the lineup itself. For example, if a lineup is somehow biased against the suspect (i.e., the suspect stands out in some way or the fillers in the lineup do not fit the witness’s description of the culprit), then the suspect will be the one who, relative to the other lineup members, is the most similar to the witness’s memory of the culprit. Given what we know about the relative-judgment process, a biased lineup drastically increases the chances that an innocent suspect will be mistakenly identified. Accordingly, researchers have made a sharp distinction between the nominal size of a lineup, which refers to the number of photographs that are in the set, and the functional size of the lineup.¹¹ The functional size refers to the number of fillers who make viable alternatives to the suspect, and is calculated by taking the reciprocal of the proportion of “mock witnesses”¹² who choose the suspect from the lineup. For example, if 50 of 100 mock witnesses choose the suspect from a six-person lineup, the reciprocal is $100/50 = 2.0$, thus the lineup has a functional size of only 2; if 20 picked the suspect, functional size would be $100/20 = 5.0$, and so on. When a lineup includes members who do not fulfill their role as acceptable alternates to the suspect, the lineup is effectively smaller than its actual size, and the risk of mistaken identification is increased. For example, a six-person lineup in which only three members fit the witness’s description of the perpetrator increases the risk of mistaken identification from one in six to one in three. In a biased lineup, a relative-judgment process will be even more likely to result in a positive identification of the suspect, regardless of whether the suspect is the perpetrator of the crime.

One way to help witnesses avoid relying solely on a relative-judgment process during the identification task is to make them aware that the actual culprit may not be present in the lineup. Researchers have demonstrated that instructing witnesses that the culprit “might or might not be present” (sometimes called a warning or a pre-lineup admonition) can greatly decrease the rate at which mistaken identifications occur. In the original study of instruction effects, 78% of witnesses who were not explicitly warned that the culprit might or might not be present made mistaken identifications from a culprit-absent lineup; in contrast, the mistaken-identification rate dropped to 33% when

TABLE 1. RATES OF CHOOSING LINEUP MEMBERS WHEN A CULPRIT IS PRESENT VERSUS REMOVED

	LINEUP MEMBER						
	1	2	3	4	5	6	NO CHOICE
CULPRIT PRESENT	3%	13%	54%	3%	3%	3%	21%
CULPRIT REMOVED (WITHOUT REPLACEMENT)	6%	38%	—	12%	7%	5%	32%

*Culprit is in position 3 for culprit-present lineup and removed (without replacement) for culprit-absent lineup.
Source: Gary L. Wells, *What Do we Know About Eyewitness Identification?*, 48 AM. PSYCHOLOGIST, 553, 561(1993).

10. Gary L. Wells, *What Do We Know About Eyewitness Identification?*, 48 AM. PSYCHOLOGIST 553 (1993).

11. This test, and the functional-size versus nominal-size distinction, has been in use since 1979 among eyewitness researchers. Gary L. Wells, Michael R. Leippe, & Thomas M. Ostrom, *Guidelines for Empirically Assessing the Fairness of a Lineup*, 3 LAW & HUM.

BEHAV. 285 (1979).

12. “Mock witnesses” are actually not witnesses at all. They are simply people who are given the verbal description of the culprit that was provided by the actual eyewitness, and their task is to guess which person is the suspect in the case.

the eyewitnesses were given this warning.¹³ And it is not the case that witnesses were simply choosing less in general; 87% of the eyewitnesses accurately identified the culprit from the culprit-present lineup after receiving the warning. Rather, the instruction serves to alert witnesses to the possibility that the culprit is not in the lineup. Thus, in cases in which the lineup does not contain the culprit, witnesses who receive this instruction may be less likely to rely on a relative-judgment process to make an identification. It should be noted that research using the removal-without-replacement procedure described above always included the “may or may not be present” instruction, and witnesses still sometimes failed to detect the absence of the perpetrator in culprit-absent lineups, thereby making inaccurate identifications. However, the rate at which these mistaken identifications occur is much lower when witnesses are given this pre-lineup admonition, leading researchers to recommend that all lineups include this instruction.

The underlying theme that has emerged through the scientific study of eyewitness identifications is that witnesses’ identification behavior is a reflection of multiple other factors besides the strength of their memory. The makeup of the photo lineup and witnesses’ expectations regarding the presence of the culprit greatly influence identification choices, and although the “may or may not be present” instruction cuts down on mistaken identifications, witnesses still have a tendency to rely on relative judgments. In an attempt to reduce this tendency, researchers developed an innovative lineup procedure called the sequential lineup, which involves presenting the lineup photos in a sequential fashion rather than simultaneously.¹⁴ Hence, the eyewitness views only one lineup member at a time and makes a decision regarding each person before viewing another lineup member. The theoretical basis of this method is that it reduces the natural propensity for eyewitnesses to make relative judgments. Compared to the traditional simultaneous procedure, the sequential procedure produces a lower rate of mistaken identifications with little loss in the rate of accurate identifications.

CERTAINTY (AND VIEW AND ATTENTION) MALLEABILITY

Mistaken identification per se does not put an innocent person at risk for wrongful conviction. Instead, it is a mistaken identification from an eyewitness who is *highly certain* that runs the high risk of wrongfully convicting the identified person. The certainty that an eyewitness expresses in his or her identification during testimony is the most powerful single determinant of whether or not observers will believe the eyewitness made an accurate identification.¹⁵ Accordingly, psychological scientists have devoted a great deal of work in recent years to figuring out how mistaken eyewitnesses end up

being sure that they have made a correct identification. Indeed, every DNA exoneration case is exactly like that; the witness was mistaken but certain.

When an eyewitness says, “I am positive that the man sitting in court is the man who robbed me,” people naturally presume that the witness is saying, “That person sitting there so closely matches my very good memory for the perpetrator that I can only conclude it is one and the same person.” In fact, however, witnesses often express this high certainty not only when the witnesses are mistaken but also when they have identified someone who does not look very much like the actual perpetrator at all. The key to understanding this problem is to recognize that eyewitnesses’ expressions of certainty in an identification are actually beliefs or feelings that they are right or wrong about the identification they made. As such, these beliefs or feelings can be influenced by a large number of factors that have little or nothing to do with the accuracy of the identifications or how good a witness’s memory is. And as we will describe below, these factors often come into play after witnesses have already made an identification for which they were actually quite uncertain.

Given that witnesses’ certainty reports reflect a belief in the likely accuracy of their identification, it is not difficult to imagine that witnesses would feel more certain if they were told by the lineup administrator that they “correctly” picked out the suspect. Indeed, confirming feedback of this sort has pervasive effects on eyewitnesses’ memory; not only does it inflate witnesses’ current certainty, but it also distorts witnesses’ retrospective reports of how certain they recall having been at the time of the identification as well as distorting their recollections about the witnessing experience. This “post-identification feedback effect” was first demonstrated in an experiment in 1998, in which 352 witnesses viewed a crime video and made mistaken identifications from a culprit-absent lineup. Following their identification, some witnesses were told “Good, you identified the suspect,” whereas others were not told anything.¹⁶ All witnesses then answered a number of testimony-relevant questions about view (“How good was the view you had of the culprit?” “How well could you make out details of the culprit’s face?”), attention (“How much attention did you pay to the culprit’s face?”), and certainty (“At the time of your identification,

“The certainty that an eyewitness expresses... during testimony is the most powerful single determinant of whether or not observers will believe the eyewitness made an accurate identification.”

13. Roy S. Malpass & Patricia G. Devine, *Eyewitness Identification: Lineup Instructions and the Absence of the Offender*, 66 J. APPLIED PSYCHOL. 482 (1981).

14. See the most recent meta-analysis (quantitative review) of the sequential versus simultaneous difference. Steblay et al., *supra* note 5, at 99-139.

15. Gary L. Wells, Mark Small, Roy S. Malpass, Steven Penrod,

Solomon Fulero, & C. A. Elizabeth Brimacombe, *Eyewitness Identification Procedures: Recommendations for Lineups and Photospreads*, 23 LAW & HUM. BEHAV. 603 (1998).

16. Gary L. Wells & Amy L. Bradfield, “Good, You Identified the Suspect”: *Feedback to Eyewitnesses Distorts Their Reports of the Witnessing Experience*, 83 J. APPLIED PSYCHOL. 360 (1998).

“[E]yewitness researchers have made two key recommendations in an effort to preserve witness confidence as an indicator of identification accuracy.”

how certain were you that you identified the actual culprit?”). Results of that first study and dozens of subsequent studies have shown that confirming feedback strongly inflates witnesses’ estimates of how good their view was, how well they could make out details of the culprit’s face, how closely they attended to the culprit during the crime, and how certain they recall having been at the time of the identification. It is important to note that these inflated

reports are distortions; after all, the feedback did not occur until after the identification was made.

There are many other factors that can occur post-identification that compromise the integrity of an eyewitness’s testimony. For example, repeatedly questioning the witness, briefing the witness about what questions might be encountered in a cross-examination, and informing a witness that a co-witness supposedly made the same identification decision have all been found to inflate witness confidence, independent of identification accuracy.¹⁷ Furthermore, once a witness is exposed to post-identification information of this nature, his or her ability to revert to pre-feedback judgments regarding certainty, attention, view, etc., is, in effect, lost. And there is often no record of whether this type of post-identification suggestion took place, making it impossible to judge whether the witness’s retrospective certainty report has been contaminated by new information. For this reason, eyewitness researchers have made two key recommendations in an effort to preserve witness confidence as an indicator of identification accuracy. First, the lineup should always be administered by someone who is kept “blind” to the identity of the suspect in the lineup. It is well established in the psychological literature that a person’s expectations can affect the behavior of others, whether it be through inadvertent nonverbal communications or overt suggestion. In the case of an identification task, the lineup administrator’s knowledge or expectations about the suspect could influence the manner in which the witness behaves. A simple way to avoid this issue is to ensure that the person

administering the lineup is not aware of which lineup member is the suspect (i.e., “double-blind” administration). Under these conditions, the lineup administrator could not be a source of external influence on the witness. Second, a certainty statement should always be recorded immediately following the identification decision. A confidence measure taken under double-blind conditions would provide a pure measure of the eyewitness’s memory-based confidence. If the witness’s certainty becomes inflated later on, then the initial measure of certainty can provide a reference point for the witness’s true confidence at the time of the identification.

THE ROLE OF MEMORY STRENGTH

As a general rule, all problems with eyewitness-identification evidence are compounded when memory strength is weaker. So, for example, the tendency to rely on relative judgments is stronger when the witness has a weaker memory. Hence, the removal-without-replacement effect, the influence of poorly chosen lineup fillers, and the failure to properly instruct the witness prior to the lineup are all more robust when the eyewitness’s memory is weaker. Likewise, the post-identification feedback effect is stronger when the witness has a weaker memory. Therefore, it is critical that trial judges appreciate the myriad factors that contribute to weak memories. For instance, we know that normal human vision does not permit a clear recognition of faces from distances of more than about 200 feet (and that assumes excellent lighting).¹⁸ The use of a weapon by a perpetrator tends to impair memory for the perpetrator’s face because it draws attention to the weapon and, hence, less time is spent looking at the face.¹⁹ We know that cross-racial identification is less reliable than within-race identification because of the ineffective strategies for processing faces of people from another race than our own.²⁰

Some variables that make eyewitness memory weaker might seem at first glance to be common sense. But, as cognitive psychologists have long documented, common sense has certain illusory properties that permit it to “go both ways.”²¹ For example, one might argue that if someone threatened or frightened you, you would never forget that face and the person’s image would become permanently ingrained in your memory. It makes a certain common sense to accept that argument. But, in fact, the opposite is true. Events that evoke fear and stress actually impair memory for the details of the event, including

17. Gary L. Wells, Tamara J. Ferguson, & Roderick C. L. Lindsay, *The Tractability of Eyewitness Confidence and Its Implications for Triers of Fact*, 66 J. APPLIED PSYCHOL. 688 (1981); Elizabeth Loftus & Gary L. Wells, *The Malleability of Eyewitness Confidence: Co-Witness and Perseverance Effects*, 79 J. APPLIED PSYCHOL. 714 (1994); John S. Shaw III, & Kevin A. McClure, *Repeated Postevent Questioning Can Lead to Elevated Levels of Eyewitness Confidence*, 20 LAW & HUM. BEHAV. 629 (1996).

18. Geoffrey R. Loftus & Erin M. Harley, *Why Is It Easier to Identify Someone Close Than Far Away?*, 12 PSYCHONOMIC BULL. & REV. 43-65 (2005).

19. Nancy M. Steblay, *A Meta-Analytic Review of the Weapon Focus Effect*, 16 LAW & HUM. BEHAV. 413-24 (1992).

20. Christian A. Meissner & John C. Brigham, *Thirty Years of Investigating the Own Race Bias in Memory for Faces: A Meta*

Analytic Review, 7 PSYCHOL. PUB. POLY. & L. 3 (2001). One of the best interpretations for the cross-race identification problem is that when people see a face from their own race, they notice ways in which it is different from other members of their own race, whereas when they see a face from another race, they notice how it differs from faces of people from other races. Daniel T. Levin, *Race as a Visual Feature: Using Visual Search and Perceptual Discrimination Tasks to Understand Face Categories and the Cross-Race Recognition Deficit*, 129 J. EXPERIMENTAL PSYCHOL.: GEN. 559 (2000). The latter strategy is, of course, totally ineffective for picking the person from a lineup in which all members are the same race as the perpetrator.

21. Baruch Fischhoff, *Hindsight ≠ Foresight: The Effect of Outcome Knowledge on Judgment Under Uncertainty*, 1 J. EXPERIMENTAL PSYCHOL.: HUM. PERCEPTION & PERFORMANCE 288 (1975).

the face of the person who evoked the reaction.²² This too makes common sense if one realizes that the primary response to fear is “fight or flight,” which is an automatic self-preservation mechanism that absorbs the cognitive capacity of the person and leaves little brain capacity for forming long-term memories. Part of the reason that people generally buy the idea that stress and fear produce better memory (when in fact they produce poorer memory) is because of a confusion about the level of memory that is operating. It is true that if someone threatens you or points a gun at you, you will never forget that the event happened. But that is not the same as having formed a reliable memory for the details of the event, such as the precise facial characteristics of the perpetrator.

The general principle that suggestion (e.g., from a biased lineup or from post-identification feedback) has its greatest effects when the witness’s memory is weaker needs to be kept in perspective. Suggestion effects are likely to be moderated only when the memory is extremely good. So, for instance, a victim who is abducted by an unmasked person and held captive for hours or days in which the abductor’s face is in full view is not likely to be easily influenced by suggestion regarding the identity of the abductor. Generally speaking, however, eyewitnesses see the perpetrator for only minutes, sometimes even seconds, often under poor viewing conditions, while frightened or confused, under cross-racial conditions, and so on. Hence, the failure to properly instruct a witness prior to a lineup, the use of fillers who do not fit the description of the perpetrator, the failure to use double-blind procedures, and the failure to secure a certainty statement at the time of the identification are serious problems in almost any eyewitness-identification case.

ASSESSING RELIABILITY AT THE TRIAL-COURT LEVEL

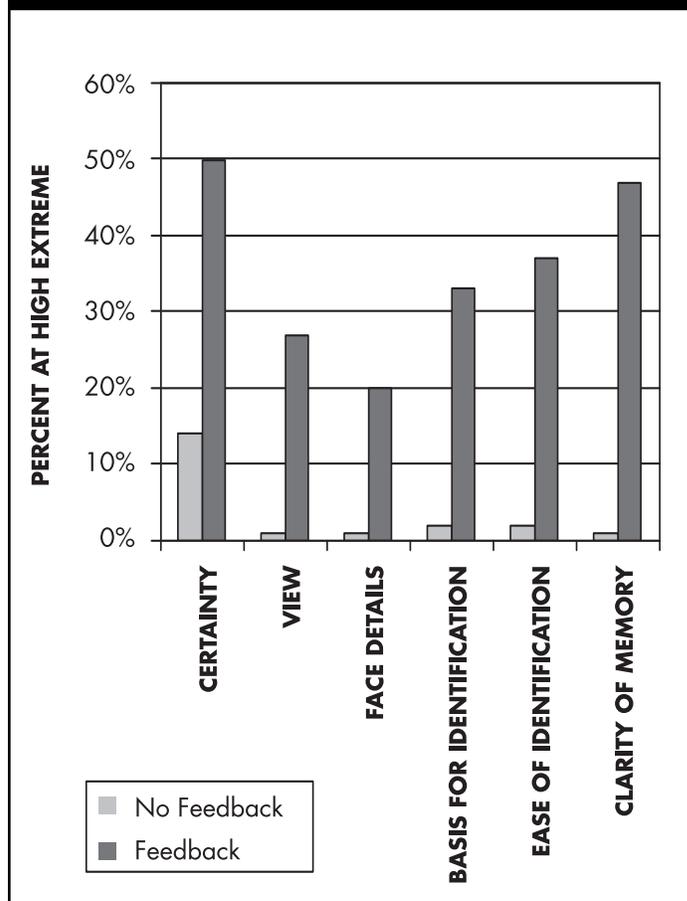
Trial courts across the United States tend to rely on one or another version of the U.S. Supreme Court’s 1977 test as spelled out in *Manson v. Braithwaite*²³ (hereafter called *Manson*) to make rulings in suppression hearings. Although many individual states have their own version of *Manson*, the guidelines all revolve around the same general proposition: a two-pronged test that inevitably rests on the “totality of the circumstances.” But within the language and process of the *Manson* test rests a huge problem that has been identified by eyewitness scientists.²⁴ This problem helps explain why trial courts are not likely to be able to weed out unreliable identifications using the *Manson*-type approach.

The *Manson* test functions as a two-pronged assessment designed to evaluate the likely reliability of an eyewitness’s identification. The first prong involves determining whether the identification procedure was unnecessarily suggestive to begin with. Suggestive procedures include using a show-up procedure when the police could have conducted a lineup, conducting a lineup in which the suspect stood out, failing to

tell the eyewitness that the culprit might not be in the lineup, showing the witness a photo of the suspect before conducting a lineup, telling a witness that his or her choice was correct, or conducting a second lineup procedure in which the only person in common was the suspect. If the procedure is not believed to have involved suggestion, then the identification evidence is admitted. If the procedure is found to have contained unnecessary suggestion, then the second stage of the test pits the distorting influence of the suggestive procedure against five criteria intended to assess reliability. These criteria include the witness’s opportunity to

“[W]ithin the language and process of the *Manson* test rests a huge problem that has been identified by eyewitness scientists.”

FIGURE 1. THE POST-IDENTIFICATION FEEDBACK EFFECT: PERCENTAGES OF EYEWITNESSES WHO SCORED AT THE EXTREME (E.G., RECALLING THAT THEY WERE TOTALLY CERTAIN) WITH AND WITHOUT CONFIRMING FEEDBACK



22. Charles A. Morgan et al., *Accuracy of Eyewitness Memory for Persons Encountered During Exposure to Highly Intense Stress*, 27 INT’L J.L. & PSYCHIATRY 265 (2004).

23. *Manson v. Braithwaite*, 432 U.S. 98 (1977).

24. See Gary L. Wells & Deah S. Quinlivan, *The Eyewitness Post-*

Identification Feedback Effect: What Is the Function of Flexible Confidence Estimates for Autobiographical Events?, 23 APPLIED COGNITIVE PSYCHOL. 751 (2009), for a much more detailed analysis of the problem with reconciling *Manson* with the science on eyewitness identification.

“Suggestive procedures almost guarantee that witnesses will pass the *Manson* test (because it will inflate their certainty, attention, and view ‘scores’).”

view the offender, the witness's degree of attention during the crime, the level of certainty demonstrated at the time of identification, the accuracy of the witness's description of the offender, and the time elapsed between the crime and the pre-trial identification. The *Manson* test is intended to determine whether the identification, despite having involved suggestive procedures, is nevertheless reliable.

There is nothing inherently wrong with the idea that deter-

minations regarding the reliability of an identification should be made by weighing a set of reliability factors against the suggestion itself. However, when *Manson* was decided by the U.S. Supreme Court in 1977, there was no scientific literature on eyewitness identification. The factors spelled out to assess reliability were based on the commonsense notions of the court at the time and have since been found to perform quite poorly in predicting reliability, especially for cases in which the identification involved suggestive procedures.

The first thing to note about these criteria is that three of the five criteria are self-reports from the witness (view, attention, and certainty). Although there are occasions in which a witness's statement about view might be contrasted with objective measures (such as when a witness claims to have been 30 feet away whereas reconstruction of the crime scene shows the distance to have been 100 feet), view is generally assessed simply by asking witnesses if they had a good view and could make out details of the face. Similarly, attention and certainty are subjective judgments and cannot be gauged against objective measures. There are a number of problems with people's estimates of their view, attention, and certainty. But our primary concern about these three self-report variables is that they are inflated by the suggestive procedures themselves. The use of suggestive procedures can lead the eyewitness to enhance (distort) his or her retrospective self-reports in ways that help ensure the witness's high standing on these *Manson* criteria, thereby leading to a dismissal of the suggestiveness concern. The consequence of this is that the presence of suggestion is likely to always result in admission of the eyewitness-identification evidence. *Manson* is flawed in such a way that the very presence of suggestive procedures at the time of the identification will make it almost certain the witness will pass the admissibility test.

The other two *Manson* criteria (description and time elapsed) are not much better predictors of reliability. Studies examining the relations between descriptions and identification accuracy have found no meaningful correlation between the

two.²⁵ What is perhaps most puzzling about using the match of the witness's description to the identified person as a measure of reliability is that one would expect the identified person to match the description; after all, it was probably because he or she fit the description that a person was placed in the lineup in the first place. But sometimes, the witness manages to identify from a lineup a suspect who does not fit the initial description of the culprit (e.g., the identified person has an apparent scar or a tattoo that was not included in the witness's prior description). After the identification is made, however, the witness's description may begin to change, now incorporating this aspect of the person's appearance into descriptions that are given later on. It is for this reason that the judge and the court must be very careful when assessing the match between the identified person and the witness's description, ensuring that the description being examined is the description that was given prior to the occurrence of an identification procedure. Otherwise, there is no way to distinguish between parts of the description that were actually recollected from the witnessed event and ones that were gleaned from the identification.

As for the criteria concerning the time elapsed between the crime and the pretrial identification, this factor in and of itself should not be a primary component upon which reliability evaluations are made. It is possible for a witness to positively identify the perpetrator from a lineup two years after the crime occurred, just as it is possible for the witness to fail to identify the perpetrator only minutes after the crime occurred. The important thing to know about memory as it relates to the passage of time is that the greatest drop in memory occurs very soon after the witnessed event—even within minutes. Thus, there may be little difference between a 1- and 2-day delay or even a 30- and 60-day delay. Although the time elapsed between the crime and identification can provide a reference point to assess likely memory strength, it should not be treated as a sole determinant of reliability.

It is important to highlight that the 203 DNA exonerations of individuals who were mistakenly identified and wrongfully convicted had the benefit of *Manson* when they were tried. The framework of *Manson* makes it absurdly difficult to pinpoint and exclude identifications resulting from even the most egregious forms of suggestion, and it fails to provide an incentive for law enforcement to reduce suggestiveness. In fact, we argue that it may actually create an incentive favoring suggestive procedures. Suggestive procedures almost guarantee that witnesses will pass the *Manson* test (because it will inflate their certainty, attention, and view “scores”). If the use of suggestive procedures rarely results in suppression of the identification, then there is no reason for law enforcement to avoid using these procedures, especially since suggestive identification procedures lead the witness to be more credible to the judge and jury at the time of trial. Hence, what incentive is there for law enforcement to avoid suggestive procedures and, conversely, what are the incentives to continue to use suggestive procedures?

25. See Melissa A. Piggot & John C. Brigham, *Relationship Between Accuracy of Prior Description and Facial Recognition*, 70 J. APPLIED PSYCHOL. 547 (1985). See also Gary L. Wells, *Verbal Descriptions of*

Faces from Memory: Are They Diagnostic of Identification Accuracy?, 70 J. APPLIED PSYCHOL. 619 (1985).

When considering the predicament that has resulted from the reliance on a *Manson*-type test for determinations about identification evidence, it is useful to remember that full suppression is not the only option for dealing with the presence of suggestion. There are many other case-tailored alternatives that can limit the testimony to those elements of the identification that were likely uncontaminated by the suggestion. For example, defense attorneys have the option of crafting motions in limine to limit rather than totally exclude the identification (e.g., not permitting the witness to testify about his or her certainty when post-identification feedback has contaminated certainty). Other remedies that defense attorneys can ask for include judicial instructions or expert testimony. Full admission without factoring in a cost for the suggestion not only puts the accused individual at a risk of wrongful conviction but also imposes no repercussions for the use of suggestive procedures, thereby perpetuating the failure to deter law enforcement from using these procedures.

SUMMARY AND CONCLUSIONS

Mistaken-eyewitness identification is the primary cause of convictions of the innocent, and trial judges are one of the safeguards that can prevent these miscarriages of justice. But an effective trial judge needs more than a conventional legal understanding of the problems associated with eyewitness-identification evidence. A mature social science literature has emerged that shows a tendency for conventional legal understandings (a) to fail to appreciate the power of suggestive procedures, (b) to rely too much on eyewitness-identification certainty, (c) to have faulty views of factors that impair memory, and (d) to generally fail to create disincentives for suggestive procedures.

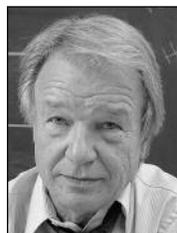
Trial judges are the gatekeepers to the eyewitness-identification evidence that is permitted in court. How are judges to learn about the social science that can increase the sophistication of their admission decisions? Continuing judicial education programs would be one way to learn more. The National Center for State Courts, the American Judges Association, and the American Judicature Society might also develop programs that incorporate the social science literature on eyewitness identification and disseminate that information through workshops, presentations, and written materials. For some eyewitness cases, the use of eyewitness experts in court can be yet another mechanism for judges to learn more about some of the issues associated with eyewitness identification. But, the eyewitness-identification literature is a highly specialized area in scientific psychology, so simply drawing on the testimony of a psychologist from a local community college would not neces-

sarily be a good idea. Generally speaking, a good eyewitness-identification expert is one who has published research on eyewitness issues in peer-reviewed journals and regularly reviewed the published research of other eyewitness experts. The use of an eyewitness expert at a pretrial hearing (rather than or in addition to trial) can be particularly useful because it affords the judge a relatively unconstrained setting (in the absence of jurors) in which to question the expert. In difficult cases, the judge could then consider permitting the expert to also testify at trial.

There is a high cost to mistaken-eyewitness identifications. Any time an innocent person is convicted, the guilty party goes free, which is a fact that has played out visibly in the DNA exoneration cases. Moreover, trust in the legal system hinges very critically on its ability to avoid convicting the innocent, a trust that has suffered some significant blows in the news stories that have surrounded the 203 (and counting) DNA exoneration mistaken-eyewitness cases.



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A Method for Analyzing the Accuracy of Eyewitness Testimony in Criminal Cases

Richard A. Wise & Martin A. Safer

Although no one knows precisely how many wrongful convictions occur each year, a study examining DNA-exoneration cases estimated that in 3.3% to 5% of the capital rape-murder convictions in the U.S. from 1982-1989, the defendants were innocent.¹ If this percentage of wrongful convictions applied to other types of crimes, there would be 33,000 to 50,000 wrongful felony convictions per year in the U.S.²

Eyewitness error is the leading cause of wrongful convictions.³ In fact, Professor Gary Wells and other prominent eyewitness researchers stated that “cases of proven wrongful convictions of innocent people have consistently shown that mistaken eyewitness identification is responsible for more of these wrongful convictions than all the other causes combined.”⁴ For example, in the first 271 DNA-exoneration cases, eyewitness error occurred in 75% of the cases.⁵ In many of the DNA-exoneration cases, multiple eyewitnesses identified the defendant as the perpetrator of the crime and several of the defendants were on death row when they were exonerated.⁶

Because eyewitness evidence is frequently the sole or primary evidence in a criminal case, the justice system needs to enhance the ability of judges, other legal professionals, and jurors to assess its accuracy.⁷ This article presents a method for analyzing the accuracy of eyewitness testimony that can help judges achieve this vital goal (hereafter referred to as “Method”).

It consists of four steps. First, determine if during the inter-

views law enforcement obtained the maximum amount of information from the eyewitness, did not contaminate the eyewitness’s memory of the crime, or artificially increased the eyewitness’s confidence. Second, ascertain if the identification procedures in the case were fair and unbiased. Third, evaluate how the eyewitness factors at the crime scene likely affected accuracy. Finally, make conclusions about the probable accuracy of the eyewitness testimony. Scientific guidelines for making these determinations are discussed.

This article also describes how judges can use this Method to better perform judicial functions related to eyewitness testimony in criminal cases, such as determining whether to grant a motion to suppress an eyewitness identification, deciding whether an eyewitness expert’s testimony should be admitted at trial, and evaluating eyewitness accuracy in bench trials and on appeal.

THE CAUSES OF EYEWITNESS ERROR

To understand why eyewitness error occurs and what safeguards are needed to prevent and reduce eyewitness error, it is first necessary to understand the nature of memory.⁸ Although an eyewitness’s memory of a crime can be reasonably accurate, it does not operate like a video camera.⁹ Accordingly, it is not like a videotape passively created that the eyewitness can replay at will to create an exact replica of the crime. Instead, memory is an active, ongoing, dynamic process that consists of four stages: perception, encoding, storage, and retrieval.¹⁰

The authors thank Professor Clifford Fishman for his contributions to the law-review article about the Method and his excellent suggestions for improving the present article. They also thank the editors of the *Connecticut Law Review* for giving us permission to publish a shorter version of this law-review article. The original, complete article is available at Richard A. Wise et al., *How to Analyze the Accuracy of Eyewitness Testimony in a Criminal Case*, 42 *CONN. L. REV.* 435- 513 (2009).

Footnotes

1. D. Michael Risinger, *Innocents Convicted: An Empirically Justified Factual Wrongful Conviction Rate*, 97 *J. CRIM. L. & CRIMINOLOGY*, 761, 806 (2007).
2. *Id.*; see Richard A. Wise et al., *How to Analyze the Accuracy of Eyewitness Testimony in a Criminal Case*, 42 *CONN. L. REV.* 435, 440-41 (2009). This article contains a more detailed explanation of the Method.
3. See, e.g., C. Ronald Huff, *Wrongful Conviction: Societal Tolerance of Injustice*, 4 *RES. IN SOC. PROBS. & PUB. POL’Y* 99, 103 (1987); Arye Rattner, *Convicted But Innocent*, 12 *LAW & HUM. BEHAV.* 283, 289 (1988).

4. Gary L. Wells et al., *Eyewitness Identification Procedures: Recommendations for Lineups and Photospreads*, 22 *LAW & HUM. BEHAV.* 603, 605 (1998).
5. *Eyewitness Identification*, THE INNOCENCE PROJECT (2011), available at <http://www.innocenceproject.org/understand/EyewitnessMisidentification.php> (last visited May 18, 2011).
6. Rob Warden, *How Mistaken and Perjured Eyewitness Identification Testimony Put 46 Innocent Americans on Death Row*, *NW. UNIV. SCH. OF LAW, CTR. ON WRONGFUL CONVICTIONS*, available at <http://www.law.northwestern.edu/wrongfulconvictions/aboutus/>; Wells et al., *supra* note 4, at 603.
7. See Daniel Goleman, *Studies Point to Flaws in Lineups of Suspects*, *N.Y. TIMES*, Jan. 17, 1995, at C1.
8. See Wise et al., *supra* note 2, at 454-64 (for a more detailed explanation of why eyewitness error occurs).
9. John C. Brigham et al., *Disputed Eyewitness Identification Evidence: Important Legal and Scientific Issues*, 36 *CT. REV.* 12, 13 (1999).
10. EDITH GREENE ET AL., *WRIGHTSMAN’S PSYCHOLOGY AND THE LEGAL SYSTEM*, 129-32 (6th ed. 2007).

Perception involves noticing an event or object and paying attention to it.¹¹ Consequently, to recall a crime an eyewitness must first notice and attend to it. Expectations, needs, attitudes, interests, biases, and knowledge affect what an eyewitness attends to during a crime.¹² Thus, a hairstylist may pay more attention to the perpetrator's hair than other eyewitnesses.

Encoding, the second stage of memory, consists of the mental work required to transform an eyewitness's perceptions into a memory of the crime.¹³ Normally an eyewitness is unaware of the process of encoding. Encoding involves interpretation and making inferences, so encoding is colored by the meaning the eyewitness gives to the crime.¹⁴ This meaning, like one's perceptions, is affected by one's expectations, needs, attitudes, interests, biases, and prior knowledge.¹⁵ Moreover, eyewitness factors present during the crime, such as a weapon, disguise, stress, etc., can interfere with the eyewitness's encoding of the crime. Eyewitnesses can also rapidly forget the details of a crime.¹⁶

Storage, the third stage of memory, concerns the maintenance of information encoded about the crime.¹⁷ The eyewitness's storage of information about a crime is an active and dynamic process rather than a quiet, warehouse type of storage.¹⁸ Consequently, post-event information from a variety of different sources, such as other eyewitnesses, the police, the prosecutor, or the media can permanently alter the eyewitness's memory of the crime.¹⁹ Generally an eyewitness is unaware that his or her memory has been altered by post-event information that may or may not be accurate.²⁰ Moreover, the post-event information may not only affect the eyewitness's memory of the crime, but also the eyewitness's ability to identify the perpetrator of the crime.²¹

During retrieval, the final stage of memory, the eyewitness recalls the crime or attempts to recognize the perpetrator during an identification procedure.²² When an eyewitness recalls a crime, he or she unconsciously reconstructs his or her memory of the crime from several different sources of information.²³ They include the eyewitness's memory of the crime, and to fill in gaps in his or her memory, the eyewitness unknowingly uses

his or her expectations, attitudes, beliefs, biases, knowledge of similar events, and post-event information.²⁴ The eyewitness automatically blends these different sources of information together to create a memory of the crime that appears seamless and coherent but that may contain inaccuracies.²⁵ Furthermore, the eyewitness's ability to recognize the perpetrator during an identification procedure may be compromised by factors present during the crime (e.g., weapon, disguise, stress, etc.), post-event information, or the passage of time.²⁶

Not only is an eyewitness's memory of a crime malleable, but so is an eyewitness's confidence.²⁷ Many factors can increase an eyewitness's confidence but not his or her accuracy,²⁸ such as repeated questioning of an eyewitness, confirming feedback (e.g., "Good, you have identified the suspect."), or learning that another eyewitness has identified the suspect.²⁹ Thus, by the time of trial there is little or no relationship between eyewitness confidence and accuracy.

Post-event information has its greatest effect on an eyewitness's confidence for inaccurate information.³⁰ Generally the eyewitness is unaware that post-event information has increased his or her confidence. Increases in eyewitness confidence can cause wrongful convictions because eyewitness confidence is usually the most important factor the trier of fact relies upon in evaluating eyewitness accuracy.³¹

THE SAFEGUARDS THAT ARE NECESSARY TO PREVENT AND REDUCE EYEWITNESS ERROR

Eyewitness researchers have not only discovered what factors affect eyewitness accuracy during the crime, but have also discovered what safeguards are necessary to minimize eyewitness errors during interviews and identification productions.³² Conducting fair and unbiased eyewitness interviews and identification procedures is the best means available to the criminal justice system to reduce eyewitness error.³³

For example, researchers have learned that during eyewitness interviews, law enforcement officers frequently make three types of errors: (1) they fail to obtain much of the information that the eyewitness knows about the crime; (2) they contami-

11. WAYNE WEITEN, *PSYCHOLOGY: THEMES AND VARIATIONS: BRIEFER VERSION 206* (7th ed. 2008).

12. CURT R. BARTOL & ANNE M. BARTOL, *PSYCHOLOGY AND LAW: THEORY, RESEARCH AND APPLICATIONS 228* (3d ed. 2004).

13. *Id.*

14. *Id.*

15. *Id.*

16. Richard A. Wise et al., *A Survey of Defense Attorneys' Knowledge and Beliefs About Eyewitness Testimony*, *THE CHAMPION*, Nov. 2007, at 23.

17. GREENE et al., *supra* note 10, at 130.

18. *Id.*

19. *See, e.g.*, BARTOL & BARTOL, *supra* note 12, at 229; Ronald P. Fisher, *Interviewing Victims and Witnesses of Crime*, 1 *PSYCH. PUB. POL'Y & L.* 732, 740 (1995).

20. BARTOL & BARTOL, *supra* note 12, at 228.

21. Elizabeth F. Loftus & Edith Greene, *Warning: Even Memory for Faces May Be Contagious*, 4 *LAW & HUM. BEHAV.* 323, 333 (1980).

22. WEITEN, *supra* note 11, at 214-16.

23. MARK COSTANZO, *PSYCHOLOGY APPLIED TO THE LAW 180* (2004).

24. *Id.*

25. *Id.* at 228.

26. Wise et al., *supra* note 16, at 23.

27. Wells, *supra* note 4, at 624.

28. Gary L. Wells et al., *From the Lab to the Police Station: A Successful Application of Eyewitness Research*, 55 *AM. PSYCHOLOGIST* 581, 586 (2000).

29. *See, e.g.*, John S. Shaw III & Kimberley A. McClure, *Repeated Postevent Questioning Can Lead to Elevated Levels of Eyewitness Confidence*, 20 *LAW & HUM. BEHAV.* 629, 630 (1996).

30. Donald P. Judges, *Two Cheers for the Department of Justice's Eyewitness Evidence: A Guide for Law Enforcement*, 53 *ARK. L. REV.* 231, 249 (2000).

31. Wells, *supra* note 4, at 620.

32. Richard A. Wise et al., *A Tripartite Solution to Eyewitness Error*, 97 *J. CRIM. L. & CRIMINOLOGY* 807, 842-65 (2007).

33. *Id.* at 865.

nate the eyewitness's memory of the crime with post-event information; and (3) they increase the eyewitness's confidence.³⁴

In the 1980s, Fisher and Geiselman began developing a method of interviewing eyewitnesses that significantly reduced law enforcement errors.³⁵ Scientific studies comparing their cognitive interview with the standard law enforcement interview show that it increases accurate information obtained from eyewitnesses by 35% to 75%.³⁶ The cognitive interview also decreases the probability that law enforcement will contaminate the eyewitness's memory of the crime or increase the eyewitness's confidence.³⁷

Because of the salient role identification procedures play in eyewitness error, researchers have also devoted much time and effort to studying them. In determining what safeguards are necessary for fair and unbiased identification procedures, researchers have learned that many of the same safeguards needed for a valid experiment are also required for fair and unbiased identification procedures.³⁸ For instance, scientists have long known that they must implement safeguards for experiments to prevent their own biases and expectations from unintentionally affecting the results.³⁹ Biases and expectations threaten the validity of an experiment because people tend to test their hypotheses in a manner that will confirm them and because of the self-fulfilling nature of expectations.⁴⁰ Expectations and biases can also affect the validity of identification procedures.

The lineup-as-experiment analogy helps us identify errors that law enforcement officers often make when conducting identification procedures. They include:

[T]he presence of demand characteristic (e.g., pressuring the eyewitness to make a choice), the influence of confirmation biases (e.g., asking the eyewitness specifically about the suspect while not asking those same questions about the distracters), the facilitation of response biases (e.g., encouraging a loose recognition criterion threshold in the eyewitness), making inferences from small sample sizes (e.g., making strong judgments of validity based on only one eyewitness), not using control groups (e.g., failing to see if people who did *not* witness the crime [but who have the eyewitness's description of the perpetrator] can identify the suspect), selective recording and interpretation of data (e.g., finding significance in an identification of the suspect, but ignoring the outcome if the eyewitness makes a non-identification), leaking of the hypothesis (e.g., making it obvious to the eyewitness which person in the lineup is

the suspect), and a host of other possible confounds.⁴¹

In sum, to prevent and reduce eyewitness errors, law enforcement must implement safeguards that ensure that the identification of a suspect is the product of the eyewitness's memory and not how the identification procedure was conducted.

The National Institute of Justice (hereafter "NIJ"), which is the research arm of the U.S. Department of Justice, recognizes the importance of eyewitness research in preventing eyewitness error. Eyewitness research forms the basis for the NIJ's recommendations for conducting interviews and identification contained in its *Eyewitness Evidence: A Guide for Law Enforcement* (hereafter "Guide") and its *Eyewitness Evidence: A Trainer's Manual for Law Enforcement* (hereafter "Trainer's Manual").⁴² The purposes of the NIJ's Guide and Trainer's Manual are to develop improved procedures for the collection and preservation of eyewitness evidence for U.S. law enforcement agencies⁴³ and provide them with training in the guidelines.⁴⁴

Finally, to significantly reduce eyewitness error, the criminal justice system must view eyewitness evidence as a type of trace evidence.⁴⁵ Like other types of trace evidence, such as fingerprints, DNA, and firearm patterns, eyewitness evidence has a physiological basis (i.e., biochemical changes in the eyewitness's brain).⁴⁶ Consequently, the accuracy of eyewitness testimony, like other types of trace evidence, depends in large part on the use of proper scientific procedures in collecting and preserving it. In short, before admitting eyewitness evidence, a judge should always first determine if valid scientific procedures were followed in producing it. If they were not followed, this failure should generally weigh heavily against admitting the eyewitness testimony at trial just as it would for DNA, fingerprints, ballistics, and other types of trace evidence.⁴⁷

WHY JUDGES NEED A METHOD FOR ANALYZING THE ACCURACY OF EYEWITNESS TESTIMONY

Judges must be able to assess eyewitness accuracy so they can better evaluate its probative value in criminal cases and help prevent wrongful conviction from erroneous eyewitness testimony. For example, trial judges need this ability when determining whether to admit a pretrial eyewitness identification at trial, to permit an eyewitness to make an in-court identification, and to allow an eyewitness expert to testify.⁴⁸ They also require this ability when deciding eyewitness evidentiary issues, drafting jury instructions about eyewitness testimony, and evaluating eyewitness accuracy in bench trials.⁴⁹ Appellate judges must assess eyewitness accuracy when deciding if the

34. Ronald P. Fisher, *Interviewing Victims and Witnesses of Crime*, 1 PSYCH. PUB. POL'Y & L. 732, 752-56 (1995).

35. Wells et al., *supra* note 28, at 582-83.

36. *Id.* at 584.

37. Fisher, *supra* note 34, at 752.

38. Wells et al., *supra* note 4, at 617-18.

39. WEITEN, *supra* note 11, at 38-40, 48-50.

40. *Id.*

41. Wells et al., *supra* note 4, at 618.

42. Wells et al., *supra* note 28, at 581.

43. NAT'L INST. OF JUSTICE, U.S. DEP'T OF JUSTICE, EYEWITNESS EVIDENCE: A GUIDE FOR LAW ENFORCEMENT (1999) [hereinafter GUIDE] at vii.

44. NAT'L INST. OF JUSTICE, U.S. DEP'T OF JUSTICE, EYEWITNESS EVIDENCE: A TRAINER'S MANUAL FOR LAW ENFORCEMENT III (2003) [hereinafter TRAINER'S MANUAL] at v.

45. Wells et al., *supra* note 4, at 618-19.

46. *Id.*

47. *Id.*

48. Wise et al., *supra* note 2, at 464.

49. *Id.*

TABLE 1: METHOD FOR ANALYZING THE ACCURACY OF EYEWITNESS TESTIMONY

STEP 1: EVALUATING THE EYEWITNESS INTERVIEWS

- A. Did the interviews obtain the maximum amount of information from the eyewitness?
- B. Did the interviews contaminate the eyewitness's memory?
 - 1. Did they contaminate the eyewitness's memory of the crime?
 - 2. Did they contaminate the eyewitness's memory of the perpetrator of the crime?
- C. Did the interviews, identification procedures, other eyewitnesses, prosecutor, media, or some other factor significantly increase the confidence of the eyewitness prior to taking a statement of the eyewitness's confidence in the accuracy of his or her identification?

STEP 2: EVALUATING THE IDENTIFICATION PROCEDURES AND IDENTIFICATION ACCURACY

- A. Did one of the following circumstances occur that would make the eyewitness's identification of the defendant presumptively inaccurate?
 - 1. Was the eyewitness interview significantly biased and did the bias pertain to information concerning the description or identity of the perpetrator?
 - 2. Was an identification procedure significantly biased?
- B. Because of the nature of memory, the effects of biased interviews and identification procedures on identification accuracy cannot be corrected by later conducting a fair interview and identification procedure. Accordingly, if an eyewitness's memory of the perpetrator of a crime has been significantly contaminated, identification by the eyewitness of the defendant should be considered presumptively inaccurate.
- C. Does one of the two exceptions apply to the general rule that an eyewitness's identification is presumptively inaccurate if an eyewitness interview or identification procedure was significantly biased?
 - 1. Did some unusual circumstance exist that overcomes the presumptive inaccuracy of the identification (e.g., the eyewitness knew the perpetrator prior to the crime or had prolonged repeated exposure to the perpetrator)?
 - 2. Was there reliable, valid corroborating evidence that establishes the veracity of the eyewitness testimony?
- D. Were the eyewitness interviews and identification procedures fair and impartial or did one of the exceptions to biased interviews and identification procedures apply?
If so, go on to Step 3. If not, the eyewitness's identification should be presumed to be inaccurate.

STEP 3: EVALUATING THE EYEWITNESS FACTORS PRESENT DURING THE CRIME

- A. What eyewitness factors during the crime likely increased the accuracy of the eyewitness identification and testimony?
- B. What eyewitness factors during the crime likely decreased the accuracy of the eyewitness identification and testimony?

STEP 4: CONCLUSIONS:

- 1. Was the maximum amount of information obtained from the eyewitness during the interviews?
- 2. Was a statement of the eyewitness's confidence in the accuracy of his or her identification obtained prior to the eyewitness receiving any feedback?
- 3. Is there a high, medium, or low probability that the eyewitness's testimony was accurate?
- 4. Is there a high, medium, or low probability that the eyewitness identification was accurate?

trial court erred in admitting a pretrial identification, permitting an in-court identification, refusing to permit a jury instruction about eyewitness testimony, or failing to admit an eyewitness expert.⁵⁰ This ability also helps appellate judges assess whether the eyewitness testimony in a case is sufficiently reliable to affirm a guilty verdict.⁵¹

Although the ability to assess eyewitness accuracy is essential to judges, scientific studies show that, like other legal professionals and jurors, judges have limited knowledge of eyewitness factors.⁵² For example, Wise and Safer surveyed 160 judges about what they know about eyewitness factors, what they believe jurors know about eyewitness factors, and what legal safeguards they would permit attorneys to use to educate jurors about eyewitness factors.⁵³ The latter two questions are important because, though jurors have limited knowledge of eyewitness factors, the most common reason judges exclude eyewitness-expert testimony is because they believe jurors are knowledgeable about eyewitness factors.⁵⁴ Furthermore, expert testimony is the only legal safeguard that has demonstrated any efficacy in educating jurors about eyewitness testimony.⁵⁵ Because eight of the questions in the survey were the same or similar to questions used in an earlier survey of eyewitness experts, the judges' responses for these questions were compared to the experts' responses.

The judges in the survey averaged only 55% correct on the 14-item knowledge scale.⁵⁶ They also lacked knowledge of many key eyewitness facts, such as jurors' inability to distinguish between accurate and inaccurate eyewitnesses; sequential lineups reduce erroneous eyewitness identification compared with simultaneous lineups; and eyewitness confidence is not related to accuracy at trial.⁵⁷ The judges' responses differed significantly from the experts' responses on 5 of 8 questions that they both answered.⁵⁸ They also tended to overestimate jurors' knowledge of eyewitness factors compared to the experts and were reluctant to permit eyewitness-expert testimony even though, as previously mentioned, it is the only legal safeguard that has shown any effectiveness in educating jurors about eyewitness factors.⁵⁹

Other studies of judges' knowledge of eyewitness factors have produced similar results.⁶⁰ Judges' lack of knowledge is

not surprising. Judges receive little training about eyewitness testimony, the effect of many eyewitness factors on eyewitness accuracy is counterintuitive, and judges do not receive feedback on which eyewitness made inaccurate identification in criminal cases and what factors caused their inaccuracy.⁶¹

More importantly, even if judges were knowledgeable about eyewitness factors, they would still have difficulty assessing eyewitness accuracy in criminal cases. This result would likely occur because the ability to assess eyewitness accuracy is not just a question of knowledge, but also the ability to integrate that knowledge into the facts of a case.⁶² Research shows that even experts have difficulty applying their knowledge to the facts of a case.⁶³ Accordingly, what judges need is a method for analyzing the accuracy of eyewitness testimony that will enable them to both identify the relevant eyewitness factors in a criminal case and also apply them to the facts. The Method described in the next several sections can help judges to achieve these essential goals.

METHOD FOR ANALYZING THE ACCURACY OF EYEWITNESS TESTIMONY

Professor Wise has developed a method for analyzing the accuracy of eyewitness testimony that consists of four steps.⁶⁴ In the first step, determine if during the interview law enforcement: (a) obtained the maximum amount of accurate information from the eyewitness; (b) contaminated the eyewitness's memory of the crime with post-event information; or (c) increased the eyewitness's confidence.

Obtaining the maximum amount of accurate information from an eyewitness helps prevent wrongful convictions. For example, the most important determinant of whether a crime is solved is the completeness and accuracy of the eyewitness testimony.⁶⁵ In addition, detailed and accurate eyewitness testimony increases the probability that the trier of fact will render a correct verdict.⁶⁶ It also aids law enforcement officers in obtaining confessions from guilty suspects, allows defense attorneys to more effectively represent innocent defendants, and assists district attorneys in prosecuting guilty defendants.⁶⁷

Determining if an eyewitness's memory has been contami-

50. *Id.*

51. *Id.*

52. *Id.*

53. Richard A. Wise & Martin A. Safer, *A Survey of Judges' Knowledge and Beliefs About Eyewitness Testimony*, 40 CT. REV. 6-16 (2003).

54. *Id.* at 7.

55. *Id.*

56. *Id.* at 13.

57. *Id.*

58. *Id.* at 9-11.

59. *Id.* at 11.

60. Tanja Rapus Benton et al., *Eyewitness Memory Is Still Not Common Sense: Comparing Jurors, Judges, and Law Enforcement to Eyewitness Experts*, 20 APPLIED COGNITIVE PSYCHOL. 115, 126 (2006); Pär Anders Granhag et al., *Eyewitness Testimony: Tracing the Beliefs of Swedish Professionals*, 23 BEHAV. SCI. & L. 709, 723 (2005); Svein Magnussen et al., *What Judges Know About Eyewitness Testimony:*

A Comparison of Norwegian and U.S. Judges, 14 PSYCHOL. CRIME & L. 177, 185 (2008); Richard A. Wise et al., *A Comparison of Chinese Judges' and U.S. Judges' Knowledge and Beliefs about Eyewitness Testimony*, 16 PSYCHOL. CRIME & L. 695, 695 (2010).

61. Wise et al., *supra* note 2, at 467.

62. Brian L. Cutler et al., *The Eyewitness, the Expert Psychologist, and the Jury*, 13 LAW & HUM. BEHAV. 311, 313 (1989).

63. Steven D. Penrod & Brian Cutler, *Preventing Mistaken Conviction in Eyewitness Identification Trials: The Case Against Traditional Safeguards*, in PSYCHOLOGY AND LAW: THE STATE OF THE DISCIPLINE 89, 217 (Ronald Roesch et al. eds., 1999).

64. See Wise et al., *supra* note 2, at 468-508 (more detailed explanation of the Method and the guidelines for the Method).

65. Fisher, *supra* note 34, at 732.

66. *Id.*

67. *Id.*

nated during the interview is crucial, because, as we have seen, eyewitness memory is malleable. Moreover, once it is altered by post-event information, the eyewitness's original memory of the crime cannot be restored.⁶⁸ Post-event information not only affects the eyewitness's memory of the crime but can also impair identification accuracy.⁶⁹ Assessing if the eyewitness's confidence has been artificially increased prior to obtaining a statement of the eyewitness's confidence is critical because, as previously mentioned, generally eyewitness confidence is the most important factor the trier of fact uses in evaluating eyewitness accuracy.⁷⁰

The second step in the Method is to evaluate whether the identification procedures in the case were fair and unbiased. (See Table I, Step 2.) The 11 scientific guidelines delineated later in this article can be used to make this evaluation.

If significant bias existed in how the eyewitness interview or identification procedures were conducted, the accuracy of the eyewitness testimony is highly questionable unless an exception applies. The exceptions include if the eyewitness conditions were unusually good (e.g., the eyewitness had repeated prolonged exposure to the perpetrator or the eyewitness knew the perpetrator prior to the crime) or if there is reliable, valid evidence corroborating the accuracy of the eyewitness testimony.

Because of the nature of memory, if a biased interview or identification procedure is conducted, the error cannot be corrected by later conducting a fair and unbiased interview or identification procedure.⁷¹ Consequently, if a biased identification was conducted, not only should the eyewitness's identification from the biased identification be presumed inaccurate, but any subsequent identification, even from a fair identification procedure, should also be presumed inaccurate. In contrast, if fair and unbiased interviews and identification procedures were conducted, the eyewitness's testimony and identification are more likely to be accurate even if the eyewitness conditions during the crime were somewhat less than ideal. Therefore, when analyzing the accuracy of eyewitness testimony, always first assess how the eyewitness interviews and identification procedures were conducted.

If no significant bias occurred in the eyewitness interviews or identification procedures or if an exception applies, proceed to the third step in the Method; however, if there was significant bias and it likely affected both the accuracy of the eyewitness testimony and the identification and no exception applies, presume the eyewitness testimony is inaccurate and cease the analysis.

The third step in analyzing eyewitness accuracy assesses how the eyewitness factors during the crime likely affected eyewitness accuracy. Separately list factors that likely increased and factors that likely decreased eyewitness accuracy during the crime. The most common eyewitness factors that affect accuracy are discussed later in this article.

In the final step of the Method, make conclusions about the likely accuracy of the eyewitness testimony in the case by answering the following questions: (a) Did law enforcement obtain the maximum amount of information from the eyewitness? (b) Was the eyewitness's confidence increased prior to taking a statement of confidence from the eyewitness? (c) Is there a high, medium, or low probability that the eyewitness testimony was accurate? (d) Is there a high, medium, or low probability that the identification was accurate?

This Method has several benefits. For instance, it offers a comprehensive analytical framework for both identifying and organizing the many different types of eyewitness factors that affect eyewitness accuracy. Perhaps most importantly, it also helps integrate those eyewitness factors into the analysis of the accuracy of the eyewitness testimony. Thus, the Method divides eyewitness factors into three types: those that pertain to interviews, identification procedures, and the crime scene. It provides a specific order for analyzing the different types of eyewitness factors, concrete guidelines for evaluating them, and specific standards for assessing whether they were likely to produce eyewitness error (i.e., if the interview and identification procedures were substantially biased or the eyewitness factors at the crime scene were poor).

Another advantage to using this Method is that it stresses the importance of conducting fair and unbiased interviews and identification procedures. The Method's emphasis on fair and unbiased interviews and identification procedures is warranted for several reasons. First, not only is this emphasis logical and supported by empirical evidence, but it is also justified because the State can usually control how it conducts interviews and identification procedures and can easily document how they were conducted by videotaping them.⁷² In contrast, the State cannot control the eyewitness factors at a crime scene, and usually there is no objective record of them.

Second, requiring the State to conduct fair and unbiased eyewitness interviews and identification procedures in criminal cases is congruent with evidentiary rules providing that proper scientific procedures must be followed for trace evidence to be admitted at trial.⁷³

Third, this emphasis gives the State a strong incentive for conducting fair and unbiased interviews and identification procedures because they will substantially strengthen the State's case.

Fourth, the State can conduct fair and unbiased eyewitness interviews without incurring either a significant financial or administrative burden.⁷⁴

Finally, the most potent means available to the legal system to prevent and reduce eyewitness error is by conducting fair and unbiased eyewitness interviews and identification procedures.⁷⁵

We recognize there will be limited circumstances when pol-

68. See, e.g., BARTOL & BARTOL, *supra* note 12, at 229.

69. Loftus & Greene, *supra* note 21, at 333.

70. Wells et al., *supra* note 4, at 620.

71. See BARTOL & BARTOL, *supra* note 12, at 229.

72. Wells et al., *supra* note 28, at 582-87; Wise et al., *supra* note 32, at 864-65.

73. FED. R. EVID. 403, 702, 901.

74. Amy Klobuchar et al., *Improving Eyewitness Identifications: Hennepin County's Blind Sequential Lineup Pilot Project*, 4 CARDOZO PUB. L. POL'Y & ETHICS 381, 409 (2006).

75. Wise et al., *supra* note 32, at 865.

icity considerations will necessitate the admission of eyewitness testimony even though the Method indicates that the eyewitness testimony should be presumed inaccurate. We are referring to circumstances where law enforcement acted in good faith but was forced to use a suggestive procedure because of exigent circumstances (e.g., when law enforcement used a show-up rather than a photo array or lineup because a suspect was apprehended shortly after the crime).

The next three sections discuss scientific guidelines for evaluating the fairness of eyewitness interviews and identification procedures and eyewitness factors that are commonly present during a crime. The appendix contains a form that will help judges apply this Method to criminal cases.

EVALUATING THE EYEWITNESS INTERVIEW (TABLE 1, STEP 1)

As stated previously, law enforcement often makes three types of errors when it interviews eyewitnesses: (1) It fails to obtain the maximum amount of information from the eyewitness; (2) it contaminates the eyewitness's memory of the crime with post-event information; and (3) it increases the eyewitness's confidence.

The following guidelines derived from scientific research, and the Guide and Trainer's Manual, can be used to assess whether the eyewitness interviews were conducted properly. The factors for evaluating if law enforcement obtained the maximum amount of information from the eyewitness are divided into three categories: doing pre-interview preparation, conducting the interview, and concluding the interview.

A. FACTORS RELEVANT TO MAXIMIZING THE INFORMATION OBTAINED FROM THE EYEWITNESS:⁷⁶

1. Pre-interview preparation:

- a. **When circumstances permit, the interview should be held as soon as possible after the crime.**⁷⁷ (Eyewitnesses forget the details of a crime very quickly, so the interview should be conducted as soon as the eyewitness is capable of being interviewed and the exigencies of the investigation permit.⁷⁸)
- b. **The interviewer should review all information about the crime prior to the interview.** (Preparation results in a more thorough and complete interview.⁷⁹)
- c. **The interview should be conducted in a comfortable**

environment, and distractions and interruptions should be minimized. (Under these conditions, the eyewitness will recall more information.)⁸⁰

- d. **The resources necessary to conduct the interview (e.g., pens, notepad, video recorder, interview room, etc.) should be obtained prior to the interview so it does not have to be interrupted to get these items.**⁸¹ (Interruptions interfere with the eyewitness's ability to remember the crime.)
- e. **The eyewitness interview should be videotaped.**⁸² (Videotaping ensures there is an accurate and complete record of the eyewitness interview.)

2. When conducting the interview the interviewer should:

- a. **Establish and maintain rapport with the eyewitness and minimize his or her anxiety.** (Eyewitnesses are often traumatized by a crime and a relaxed eyewitness provides more information.⁸³ The interviewer can establish rapport and minimize an eyewitness's anxiety by showing understanding and concern for the eyewitness, personalizing the interview, and listening actively.⁸⁴)
- b. **Inquire about the eyewitness's condition.** (It helps build rapport and alerts the interviewer to any condition that might impair the eyewitness's memory, such as intoxication, shock, drugs, etc..⁸⁵)
- c. **Instruct the eyewitness to (1) volunteer information⁸⁶ and (2) report all details he or she remembers about the crime even if the information seems trivial and unimportant.⁸⁷ Inform the eyewitness about the type and degree of detail of information the interviewer needs.⁸⁸** (These rules encourage the eyewitness to be active during the interview, which is important because it is the eyewitness who has information about the crime, not the interviewer, and volunteered information is more accurate than information given in answers to questions.⁸⁹ These rules also encourage the eyewitness to disclose all the information he or she knows about the crime and helps the eyewitness understand the kind of information and the degree of detail the interviewer needs.⁹⁰)
- d. **Ask the eyewitness to mentally recreate the crime.** (The eyewitness can recreate the crime by thinking about his or her thoughts and feelings during the crime—recreating the crime increases recall.⁹¹)

76. See Wise et al., *supra* note 2, at 474-484 (for a more detailed explanation of the guidelines for interviews and more extensive and detailed footnotes).

77. TRAINER'S MANUAL, *supra* note 44, at 13; Wise et al. *supra* note 2, at 475.

78. *Id.*

79. *Id.*

80. TRAINER'S MANUAL, *supra* note 44, at 13; Fisher, *supra* note 34, at 756; Wise et al., *supra* note 2, at 476.

81. *Id.*

82. Wise et al., *supra* note 2, at 476.

83. TRAINER'S MANUAL, *supra* note 44, at 14; Wise et al., *supra* note 2, at 477.

84. *Id.*

85. *Id.*

86. TRAINER'S MANUAL, *supra* note 44, at 19; Wise et al., *supra* note 2, at 477.

87. TRAINER'S MANUAL, *supra* note 44, at 20; Wise et al., *supra* note 2, at 477.

88. Fisher, *supra* note 34, at 747; Wise et al. *supra* note 2, at 477.

89. TRAINER'S MANUAL, *supra* note 44, at 16, 19; Wise et al., *supra* note 2, at 477.

90. TRAINER'S MANUAL, *supra* note 44, at 19; Wise et al., *supra* note 2, at 477.

91. TRAINER'S MANUAL, *supra* note 44, at 20; Wise et al., *supra* note 2, at 477-478.

- e. **Use primarily open-ended questions during the interview (e.g., “What did the perpetrator look like?”).**⁹² (Open-ended questions give the eyewitness control of the interview, promote the full disclosure of the details of a crime, produce more accurate information, and improve listening.⁹³)
- f. **Ask closed-ended questions (e.g., “What color was the perpetrator’s hair?”) only when they are needed to augment open-ended questions.** (Open-ended questions are superior to closed-ended questions, because they do not limit the amount and scope of the information provided by the eyewitness.⁹⁴ Nonetheless, close-ended questions should be used to obtain information omitted from answers to open-ended questions.⁹⁵)
- g. **Avoid interrupting the eyewitness.** (Interruptions interfere with recall and discourage the eyewitness from volunteering information.⁹⁶)
- h. **Allow for pauses when an eyewitness stops talking before asking the next question.** (Pauses ensure the eyewitness has completed his or her answer.⁹⁷)
- i. **Tailor questions to the eyewitness’s narrative rather than asking a standard set of questions.** (Because each eyewitness’s memory of a crime is unique, the interviewer’s questions should track what the eyewitness is talking about.⁹⁸ For example, if the eyewitness is describing the crime scene, the interviewer should not be asking questions about the perpetrator’s appearance.⁹⁹)
- j. **Encourage nonverbal communications from the eyewitness, such as drawings and gestures, especially from children or eyewitnesses who are not fluent in English.**¹⁰⁰ (Some information about a crime is difficult to express verbally, and some eyewitnesses have limited verbal skills.)
- k. **Ask the eyewitness, “Is there anything else I should have asked you?”**¹⁰¹ (This question helps ensure that the eyewitness has disclosed all important information about the crime.)

3. Concluding the interview:

- a. **The eyewitness should be encouraged to contact the interviewer if he or she remembers additional facts**

about the crime. (Eyewitnesses frequently remember other information about the crime after the interview is completed.¹⁰²)

- b. **The interviewer should review written documentation with the eyewitness and ask the eyewitness if he or she wishes to change, add, or emphasize anything.** (The review ensures the information was recorded accurately and gives the eyewitness an additional opportunity to recall more information.¹⁰³)
- c. **Thank the eyewitness for his or her time and cooperation.** (This strengthens rapport with the eyewitness and encourages future cooperation.¹⁰⁴)

B. “CONTAMINATION” OF THE EYEWITNESS’S MEMORY (TABLE 1, STEP I B. 2): TO AVOID CONTAMINATING THE EYEWITNESS’S MEMORY AND TO ASSESS WHETHER THE EYEWITNESS’S MEMORY HAS BEEN CONTAMINATED, THE INTERVIEWER SHOULD:

1. **Separate the eyewitnesses and tell them not to discuss the details of the crime with other eyewitnesses¹⁰⁵ and to avoid media accounts of the crime.**¹⁰⁶ (This helps prevent post-event information from contaminating the eyewitness’s memory.¹⁰⁷)
2. **Determine if an eyewitness has spoken to another eyewitness or anyone else about the crime or been exposed to media accounts of the crime.** (These sources may have altered the eyewitness’s memory of the crime.¹⁰⁸)
3. **Ascertain the nature of the eyewitness’s prior law enforcement contact related to the crime being investigated. This includes any prior interviews by law enforcement or participation in any type of identification procedure.** (This information allows the interviewer to assess if post-event information or a biased identification procedure has contaminated the eyewitness’s memory.¹⁰⁹)
4. **Avoid volunteering any information about the perpetrator or the crime.** (Volunteered information can alter the eyewitness’s memory.¹¹⁰)
5. **Tell the eyewitness not to guess and to indicate if he or she feels any uncertainty about an answer.** (Guessing can contaminate the eyewitness’s memory.¹¹¹)

92. TRAINER’S MANUAL, *supra* note 44, at 11; Wise et al., *supra* note 2, at 478.

93. *Id.*

94. *Id.*

95. *Id.*

96. TRAINER’S MANUAL, *supra* note 44, at 16; Wise et al., *supra* note 2, at 479.

97. TRAINER’S MANUAL, *supra* note 44, at 17; Wise et al., *supra* note 2, at 479.

98. *Id.*

99. *Id.*

100. TRAINER’S MANUAL, *supra* note 44, at 20; Wise et al., *supra* note 2, at 479.

101. TRAINER’S MANUAL, *supra* note 44, at 19; Wise et al., *supra* note 2, at 479.

102. TRAINER’S MANUAL, *supra* note 44, at 20; Wise et al., *supra* note 2,

at 479-480.

103. TRAINER’S MANUAL, *supra* note 44, at 21; Wise et al., *supra* note 2, at 480.

104. *Id.*

105. TRAINER’S MANUAL, *supra* note 44, at 12; Wise et al., *supra* note 2, at 480.

106. *Id.*

107. *Id.*

108. TRAINER’S MANUAL, *supra* note 44, at 12; Wise et al., *supra* note 2, at 480-481.

109. TRAINER’S MANUAL, *supra* note 44, at 14; Wise et al., *supra* note 2, at 481.

110. TRAINER’S MANUAL, *supra* note 44, at 23; Wise et al., *supra* note 2, at 481.

111. TRAINER’S MANUAL, *supra* note 44, at 20; Wise et al., *supra* note 2, at 481.

6. **Refrain from:** (a) using suggestive or leading questions (e.g., “Was the car red?”);¹¹² (b) disclosing information to the eyewitness about the crime the interviewer learned from other sources; or (c) using multiple-choice questions. (They provide post-event information about the crime, which can alter an eyewitness’s memory of the crime and his or her ability to identify the perpetrator of the crime.¹¹³)

C. EYEWITNESS CONFIDENCE (TABLE 1, STEP 1 C.): TO PREVENT INCREASING THE EYEWITNESS’S CONFIDENCE AND TO DETERMINE IF IT HAS BEEN ARTIFICIALLY INCREASED, THE INTERVIEWER SHOULD:

1. **Avoid disclosing to the eyewitness:** (a) that another eyewitness has identified the same suspect; (b) what another eyewitness said about the crime or the perpetrator; or (c) that other evidence confirms the eyewitness’s testimony or identification. (All these factors increase eyewitness confidence.¹¹⁴)
2. **Determine whether the eyewitness had contact with other eyewitnesses, the media, or other law enforcement officers, and evaluate the nature of that contact to assess whether it has increased the eyewitness’s confidence (e.g., the eyewitness has been told that another eyewitness also identified the suspect).¹¹⁵**
3. **Avoid giving the eyewitness any type of confirming feedback (e.g., “Good, you have identified the suspect.”) or exposing the eyewitness to unnecessary, repeated questioning.** (These factors can significantly increase eyewitness confidence.¹¹⁶)
4. **Take a statement of the eyewitness’s confidence in the accuracy of his or her identification of the suspect as the perpetrator of the crime immediately after the identification procedure and prior to the eyewitness receiving any feedback about his or her identification.¹¹⁷** (Eyewitness confidence can easily be increased. Therefore, it is essential to take a statement of the eyewitness’s confidence immediately after the identification and prior to any feedback.¹¹⁸)

GUIDELINES FOR ANALYZING THE ACCURACY OF IDENTIFICATION PROCEDURES (TABLE 1, STEP 2):

The following 11 scientific guidelines can be used to objectively evaluate whether a lineup or photo array was fair and unbiased.¹¹⁹ For scientific guidelines for mug books, composite images, and show-ups, see the Guide and Trainer’s Manual.¹²⁰

1. **Whenever possible, law enforcement should use a photo array or lineup only when there is probable cause to believe the suspect committed the crime.¹²¹**

Erroneous eyewitness identifications occur when the suspect in the photo array or lineup is not the perpetrator. By generally requiring probable cause before placing a suspect in a line, the number of perpetrator-absent lineups will be significantly reduced.

2. **Before conducting an identification procedure, determine whether the eyewitness has previously seen the suspect.¹²²**

When an eyewitness has previously seen the suspect, such as in a mug book, there is significantly greater probability that the eyewitness will identify the suspect in a photo array or lineup even when the suspect is not the perpetrator.

3. **Only one suspect should be included in every identification procedure.¹²³**

Including more than one suspect in an identification procedure significantly increases the probability of an erroneous eyewitness identification because it reduces the number of fillers and increases the probability that a suspect will be selected.

4. **The number of lineup participants should be increased.¹²⁴**

The typical photo array or lineup contains only five or six participants. Studies show that even if such identification procedures are fair and unbiased they still pose a substantial risk of an erroneous identification.¹²⁵ Increasing the number of participants in photo arrays and lineups to twelve reduces erroneous identifications by 50% without a significant decrease in accurate identifications.¹²⁶

5. **The suspect should not stand out from the foils.¹²⁷**

To prevent this from occurring, several procedures are necessary. First, the foils should generally match the eyewitness’s description of the perpetrator of the crime.¹²⁸ Second,

112. TRAINER’S MANUAL, *supra* note 44, at 11; Wise et al., *supra* note 2, at 481.

113. TRAINER’S MANUAL, *supra* note 44, at 19; Wise et al., *supra* note 2, at 481-82.

114. Helen M. Patterson & Richard I. Kemp, *Comparing Methods of Encountering Post-Event Information: The Power of Co-witness Suggestion*, 20 APPLIED COGNITIVE PSYCHOL. 1083, 1098 (2006).

115. TRAINER’S MANUAL, *supra* note 44, at 12; Wise et al., *supra*, note 2, at 482.

116. Andrew I. Taslitz, *Convicting the Guilty, the ABA Takes a Stand*, 19 CRIM. JUST. 18, 23 (2005); Wise et al., *supra* note 2, at 482-83.

117. Wells et al., *supra* note 4, at 635; Wise et al., *supra* note 2, at 483.

118. Michael R. Leippe & Donna Eisenstadt, *Eyewitness Confidence and the Confidence-Accuracy Relationship in Memory for People*, in 2 HANDBOOK OF EYEWITNESS PSYCHOLOGY, MEMORY FOR PEOPLE 377, 417 (Rod C. L. Lindsay et al. eds., 2007); Wells et al., *supra* note

28, at 586.

119. See Wise et al., *supra* note 2, at 484-497 (for a more detailed explanation of these guidelines and more extensive and detailed references).

120. TRAINER’S MANUAL, *supra* note 44, at 25-27, 30-32.

121. Wise et al., *supra* note 32, at 856; Wise et al., *supra* note 2, at 485.

122. Wise et al., *supra* note 32, at 857; Wise et al., *supra* note 2, at 488.

123. TRAINER’S MANUAL, *supra* note 44, at 35; Wise et al., *supra* note 2, at 488.

124. Taslitz, *supra* note 116, at 21; Wise et al., *supra* note 2, at 489.

125. Wells et al., *supra* note 4, at 62; Wise et al., *supra* note 2, at 489.

126. *Id.* at 63; *Id.* at 489.

127. Wise et al., *supra* note 32, at 152; Wise et al., *supra* note 2, at 489-90.

128. TRAINER’S MANUAL, *supra* note 44, at 36; Wise et al., *supra* note 2, at 490.

the suspect's position in the lineup should be randomly determined to prevent a suspect's position in an identification procedure from becoming common knowledge.¹²⁹ Third, fillers should not be reused with the same eyewitness, because when this occurs the suspect stands out because he or she is the only person who did not appear in a previous identification procedure.¹³⁰ Finally, how the lineup is conducted should not draw attention to the suspect.¹³¹

6. Law enforcement should use sequential identification procedures.¹³²

Sequential lineups¹³³ reduced the number of erroneous eyewitness identification compared with simultaneous lineups.¹³⁴

7. The lineup administrator should not know the identity of the suspect.¹³⁵

If a lineup administrator knows the suspect's identity, he or she can intentionally or unintentionally cause the eyewitness to choose the suspect.¹³⁶ The eyewitness is generally unaware of the administrator's influence on his or her identification.¹³⁷

8. Eyewitnesses should be given cautionary instructions.¹³⁸

The lineup administrator should give the following cautionary instructions: (a) it is as important to clear innocent suspects as it is to identify guilt suspects;¹³⁹ (b) the perpetrator's appearance may have changed since the crime;¹⁴⁰ (c) the person who committed the crime may not be in the photo array or lineup;¹⁴¹ (d) the lineup administrator does not know the identity of the suspect;¹⁴² and (e) the investigation will continue regardless of whether the eyewitness makes an identification.¹⁴³

9. All identifications should be video recorded.¹⁴⁴

Videotaping ensures that judges, jurors, and attorneys have a complete and accurate record of how the identifications procedures were conducted.¹⁴⁵

10. An eyewitness should make a clear statement of his or her confidence at the time of the identification and prior to receiving any feedback.¹⁴⁶

As we have seen, confidence is malleable, and it is the most important factor that the trier of fact relies on in evaluating eyewitness accuracy. Consequently, a statement of confidence should be taken immediately after an identification procedure.

11. Once a mistake is made in an identification procedure it cannot be corrected.¹⁴⁷

Because of the nature of memory, the effects of a biased identification procedure usually cannot be corrected by later conducting a fair identification procedure.

COMMON EYEWITNESS FACTORS DURING THE CRIME THAT AFFECT EYEWITNESS ACCURACY (TABLE 1, STEP 3):

The following eyewitness factors are commonly present during crimes and affect eyewitness accuracy. This list is not comprehensive. Accordingly, it will be necessary for judges in some criminal cases to consult the eyewitness literature or to consult an eyewitness expert to determine how eyewitness factors during the crime likely affected eyewitness accuracy. The eyewitness factors are divided into three categories: Eyewitness characteristics, perpetrator characteristics, and crime characteristics.¹⁴⁸

A. EYEWITNESS CHARACTERISTICS

1. Child Eyewitnesses

Children provide reasonably accurate answers to open-ended questions, but they are much more susceptible to suggestion and social influences than adults.¹⁴⁹ Therefore, it is crucial to not use suggestive questions, provide post-event information, or in any other way influence the child's answers.¹⁵⁰ Children are about as accurate as adults at making identifications when the perpetrator is in the identification procedure but make more erroneous eyewitness identifications in perpetrator-absent lineups.¹⁵¹

129. *Id.*

130. *Id.*

131. CONSTANZO, *supra* note 23, at 185; Wise et al., *supra* note 2, at 491.

132. Wise et al., *supra* note 2, at 491-492.

133. In a sequential lineup, the participants are presented one at a time, they are shown only one time, and the eyewitness must determine if the current participant is the perpetrator prior to seeing the next participant. In a simultaneous lineup all the participants are shown to the eyewitness at the same time. *Id.* at 491.

134. TRAINER'S MANUAL, *supra* note 44, at 44; Wise et al., *supra* note 2 at 491-492.

135. Wise et al., *supra* note 2, at 493.

136. Wells et al., *supra* note 4, at 63; Wise et al., *supra* note 2, at 493.

137. Ryann M. Haw & Ronald P. Fisher, *Effects of Administrator-Witness Contact on Eyewitness Identification Accuracy*, 89 J. APPLIED PSYCHOL. 1106 (2004); Wise et al., *supra* note 2, at 493.

138. Wise et al., *supra* note 2, at 494.

139. TRAINER'S MANUAL, *supra* note 44, at 40; Wise et al., *supra* note 2, at 494.

140. *Id.*

141. *Id.*

142. Wells et al., *supra* note 4, at 630; Wise et al., *supra* note 2, at 494-95.

143. TRAINER'S MANUAL, *supra* note 44, at 39; Wise et al., *supra* note 2, at 495.

144. Saul M. Kassin, *Eyewitness Identification Procedures: The Fifth Rule*, 22 LAW & HUM. BEHAV. 649, 649 (1998); Taslitz, *supra* note 116, at 22; Wise et al., *supra* note 2, at 495.

145. Kassin, *supra* note 144, at 650; Wise et al., *supra* note 2, at 495-96.

146. Wise et al., *supra* note 2, at 496.

147. Wise et al., *supra* note 2, at 497.

148. See Wise et al., *supra* note 2, at 497-506 (for more detailed explanation of how these eyewitness factors affect accuracy, and for more extensive and detailed references).

149. *Id.* at 498.

150. COSTANZO, *supra* note 23, at 183; Wise et al., *supra* note 2, at 498.

151. *Id.*; Wise et al., *supra* note 2, at 499.

2. Elderly Eyewitnesses

Elderly eyewitnesses perform nearly as well as young adults in identifying a perpetrator from a lineup.¹⁵² In perpetrator-absent lineups, however, they make more mistaken identifications than young adults.¹⁵³ Elderly adults appear to recall fewer details about a crime than younger adults.¹⁵⁴

3. Law Enforcement Officers

Law enforcement officers are better than laypersons at recalling the details of a crime, but contrary to what most people expect, they are no better than lay persons at identifying the perpetrator of a crime.¹⁵⁵

4. Alcoholic Intoxication

Intoxicated eyewitnesses remember less about the crime and the perpetrator than sober eyewitnesses, though the information they recall tends to be almost as accurate as sober eyewitnesses.¹⁵⁶ Because they recall less about a crime, they are more likely to make an erroneous identification in a perpetrator-absent lineup than a sober eyewitness.¹⁵⁷

5. Minor Details

An eyewitness who attends to minor or peripheral details during a crime has less attention available to encode the perpetrator's face.¹⁵⁸ Consequently, an eyewitness's ability to recall such details about a crime is inversely related to eyewitness accuracy.¹⁵⁹

6. Unconscious Transference

An eyewitness sometimes identifies as the perpetrator a bystander to the crime or an individual they saw in a different context or situation.¹⁶⁰ This error occurs because the eyewitness makes a source-monitoring error. For example, the eyewitness believes the suspect is familiar because he or she is the

perpetrator when in fact his or her familiarity results from the eyewitness having previously seen a mug shot of the suspect.¹⁶¹

B. PERPETRATOR CHARACTERISTICS

1. Cross-Race Bias

Eyewitnesses make less accurate identifications of perpetrators of crimes when the perpetrators are of another race than when they are the same race as the eyewitness.¹⁶²

2. Disguises

Even a simple disguise such as a hat makes it much more difficult for an eyewitness to accurately identify the perpetrator.¹⁶³ A hat impairs accuracy because it conceals the perpetrator's hair and facial shape, which are important cues to recognizing a person.¹⁶⁴

3. Face Distinctiveness

Highly attractive or unattractive faces are easier to identify than non-distinctive faces.¹⁶⁵

4. Weapon Focus

A weapon impairs identification accuracy¹⁶⁶ because the eyewitness tends to focus on the weapon, which detracts the eyewitness's attention from the perpetrator's face.¹⁶⁷

C. CRIME CHARACTERISTICS

1. Exposure Time

The time an eyewitness has to observe a crime affects how much the eyewitness remembers about a crime.¹⁶⁸ The type or amount of attention paid to the crime, however, is generally more important than how much time an eyewitness had to view the crime.¹⁶⁹

152. James C. Bartlett & Amina Memon, *Eyewitness Memory in Young and Older Adults*, in 2 HANDBOOK OF EYEWITNESS PSYCHOL.: MEMORY FOR PEOPLE 309, 333 (Rod C. L. Lindsay et al. eds., 2007).

153. Kassir *supra* note 144, at 408, 412; Wise et al., *supra* note 2, at 499.

154. BARTOL & BARTOL, *supra* note 12, at 250-51; Wise et al., *supra* note 2, at 499.

155. Brigham et al., *supra* note 9, at 16; Wise et al., *supra* note 2, at 499-500.

156. John C. Yuille & Patricia A. Tollestrup, *Some Effects of Alcohol on Eyewitness Testimony*, 75 J. APPLIED PSYCHOL. 268, 271 (1990); Wise et al., *supra* note 2, at 500-01.

157. Jennifer E. Dysart et al., *The Intoxicated Witness: Effects of Alcohol on Identification Accuracy from Showups*, 87 J. APPLIED PSYCHOL. 170, 170 (2002); Wise et al., *supra* note 2, at 501.

158. Gary Wells & Michael R. Leippe, *How Do Triers of Fact Infer the Accuracy of Eyewitness Identifications? Using Memory for Peripheral Detail Can Be Misleading*, 66 J. APPLIED PSYCHOL. 682, 682 (1981); Wise et al., *supra* note 2, at 502.

159. *Id.*

160. COSTANZO, *supra* note 23, at 178; Wise et al., *supra* note 2, at 502.

161. Evan Brown et al., *Memory for Faces and the Circumstances of Encounter*, 62 J. APPLIED PSYCHOL. 311, 311-18 (1977); Wise et al., *supra* note 2, at 502.

162. Christian A. Meissner & John C. Brigham, *Thirty Years of Investigating the Own-Race Bias in Memory for Faces: A Metanalytic Review*, 7 PSYCHOL. PUB. POLY & L. 3-35 (2001); Wise et al., *supra* note 2, at 502.

163. K. E. Patterson & A. D. Baddeley, *When Face Recognition Fails*, 3 J. EXPERIMENTAL PSYCHOL.: HUM. LEARNING & MEMORY 406, 416; Wise et al., *supra* note 2, at 503.

164. Brian L. Cutler et al., *Improving the Reliability of Eyewitness Identification: Putting Context into Context*, 72 J. APPLIED PSYCHOL., 629-37 (1987); Wise et al., *supra* note 2, at 503.

165. Gary L. Wells & Elizabeth A. Olson, *Eyewitness Testimony*, 54 ANN. REV. OF PSYCHOL. 277, 281 (2003); Wise et al., *supra* note 2, at 503.

166. See Elizabeth Loftus et al., *Some Facts about "Weapon Focus"*, 11 LAW & HUM. BEHAV. 55, 55 (1987).

167. COSTANZO, *supra* note 23, at 178; Wise et al., *supra* note 2, 503-04.

168. Deanna D. Caputo & David Dunning, *Distinguishing Accurate Eyewitness Identification from Erroneous Ones: Post-Dictive Indicators of Eyewitness Accuracy*, in 2 HANDBOOK OF EYEWITNESS PSYCHOLOGY: MEMORY FOR PEOPLE 427, 428-29 (Rod C. L. Lindsay et al. eds., 2007).

169. Caputo & Dunning, *supra* note 168, at 429; Wise et al., *supra* note 2, at 504.

2. Forgetting Curve and Retention Interval

Memory loss is most rapid immediately after the crime.¹⁷⁰ Consequently, eyewitness interviews and identification procedures should be conducted as soon as possible.

3. Lighting

Poor lighting impairs an eyewitness's ability to make an accurate identification.¹⁷¹

4. Stress

Different levels of stress have diverse effects on memory. Mild stress may improve it. As stress increases, tunnel memory may occur,¹⁷² which causes information central to the crime to be vividly remembered while peripheral information is poorly recalled.¹⁷³ Very high levels of stress can cause a major deterioration in memory because they activate the eyewitness's fight-or-flight mechanism, which causes the eyewitness to focus on his or her survival rather than the crime.¹⁷⁴

HOW JUDGES CAN USE THE METHOD

Besides using this Method to assess eyewitness accuracy, judges can use it for a variety of other purposes. For example, judges can use it when ruling on a motion to suppress an eyewitness's identification. The Method can help assess if there was a substantial bias (i.e., suggestiveness) in either the eyewitness interviews or identification procedures that likely affected identification accuracy. Accordingly, if the Method indicates substantial bias occurred and affected identification accuracy, the motion to suppress should be granted unless the eyewitness conditions were exceptionally good; reliable, valid evidence corroborated the eyewitness identification; or exigent circumstances justified the use of a biased identification procedure.

Furthermore, once a biased identification has been conducted, the bias cannot be corrected by later conducting a fair identification procedure. Accordingly, if a biased identification procedure was conducted, any subsequent identification of the defendant, including in-court identification, should also be inadmissible. In sum, judges can use the Method to systematically and comprehensively determine what eyewitness factors likely affected the accuracy of the eyewitness's identification and thus make a more informed decision about whether to grant a motion to suppress.

Judges can also use the Method to decide whether to admit eyewitness-expert testimony in a criminal case. If the Method indicates there was significant bias in how the eyewitness interview or identification procedures were conducted or if the eyewitness conditions were poor, a judge should admit eyewitness-expert testimony, especially if the eyewitness testimony is the sole or primary evidence of the defendant's guilt. Thus the Method, by identifying the relevant eyewitness factors in a criminal case and how they likely affect eyewitness accuracy, can help judges determine whether to admit eyewitness-expert

testimony in criminal cases.

The Method can also facilitate the drafting of better eyewitness jury instructions by ensuring they include all the relevant eyewitness factors a jury needs to assess eyewitness accuracy in a case. Moreover, by incorporating the Method itself into jury instructions, judges may not only improve jurors' assessments of eyewitness accuracy, but they may also reduce the need for eyewitness expert testimony in criminal cases. In addition, the Method, when used with expert testimony, may increase its efficacy.

CONCLUSIONS

Eyewitness researchers are constantly discovering new causes and remedies for eyewitness error. Consequently, the guidelines in the Method will undoubtedly have to be updated in the future to reflect new discoveries about eyewitness testimony. We are currently empirically testing the Method, which may lead to refinements and improvements in its procedures. Nonetheless, we believe the Method in its current form provides judges with a powerful tool for deciding eyewitness issues in criminal cases.

The Method indicates there needs to be a paradigm shift in how the criminal justice system views and handles eyewitness testimony. For example, as previously stated, eyewitness evidence needs to be considered a type of trace evidence. Accordingly, unless exigent circumstances existed or an exception applies, eyewitness testimony should be presumed inaccurate if there was significant bias in how the eyewitness interviews or identification procedures were conducted and it likely affected both the eyewitness's memory of the crime and the identification. This presumption is necessary because only by conducting fair and unbiased eyewitness interviews and identification procedures can the criminal justice system significantly reduce eyewitness error.

Furthermore, though there can be some disagreement about exactly what procedures are necessary, judges should consider the NIJ's Guide and Training Manual as establishing the minimum procedures necessary for fair and unbiased interviews and identification procedures. A blue-ribbon panel of 34 law enforcement officers, prosecutors, eyewitness researchers, and defense attorneys wrote the Guide and Trainer's Manual. Moreover, only when there was a consensus that a procedure was necessary for fair and unbiased interviews or identification procedures was it incorporated into the Guide and Trainer's Manual.

Criminal cases where eyewitness testimony is the sole or primary evidence of the defendant's guilt pose the greatest danger that erroneous eyewitness testimony will result in a wrongful conviction. Accordingly, the State should minimize the number of cases it brings where eyewitness evidence is the sole or primary evidence of the defendant's guilt. Moreover, when the State brings such a case, judges need to be especially care-

170. *Id.* at 432; *Id.* at 505.

171. Wells & Olson, *supra* note 165, at 282; Wise et al., *supra* note 2, at 505.

172. Martin A. Safer et al., *Tunnel Memory for Traumatic Events*, 12 *APPLIED COGNITIVE PSYCHOL.* 99, 99-100 (1998); Caputo &

Dunning, *supra* note 168.

173. *Id.*

174. Kenneth A. Deffenbacher et al., *A Meta-Analytic Review of the Effects of High Stress on Eyewitness Memory*, 28 *LAW & HUM. BEHAV.* 687, 687 (2004); Wise et al., *supra* note 2, 505-06.

ful that the eyewitness interviews and identification procedures in the case were fair and unbiased and that the eyewitness conditions during the crime were good. Finally, judges need to be more cognizant of instances where an eyewitness has identified a foil or did not identify the defendant as the perpetrator of the crime. These misidentifications and non-identifications often provide valuable evidence that should be considered when evaluating the defendant's guilt.

The greatest miscarriage of justice that any legal system can make is to convict an innocent person of a crime. Wrongful convictions also undermine the public's faith in the criminal justice system, especially when the system fails to institute safeguards that could significantly reduce wrongful convictions. By using the Method for analyzing the accuracy of eyewitness testimony discussed in this article, judges can significantly reduce the number of wrongful convictions from eyewitness error.



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APPENDIX: FORM FOR EVALUATING THE ACCURACY OF EYEWITNESS TESTIMONY

I. EYEWITNESS INTERVIEW (EVALUATE SEPARATELY EACH INTERVIEW OF AN EYEWITNESS.)

A. Factors That Indicate the Interview Was Complete, Fair, and Did Not Increase Eyewitness Confidence:

1. List Factors that Indicate the Interview Obtained the Maximum Amount of Information from the Eyewitness:
2. List Factors that Indicate the Interview Was Fair and Did Not Contaminate the Eyewitness's Memory of the Crime:
3. List Factors that Indicate the Interview Did Not Increase the Eyewitness's Confidence:

B. Factors that Indicated the Interview Was Incomplete, Biased, and Increased the Eyewitness's Confidence:

1. List Factors that Indicate the Interview Did Not Obtain the Maximum Amount of Information from the Eyewitness:
2. List Factors that Indicate the Interview Was Biased and Contaminated the Eyewitness's Memory of the Crime:
3. List Factors that Indicate the Interview Increased the Eyewitness's Confidence:

II. IDENTIFICATION PROCEDURES (CONDUCT A SEPARATE ANALYSIS FOR EACH IDENTIFICATION PROCEDURE)

A. List Factors that Indicate the Identification Procedure Was Fair and Impartial:

B. List Factors that Indicate the Identification Procedure Was Biased :

If the interviews and identification procedures were substantially fair and unbiased or an exception applies (e.g., the eyewitness knew the perpetrator prior to the crime or had prolonged, repeated exposure to the perpetrator or there is

reliable, valid corroborating evidence of the accuracy of the eyewitness testimony) go on to Part III. If an interview or identification procedures were significantly unfair and biased and no exception applies, the eyewitness testimony or any subsequent identification of the defendant by the eyewitness has no probative value and should not be considered in the determination of the defendant's guilt.

III. EYEWITNESS FACTORS DURING THE CRIME THAT LIKELY AFFECTED IDENTIFICATION ACCURACY

A. List Eyewitness Factors During the Crime that Likely Increased Eyewitness Accuracy:

B. List Eyewitness Factors During the Crime that Likely Decreased Eyewitness Accuracy:

IV. CONCLUSIONS

A. Was the maximum amount of information obtained from the eyewitness during the interviews?

1. yes 2. no

B. Was a statement of the eyewitness's confidence in the accuracy of the identification obtained prior to any feedback?

1. yes 2. no

C. Is there a high, medium, or low probability that the eyewitness testimony was accurate?

1. high 2. medium 3. low

D. Is there a high, medium, or low probability that the eyewitness identification was accurate?

1. high 2. medium 3. low

Memory Conformity Between Eyewitnesses

Fiona Gabbert, Daniel B. Wright, Amina Memon, Elin M. Skagerberg, & Kat Jamieson

More than a century of psychology research has shown that memory is fallible. People's memory can be influenced by information encountered after an incident has been witnessed—so-called postevent information, or PEI.¹ In everyday life, one of the most common ways to encounter PEI is when individuals who have shared the same experience discuss this with one another. In the case of witnessing a crime, individuals might be particularly motivated to discuss what happened, and who was involved, because of the significance of the event. The PEI encountered during this discussion with a co-witness might be largely consistent with one's own memories of the event. However, some details may differ either because one witness has remembered something differently, has paid attention to different details, or has simply made an honest mistake in his or her own account. A common finding within eyewitness-memory literature is that exposure to PEI that is inconsistent with a person's own memory can affect the ability to subsequently report details of the originally encoded event.²

The following two examples show how the memory report of one witness may influence that of another witness during a discussion. Witness evidence in the Oklahoma bombing incident of 1995 came from employees working at Elliot's Body Shop where the perpetrator, Timothy McVeigh, rented the truck used in the bombing. McVeigh was arrested for the mass murder but there was a question as to who, if anyone, was his accomplice when he rented the truck. One of the three employees working in the shop that day claimed, with some confidence, that McVeigh was accompanied by a second man. Initially, the other witnesses gave no description of this alleged accomplice. However, later they too claimed to remember details of a second person. This led to a costly police hunt for a person the FBI now believes does not exist. Several months later, the witness who had confidently indicated the presence of an accomplice acknowledged that he may have been recalling another customer. So, why did all three witnesses provide

a description of an accomplice when McVeigh had actually entered the shop alone? It is likely that the confident witness unintentionally influenced the others, leading them to report that they also recalled a second man.³ Indeed, the witnesses admitted in testimony that they had discussed their memories before being questioned by investigators.⁴

The more recent high-profile murder investigation of the Swedish foreign minister, Anna Lindh, in September 2003, provides a second example. Witnesses were all placed together in a small room to prevent them leaving the scene of the crime before being interviewed. The witnesses later admitted to discussing the event with one another while in the room.⁵ During these discussions, one witness mentioned to the others present that the perpetrator wore a camouflage-patterned military jacket. As a result, a number of these witnesses subsequently reported this clothing detail to the investigating officers. This description was used in an immediate search for the perpetrator in the surrounding area, and also featured in the release of a national police alert. This detail, however, was incorrect, resulting in wasted police time and resources. Footage from surveillance cameras showed that the killer, Mijailo Mijailovic, was in fact wearing a grey hooded sweatshirt. Given that witnesses were free to discuss the incident with each other at some length, it is reasonable to assume that co-witness influence was the main source of error in the immediate stages of this investigation.⁶

These examples highlight that when witnesses discuss their memories, their accounts of the witnessed event can become similar, and hence, seemingly corroborative. This phenomenon is referred to as "memory conformity."⁷ When memory conformity occurs in a formal investigation, whether criminal or civil, there can be serious and costly implications for any subsequent investigations. Of course, not all PEI shared between witnesses will be misleading. There is the potential for witnesses to share accurate PEI, which can have positive effects on memory.⁸ Furthermore, collaborative remembering

Footnotes

1. E.g., Fiona Gabbert et al., *Memory Conformity: Can Eyewitnesses Influence Each Other's Memories for an Event?*, 17 APPLIED COGNITIVE PSYCHOL. 533 (2003).
2. See Michael S. Ayers & Lynne M. Reder, *A Theoretical Review of the Misinformation Effect: Predictions from an Activation-Based Memory Model*, 5 PSYCHONOMIC BULL. & REV. 1-21 (1998); Jacqueline E. Pickrell et al., *The Misinformation Effect*, COGNITIVE ILLUSIONS: A HANDBOOK ON FALLACIES AND BIASES IN THINKING, JUDGMENT AND MEMORY 345 (Rütiger F. Pohl ed., 2004).
3. Amina Memon & Daniel B. Wright, *Eyewitness Testimony and the Oklahoma Bombing*, 12 THE PSYCHOLOGIST 292 (1999); D.L. SCHACTER, *THE SEVEN SINS OF MEMORY (HOW THE MIND FORGETS AND REMEMBERS)* (2001).
4. Memon & Wright, *supra* note 3.
5. Pär Anders Granhag, Karl Ask & Anna Rebellius, "I Saw the Man Who Killed Anna Lindh," A Case Study of Eyewitness Descriptions, 15TH EUROPEAN CONFERENCE ON PSYCHOLOGY & LAW, Vilnius, Lithuania (June 2005).
6. *Id.*
7. E.g., Daniel B. Wright et al., *Memory Conformity: Exploring Misinformation Effects When Presented by Another Person*, 91 BRIT. J. PSYCHOL. 189 (2000).
8. See Helen M. Paterson & Richard I. Kemp, *Comparing Methods of Encountering Post-Event Information: The Power of Co-Witness Suggestion*, 20 APPLIED COGNITIVE PSYCHOL. 1083 (2006).

can help people remember details that would otherwise have been forgotten. However, the notion that group members can “cross-cue” one another to produce new memories that would not have been generated if remembering alone is not supported by research,⁹ even when attempts are made to increase the opportunity for cross-cuing.¹⁰ In contrast, a large amount of research has shown that people are easily influenced by misleading PEI encountered from another person.¹¹

Criminal events are often witnessed by more than one person,¹² and discussion between witnesses is common.¹³ For example, an Australian survey of students who had witnessed a crime found that where multiple witnesses had been present, 86% of respondents admitted to discussing the event with a co-witness.¹⁴ More recently, a U.K. survey of eyewitnesses who were interviewed after viewing a lineup revealed that the majority had witnessed the crime with other people present, and more than half of these people had discussed the event with a co-witness.¹⁵ Although it is best practice for the police to encourage witnesses to the same event not to discuss their memories for fear of evidence contamination, it is likely that many witnesses do enter into discussions about the event both before the police arrive and afterward, even if police warned them not to do so. In such circumstances investigators and jurors may subsequently attach a false corroborative value to any consistencies between witness statements obtained or any evidence given in court thereafter, when the evidence may be contaminated if the witnesses had discussed their memories before being interviewed by the police.

EXPERIMENTAL RESEARCH ON MEMORY CONFORMITY

There are different approaches to studying memory.¹⁶ As cognitive psychologists our approach is to understand the processes that can lead to an individual reporting an event in a certain way, such as reporting what another person has said when asked to give an independent report. We try to isolate a small number of factors and then vary those factors systematically to see how they affect response. This study is well suited for the legal arena because the interest in this context is the reliability of individual eyewitnesses and the factors that can affect that reliability.

The basic memory-conformity procedure is to show a small

group of people (often just a pair) some set of stimuli or an event, have the people interact with each other, and then individually test each person about what he or she remembers. One critical decision memory-conformity researchers have to make is whether to have the PEI delivered from one participant to another, or to have a confederate (a person working for the researcher but pretending to be a participant) deliver the PEI. When participants are

presenting PEI to each other, it is common to show them slightly different materials so that disagreements are likely. Consider one study that used this approach:¹⁷ Two versions of a crime event were made, each containing the same sequence of events but filmed from different angles to simulate different witness vantage points. The different viewing angles allowed the participants to see two different critical features of the event. After viewing, participants had an opportunity to remember the event together, where the critical features were often discussed. An individual memory test followed and 71% of witnesses who had discussed the event reported at least one of the two erroneous critical details acquired from their co-witness.

Using a confederate has some advantages over other methods because well-trained confederates can impart the same PEI, in the same manner, to all participants during the course of a discussion. For example, Gabbert et al. used a confederate to examine whether participants are more suggestible when post-event misinformation is encountered socially via a face-to-face discussion rather than when it is encountered via non-social means.¹⁸ Participants viewed a simulated crime event and were later exposed to four items of misleading PEI about the event. This came within the context of a discussion with a confederate whom they believed to be a fellow participant, or within a written narrative allegedly written by a previous participant. The confederate was trained to disclose the same items of correct and misleading PEI that were present in the

“[A] large amount of research has shown that people are easily influenced by misleading [postevent] information encountered from another person.”

9. Peter R. Meudell et al., *Are Two Heads Better than One?: Experimental Investigations of the Social Facilitation of Memory*, 6 APPLIED COGNITIVE PSYCHOL. 525 (1992).
10. Peter R. Meudell et al., *Collaboration in Recall: Do Pairs of People Cross-Cue Each Other to Produce New Memories?*, 48A Q.J EXPERIMENTAL PSYCHOL. 141 (1995).
11. See Gabbert et al, *supra* note 1; Fiona Gabbert et al., *Say It to My Face: Examining the Effects of Socially Encountered Misinformation*, 9 LEGAL & CRIMINOLOGICAL PSYCHOL. 215 (2004); Fiona Gabbert et al., *Memory Conformity: Disentangling the Steps toward Influence During a Discussion*, 13 PSYCHONOMIC BULL. & REV. 480 (2006); Matthew B. Reysen, *The Effects of Conformity on Recognition Judgments*, 13 MEMORY & COGNITION 87 (2005); Dana M. Schneider & Michael J. Watkins, *Response Conformity in Recognition Testing*, 3 PSYCHONOMIC BULL. & REV. 481 (1996); Wright et al., *supra* note 7.

12. See Tim Valentine et al., *Characteristics of Eyewitness Identification that Predict the Outcome of Real Lineups*, 17 APPLIED COGNITIVE PSYCHOL. 969 (2003); Daniel B. Wright & Anne T. McDaid, *Comparing System and Estimator Variables Using Data from Real Line-Ups*, 10 APPLIED COGNITIVE PSYCHOL. 75 (1996).
13. See Paterson & Kemp, *supra* note 8; Daniel B. Wright et al., *Changing the Criterion for Memory Conformity in Free Recall and Recognition*, 16 MEMORY 137 (2008).
14. Paterson & Kemp, *supra* note 8.
15. Elin M. Skagerberg & Daniel B. Wright, *The Prevalence of Co-Witnesses and Co-Witness Discussions in Real Eyewitnesses*, 14 PSYCHOL. CRIME & L. 513 (2008).
16. See SUZANNE NALBANTIAN ET AL., THE MEMORY PROCESS (2010).
17. Gabbert et al, *supra* note 1.
18. Gabbert et al., *supra* note 11.

“Figure 1 shows a model of memory conformity with two routes for reporting what another person has said rather than reporting what one remembers.”

misleading narrative. In a final memory test about the crime event, participants who had encountered the misleading PEI socially were more likely to report this misinformation than those who had encountered the same misinformation while reading the narrative.

Irrespective of the methods utilized, the focus of memory-conformity research is on understanding why people report information that has merely been suggested to

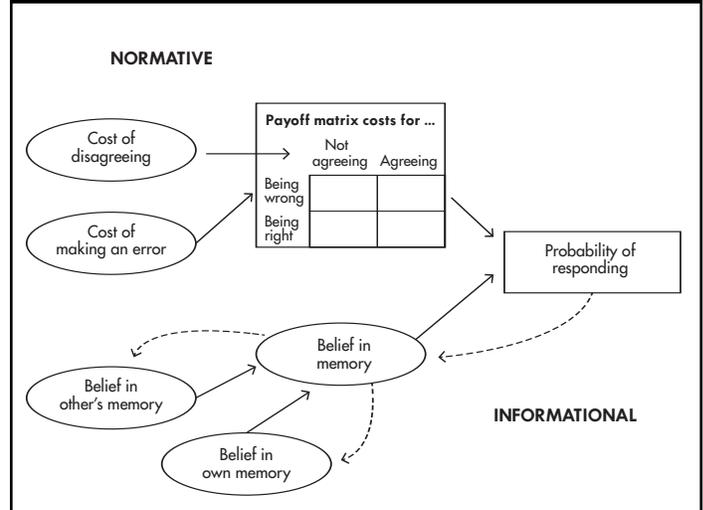
them, thus allowing for possible predictions to be made as to when these effects are most likely to occur. Furthermore, this area of research also provides a grounding for predicting whether certain people are particularly likely to conform to another witness’s memory rather than relying on their own.

Figure 1 shows a model of memory conformity with two routes for reporting what another person has said rather than reporting what one remembers.¹⁹ The top, normative route involves the person comparing the cost of disagreeing with the cost of making an error. People may agree with another person because of normative pressures to conform even when they believe the response is in error. Normative motivations to conform often reflect an individual’s need for social approval and manifest as public declarations of agreement despite private disagreement. Thus, people might outwardly agree with another person’s recollected version of events when privately they do not believe that is what actually happened.²⁰ Normative influence can be shown by people reporting the same thing as somebody else when the other person is present, but reverting to their own belief when questioned privately.²¹ Normative influences are strongest when the costs of disagreeing are high. Under these conditions, participants engaging in collaborative retrieval may appear to be in agreement with each other when in fact this behavior reveals little about social influences on memory and more about motivations and behaviors to increase social acceptance and to appear more likeable.²² For example, Baron, Vandello, and Brunzman conducted an eyewitness-identification study and found that participants knowingly gave an incorrect response so as not to disagree with a confederate when they were told the results were of little importance (that

their responses would be used as pilot data) but were less likely to conform when they were told the results were important (that their responses would be used by the police and courts).²³

FIGURE 1. A MODEL OF MEMORY CONFORMITY.

ADAPTED FROM DANIEL B. WRIGHT ET AL., *SOCIAL ANXIETY MODERATES MEMORY CONFORMITY IN ADOLESCENTS*, 24 *APPLIED COGNITIVE PSYCHOL.* 1034 (2010).



The bottom, or informational, route in Figure 1 involves the witness comparing how accurate they think they are with how accurate they think the co-witness is. The person must decide which source of information is more trustworthy. Informational motivations to conform are reflected in a person’s decision to accept and later report PEI encountered from a co-witness if it is believed to be correct. This is particularly likely in situations where an individual doubts the accuracy of his or her own memory or when the information encountered from another individual convinces them that his or her initial judgment might be wrong, thus supporting Festinger’s²⁴ assertion that the need to feel certainty or confidence in one’s beliefs drives much social influence.²⁵

Several research laboratories have investigated how normative and informational influences affect the ways in which people respond to memory probes. Most of the research is done by altering one of the factors shown in the ellipses on the left of Figure 1 (e.g., the cost of making an error). Altering each of these produces systematic effects on how people respond. Below we review some of these studies.

19. Daniel B. Wright et al., *Social Anxiety Moderates Memory Conformity in Adolescents*, 24 *APPLIED COGNITIVE PSYCHOL.* 1034 (2010).

20. See Robert B. Cialdini & Noah J. Goldstein, *Social Influence: Compliance and Conformity*, 55 *ANN. REV. PSYCHOL.* 591 (2004); Morton Deutsch & Harold G. Gerard, *A Study of Normative and Informational Social Influence upon Individual Judgement*, 59 *J. ABNORMAL SOC. PSYCHOL.* 204 (1955).

21. See Kevin Allan & Fiona Gabbert, *I Still Think It Was a Banana: Memorable “Lies” and Forgettable “Truths,”* 127 *ACTA PSYCHOLOGICA* 299 (2008); Schneider & Watkins, *supra* note 11; John S. Shaw et al., *Co-Witness Information Can Have Immediate Effects on Eyewitness Memory Reports*, 21 *LAW & HUM. BEHAV.* 503 (1997).

22. See Henri Tajfel & John C. Turner, *The Social Identity Theory of Inter-Group Behaviour*, in *PSYCHOLOGY OF INTER-GROUP RELATIONS* 7 (Stephen Worchel & William G. Austin eds., 2d ed., 1986).

23. Robert S. Baron, Joseph A. Vandello, & Bethany Brunzman, *The Forgotten Variable in Conformity Research: Impact of Task Importance on Social Influence*, 71 *J. PERSONALITY & SOC. PSYCHOL.* 915 (1996).

24. Leon Festinger, *A Theory of Social Comparison Processes*, 7 *HUM. REL.* 117 (1954).

25. See Curtis D. Hardin & E. Tory Higgins, *Shared Reality: How Social Verification Makes the Subjective Objective*, in *HANDBOOK OF MOTIVATION AND COGNITION: THE INTERPERSONAL CONTEXT* 28 (E. Tory Higgins & Richard M. Sorrentino eds., vol. 3, 1996).

Acquaintance versus Stranger Studies

When a crime occurs there are often multiple witnesses. Sometimes these witnesses are acquaintances, and sometimes they are strangers. An important applied question is whether the relationship between co-witnesses affects how susceptible they are to each other's influence. We expect that there is a larger cost of disagreeing when one knows the other person. It may also be that people think their acquaintances have better memories than strangers. Thus, from Figure 1 we predict that acquaintances should be more susceptible to memory-conformity effects than strangers, and two studies offer support in respect of these predictions. Hope, Ost, Gabbert, Healey, and Lenton found that previously acquainted witnesses, in this case pairs of friends and romantic partners, were more likely to report information obtained from their co-witness than were previously unacquainted strangers.²⁶ French, Garry, and Mori also found previously acquainted participants (romantic partners) showed an increased susceptibility to memory conformity than strangers.²⁷

Thus, the more prepared we are to accept another person's judgments and value his or her opinion, the more we become subject to his or her influence.²⁸ From an applied perspective the difference between acquaintances and strangers is likely to be even larger because acquaintances are more likely to engage in conversations in the days after viewing a crime. Thus, it is important for the police to get independent testimony from acquaintances as soon as possible after the event. In court it is important that the types of relationships held among different witnesses are considered.

Beliefs in Own and Other Person's Memory

Figure 1 shows that a person's final belief about a memory can be reached by comparing the belief he or she has in his or her own memory with the belief he or she has in another person's memory. How this combination occurs is complex, but the basic findings are that stronger beliefs in one's own memory inoculate a person from memory-conformity effects, and stronger beliefs in another person's memory can increase the influence of that person's memory report. Supporting this, research has found that the overt confidence with which individuals make their assertions to each other can operate systematically as a cue that promotes conformity.²⁹ This explains why the confident memory of an accomplice in the Oklahoma bombing case quickly spread to the reports given by the co-workers. For example, Wright et al. investigated memory conformity between co-witnesses by showing pairs of participants a storybook containing 21 color pictures depicting a crime taking place.³⁰ The storybooks were identical, except in one the

culprit had an accomplice and in one there was no accomplice. Participants were then asked true/false recognition questions about what they had seen and rated their confidence after each question. Following this they discussed their memories about the sequence of events, including whether there was an accomplice, and then answered the same questions. While the people within each pair initially disagreed about there being an accomplice, after discussing the event most of the pairs were in agreement. The person in the pair who was initially more confident tended to persuade the other person in the pair. More recently Allan and Gabbert systematically manipulated the confidence with which accurate and misleading PEI was delivered to participants.³¹ They found further support that a person's confidence in what he or she has to say can alter the immediate persuasiveness of its content, and that people make use of their perceptions of confidence as a cue when determining who is most likely to be correct.³²

Tendencies to conform can also be affected by manipulating the perceptions of each individual regarding the relative knowledge each has of stimuli they encoded together. Gabbert, Memon, and Wright showed pairs of people a series of complex drawings, which they believed were exactly the same, but in fact had some slight differences.³³ The pair was told that one of them had viewed slides for twice the length of time as the other, though actual encoding duration was the same. Participants who believed they had seen the slides for less time than their partner were more likely to conform to their partner's memory for items than those who thought they had viewed the slides longer. Thus, individuals who believe they have an inferior memory quality to others are more likely to become influenced by, and subsequently report, items of errant PEI encountered from another person.

An important application of this is that the roles witnesses have will often differ, and sometimes these roles will determine how influential a witness is when remembering an event together with co-witnesses. For example, there are differences between a bystander or observer and a witness who interacts with a criminal. Carlucci, Kieckhafer, Schwartz, Villalba, and Wright showed bystanders can be more susceptible to memory-conformity effects than people who interact with a target person.³⁴ They had a male confederate approach a group of people on a crowded beach in South Florida and ask one of the people for the time. The confederate walked out of view, and a

“[W]e predict that acquaintances should be more susceptible to memory-conformity effects than strangers....”

26. Lorraine Hope et al., “With a Little Help from My Friends...”: The Role of Co-Witness Relationship in Susceptibility to Misinformation, 127 ACTA PSYCHOLOGICA 476 (2008).

27. Lauren French et al., *The MORI Techniques Produces Memory Conformity in Western Subjects*, 22 APPLIED COGNITIVE PSYCHOL. 431 (2007).

28. See LEON FESTINGER, A THEORY OF COGNITIVE DISSONANCE (1957).

29. Allan & Gabbert, *supra* note 21; Schneider & Watkins, *supra* note 11; Wright et al., *supra* note 7.

30. Wright et al., *supra* note 7.

31. Allan & Gabbert, *supra* note 21.

32. See Schneider & Watkins, *supra* note 11.

33. Fiona Gabbert et al., *I Saw It for Longer Than You: The Relationship Between Encoding Duration and Memory Conformity*, 124 ACTA PSYCHOLOGICA 319 (2007).

34. Marianna Carlucci et al., *The South Beach Study: Bystanders' Memories are More Malleable*, 25 APPLIED COGNITIVE PSYCHOL. 562 (2011).

“[B]elieving something is correct... can facilitate the creation of a false memory.”

research assistant approached either the person who interacted with the confederate or another person in the group. The research assistant showed the person a six-person target-absent lineup. After that person had made an identification, the research assistant turned to another person and asked that

she or he also make an identification. When responding second, the bystander was more than twice as likely to conform than the person who had previously interacted with the confederate. From a theoretical perspective, this suggests that people believe bystanders have worse memories than those directly involved with an interaction. From an applied perspective, it is important for investigators to consider the role of all the witnesses and to take this into account when it is suspected that the witnesses may have discussed the crime.

Source Credibility

Further support for informational influence underlying some of the observed memory-conformity effects comes from research showing that the size of the memory-conformity effect is moderated by person-perception factors, such as perceived source credibility. For example, Kwong See, Hoffman, and Wood showed participants (young adults) a slide show depicting a theft and then presented them with a narrative summarizing the incident.³⁵ To manipulate source credibility, this narrative was either introduced as being an account of the event as remembered by a 28-year-old or an 82-year-old. In fact, the narratives were the same, each including four items of misleading PEI. Because the young adult participants trusted young people's memories more than the memories of older adults, from Figure 1 we would predict that participants would be more influenced by the young-adult reports. This is what the researchers found. Participants were more likely to coalesce with the younger adult's memories than with those of the older adult. Skagerberg and Wright found similar results.³⁶ Participants were more influenced if the co-witness was a fellow student or a police officer than if the co-witness was a child. These results have applied significance. Some groups of people will be more influential than others. If a police officer at the scene of a crime confidently states that “a red car passed through the stop sign,” this will have a larger impact on co-wit-

nesses than if a young child gave the same statement.

In summary, memory-conformity effects are often driven by informational influences. People conform to another person's version of events when that person is perceived as more knowledgeable, more confident, and/or more credible. Because of this, conformity effects driven by informational influence may persist over a delay,³⁷ and people may report the suggested information in private as well as public.³⁸ Even in situations where it is vital to provide an accurate and unbiased opinion, research suggests that individuals who are uncertain are likely to conform to another person's decision or memories.³⁹

Source Misattributions

Another explanation for the memory-conformity effect is that people have made a source misattribution where a memory from one source (e.g., a discussion with a co-witness) is mistakenly misattributed to another source (e.g., the witnessed event), and thus reported as if it is a personal memory. In other words, it is possible for people to construct a (false) memory based on what the other person has said. This is not illustrated in Figure 1 because we believe the processes and time-course are different to that of normative or informational routes to memory conformity. However, believing something is correct (the informational route) can facilitate the creation of a false memory.⁴⁰

The source-monitoring framework describes the judgment processes that individuals employ to accurately identify the source of a memory, as well as specifying factors that are likely to promote source-monitoring errors.⁴¹ For example, according to the source-monitoring framework, our memories contain various characteristics that provide clues as to their origin. Memories from different sources tend to differ on average in the quantity and quality of the characteristics associated with them. Individuals use these differences in memory characteristics as heuristics to attribute their memories to a particular source. However, there is no single aspect of our memories that specifies the true source without fail, and, as a consequence, source misattributions can occur.⁴²

Research and theory on the accuracy of source monitoring has shown that source-confusion errors increase when there is an overlap in the memory characteristics from two different sources.⁴³ This finding is particularly relevant, as there is a large amount of contextual overlap between the encoding phase and the misinformation phase within memory-conformity experiments. Both phases of the experiment concern the

35. Sheree T. Kwong See et al., *Perceptions of an Elderly Eyewitness: Is the Older Eyewitness Believable?*, 16 *PSYCHOL. & AGING* 346 (2001).

36. Elin M. Skagerberg & Daniel B. Wright, *Susceptibility to Post Identification Feedback Is Affected by Source Credibility*, 23 *APPLIED COGNITIVE PSYCHOL.* 506 (2009).

37. See Allan & Gabbert, *supra* note 21; Helen M. Paterson et al., *Co-Witnesses, Confederates, and Conformity: Effects of Discussion and Delay on Eyewitness Memory*, 16, *PSYCHIATRY, PSYCHOL. & L.* 112 (2009); Reysen, *supra* note 11.

38. See Wright et al., *supra* note 13.

39. See Baron et al., *supra* note 23; Andrew L. Betz et al., *Shared Realities: Social Influence and Stimulus Memory*, 14 *SOC. COGNITION*

113 (1996); Wright et al., *supra* note 7.

40. See Alan Scoboria et al., *Plausibility and Belief in Autobiographical Memory*, 18 *APPLIED COGNITIVE PSYCHOL.* 791 (2004).

41. See M.K. Johnson et al., *Source Monitoring*, 114 *PSYCHOL. BULL.* 3 (1993).

42. *Id.*

43. Linda A. Henkel & Nancy Franklin, *Reality Monitoring of Physically Similar and Conceptually Related Objects*, 26 *MEMORY & COGNITION* 659 (1998); Roslyn Markham & Lisa Hynes, *The Effect of Vividness of Imagery on Reality Monitoring*, 17 *J. MENTAL IMAGERY* 159 (1993).

witnessed stimuli and thus overlap in terms of content. Furthermore, both phases (usually) take place within a limited time frame and in the same experimental environment. In real life, a similar amount of contextual overlap might be expected. Co-witnesses are likely to talk about what they have just seen (content overlap); they are likely to do this immediately after the crime event (temporal overlap); and it is likely that this discussion occurs at the scene, while waiting for the police to arrive, rather than at a different location (environmental overlap). The consequences of source-monitoring errors can be very serious in a criminal investigation, as they have the potential to lead to inaccurate testimony, biased evidence, and false corroboration between witnesses.

Gabbert et al. examined the extent to which source confusions are accountable for the memory-conformity effect.⁴⁴ Over the course of the experiment, participants engaged in a series of discussions with a co-witness about details featured in slides. Each member of the pair had in fact viewed slightly different versions of the slides—a manipulation that introduced the potential for them to share items of misleading PEI. Following each discussion, they were asked to provide an individual account of what had been seen. At the end of the experiment a source-monitoring task was administered where participants were asked to review their free-recall responses and to (a) circle the details that they remembered hearing from their co-witness but not actually seeing themselves; (b) leave unmarked the details that they did remember seeing in the pictures; and (c) underline the details for which they could not remember the source. About half of the errantly reported details were correctly categorized as having been encountered in the co-witness discussions; however, about half were incorrectly attributed to having been seen in the original slide presentation.

Similar findings were reported in a study by Paterson et al.⁴⁵ Participants discussed their recollections of a mock crime event with a co-witness who had seen a slightly different version. One week later they were interviewed separately about what they could remember. Following the interview, participants were asked to read through their statements and indicate the source of each item of information reported by attributing it to one of four sources: video only, discussion only, both the video and discussion, or unsure. If participants reported suggested items at test and correctly attributed these to having originated from the co-witness discussion, then the source-monitoring decision was coded as being accurate. However, if suggested items of information that had been reported at test were attributed to (a) the video or (b) the video and discussion, then the source-monitoring decision was coded as being inaccurate. Participants frequently reported that they had seen items of PEI that had in fact only been suggested to them in the co-witness discussion. Accurate source-monitoring judgments were made on only 43% of occasions.

WHAT CAN BE DONE TO PROTECT AGAINST MEMORY CONFORMITY?

Paterson et al. examined whether a warning to disregard PEI encountered from a co-witness was effective in reducing memory conformity.⁴⁶ Participants viewed a mock crime event that was either the same or slightly different to the event viewed by their partner. Following this, they discussed their memories together. One week later, half of the participants from each condition were given a warning that they may have been exposed to misleading PEI from the co-witness with whom they had discussed the event. Participants were then individually interviewed about what they had seen in the event. Paterson et al. found that 28% of participants who received a warning reported at least one piece of misinformation in comparison to 32% of those who did not receive a warning.⁴⁷ Thus, warning participants about misinformation one week after exposure did not appear to substantially reduce the memory-conformity effect.

It is known that people forget the source of the information faster than the information itself, so perhaps the warning in Paterson et al.'s study was given too late for the participants to effectively monitor the source of information relating to a crime event and to disregard items of PEI encountered from the co-witness. To investigate this, the researchers ran a second study to explore whether warning participants about potential exposure to misinformation immediately after the co-witness discussion was more effective than giving the warning after a week. A control group received no warning. Once again, researchers found that warning participants that they may have been exposed to misleading PEI from their co-witness did not significantly reduce their susceptibility to memory conformity.

Bodner, Musch, and Azad had more success with warning participants to disregard PEI from a co-witness.⁴⁸ Their warning explicitly asked participants not to report details that they acquired from their secondary source unless they also remembered seeing the details. The warning was given to participants in the same test session as viewing and discussing an event. In contrast to Paterson et al.'s findings,⁴⁹ Bodner et al. found that the warning was effective and sharply reduced the rate of reporting non-witnessed details. However, even with such minimal delay between the co-witness discussion and the instruction to disregard non-remembered items of PEI, the warnings did not eliminate the memory-conformity effect. Meade and Roediger have also found that warnings can reduce, but not eliminate, the memory-conformity effect.⁵⁰

In sum, research shows that post-warnings to disregard PEI are not always successful because people often do not remem-

“It is known that people forget the source of the information faster than the information itself...”

44. Gabbert et al., *supra* note 33.

45. Paterson et al., *supra* note 37.

46. *Id.*

47. *Id.*

48. Glen E. Bodner et al., *Re-Evaluating the Potency of the Memory*

Conformity Effect, 37 *MEMORY & COGNITION* 1069 (2009).

49. Paterson et al., *supra* note 37.

50. Michelle L. Meade & Henry L. Roediger, *Exploration in the Social Contagion of Memory*, 30 *MEMORY & COGNITION* 995 (2002).

“[Research] has shown that memories are malleable and that individuals are vulnerable to conforming to other people’s memory reports.”

ber where they heard information. This is particularly true long after the discussion with co-witnesses. Police investigators and others in the criminal justice system should ask witnesses if they spoke with co-witnesses about the crime.⁵¹ The problem with this is that people may have forgotten if they had engaged in discussions with others, and it is very likely they will have poor memories for what was discussed.

Warnings to disregard PEI will only work if individuals are able to remember the source of the information that they are able to recall. Thus, the differences found between studies that have and have not found warnings to be effective probably reflect differences in the strength of people’s memories caused by encoding quality, the delay between study and test, motivations to remember, etc. Where memory conformity has occurred as a result of a genuine memory distortion, namely, a source confusion, witnesses may be unable to accurately retrieve the source of the information and may claim to remember seeing items of information that have actually been encountered from a co-witness.⁵² That some research has found source judgments can be wrong, even with deliberate consideration, highlights the fact that being able to recall memories does not guarantee their authenticity.

Perhaps trying to *prevent* potentially contaminating interactions and recording memories before any interactions is a better approach than using post-event warnings. Police should separate witnesses as much as possible and encourage them not to discuss the crime. An alternative approach is to gather memories from as many witnesses as possible before contamination can occur (and also before memories have had much time to weaken).

A novel way to obtain information from witnesses quickly, and strengthen memory in the process, is to ask witnesses to complete the “Self-Administered Interview” as soon after a witnessed incident as possible.⁵³ The Self-Administered Interview, or SAI, is a recall tool, currently in booklet form, designed to obtain high-quality information from witnesses quickly and efficiently at the scene of an incident or shortly afterwards. It contains information about what is expected of the witness,

instructions to facilitate the use of retrieval techniques, and questions prompting the witness to disclose what happened during the event and who was involved. The SAI is a generic response tool in that it is suitable for obtaining evidence about a wide range of different incidents. It is currently in operational use by some police forces in the U.K.

During development and early testing of the SAI, mock witnesses, comprising a sample of community volunteers, viewed a simulated event and were required to report as much as they could about what they had seen.⁵⁴ Witnesses who completed the SAI tool reported 42% more correct details than participants who were simply asked to report what they had seen. In a second study, mock witnesses who completed the SAI recalled approximately 30% more correct details after one week than did witnesses who did not have an early recall opportunity. These results suggest that the SAI facilitates the retrieval and reporting of accurate information, as well as strengthening and protecting memory for a witnessed incident such that forgetting is minimized.

Recent research by Gabbert and colleagues examined the hypothesis that because the SAI seemingly works by strengthening the original episodic memory (the “Belief in own memory” from Figure 1), mock witnesses who complete an SAI shortly after viewing a simulated crime event will be better able to detect and resist items of misleading PEI encountered subsequently.⁵⁵ Findings were in line with predicted results.⁵⁶ Research by Geiselman, Fisher, Cohen, Holland, and Surtes, as well as Memon, Zaragoza, Clifford, and Kidd have also shown that participants are better able to be vigilant against discrepancies if their memory for a target event is strengthened.⁵⁷

SUMMARY

It is crucial to gain firsthand reports from witnesses during any investigation. However, the research presented here has shown that memories are malleable and that individuals are vulnerable to conforming to other people’s memory reports. People frequently report items at test that they have encountered during a discussion with a co-witness rather than perceived themselves. Real-life cases highlight the serious consequences of memory conformity occurring in the context of a forensic investigation. Research therefore continues to use and to refine methods that allow a controlled examination of the effects of naturalistic interactions on subsequent memory reports. Factors that increase, decrease, and possibly eliminate the longer-term effects of memory conformity are investigated.

51. BRITISH PSYCHOLOGICAL SOCIETY, GUIDELINES ON MEMORY AND THE LAW: RECOMMENDATIONS FROM THE SCIENTIFIC STUDY OF HUMAN MEMORY (2008).

52. See Gabbert et al., *supra* note 33; Paterson et al., *supra* note 37.

53. Fiona Gabbert et al., *Protecting Eyewitness Evidence: Examining the Efficacy of a Self-Administered Interview Tool*, 33 LAW & HUM. BEHAV. 298 (2009).

54. See Fiona Gabbert, Lorraine Hope, Ronald P. Fisher & Kat Jamieson, *Protecting Eyewitness Evidence at the Scene of a Crime: Can a Self-Administered Interview Protect Against Susceptibility to Misinformation?*, INT’L INTERVIEWING RES. GROUP, Teesside, UK (April 2009).

55. See Elizabeth F. Loftus et al., *Who Remembers Best: Individual*

Differences in Memory for Events that Occurred in a Science Museum, 6 APPLIED COGNITIVE PSYCHOL. 93 (1992); James P. Tassinant et al., *Discrepancy Detection and Vulnerability to Misleading Post-Event Information*, 14 MEMORY & COGNITION 329 (1986).

56. Gabbert et al., *supra* note 54; Fiona Gabbert et al., *Protecting against Susceptibility to Misinformation with the Use of a Self-Administered Interview*. APPLIED COGNITIVE PSYCHOL. (in press).

57. R. Edward Geiselman et al., *Eyewitness Responses to Leading and Misleading Questions Under the Cognitive Interview*, 14 J. POLICE SCI. & ADMIN. 31 (1986); Amina Memon et al., *Inoculation or Antidote?: The Effects of Cognitive Interview Timing on False Memory for Forcibly Fabricated Events*, 34 LAW & HUM. BEHAV. 105 (2010).

This body of research has revealed that memory conformity occurs most often when individuals are not confident enough in their own memory to notice and to reject discrepant PEI, and when individuals believe that someone else's memory for a witnessed event is more reliable than their own. Police should always ask witnesses if they have discussed the incident with another witness and warn against reporting any information that they do not remember themselves. Warnings to disregard PEI from a co-witness are not always effective; however, interviewing witnesses with minimal delay, using a tool such as the SAI if necessary, may facilitate their ability to differentiate between their own memories and someone else's.



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Repeated Information in the Courtroom

Jeffrey L. Foster, Marianne Garry, & Elizabeth F. Loftus

It is widely understood among scientists and criminal and civil lawyers that eyewitnesses are often inaccurate, and that inaccurate information can contaminate memories of other eyewitnesses.¹ It is less widely known—although no less true—that when misleading claims are repeated, they are more likely to damage other people’s memories than when those claims are made only once.² But until recently, neither lawyers nor scientists knew the answer to these questions: Does one person repeating an inaccurate claim do more damage to the memories of other eyewitnesses than that same person making the claim only once? And when that inaccurate claim is repeated, does it matter how many people make it? In this paper, we address those questions.

Suppose a robbery occurs for which there were four eyewitnesses. If one eyewitness, let’s call him John, mistakenly tells another eyewitness, Ringo, that the robber was wearing a blue hat—when in fact the robber was wearing a black hat—than we know Ringo may, inadvertently, remember later that the robber was wearing a blue hat. But would Ringo be even more likely to make this mistake if John had repeated that inaccurate claim multiple times? By contrast, suppose that all of the eyewitnesses—John, Paul, and George—mistakenly claimed it was a blue hat. Would their converging evidence be more misleading to Ringo than if John had simply repeated it multiple times? Put another way, do inaccurate claims do more damage when made by multiple sources, or is it the repetition of claims that matters?

WHAT ROLE DOES THE NUMBER OF SOURCES TAKE IN THE BELIEVABILITY OF A CLAIM?

On the one hand, it is intuitively appealing that a claim would be more credible or more damaging when there is con-

sensus among eyewitnesses. Indeed, scientific research tells us we put more trust in our own memories when other people who were there remember it the same way,³ and we have more trust in the details of a crime that multiple eyewitnesses remember than the details of a crime that only one eyewitness does.⁴ And not only is this trust intuitively appealing, but research supports its validity: When a suspect is picked out of a lineup by multiple eyewitnesses, their identification is more likely to be accurate than when that suspect is picked by only one eyewitness.⁵ In addition, people’s susceptibility to misleading information changes in response to characteristics of the person making the claim. For instance, an innocent bystander is more misleading than the perpetrator of the crime.⁶ And even more subtle characteristics of a misleading eyewitness can influence people’s susceptibility to misinformation. In one study, eyewitnesses with more powerful and socially attractive accents were more misleading than eyewitnesses with less powerful and socially attractive accents.⁷ Taken together, these findings suggest that the consensus of multiple eyewitnesses should be more misleading than the repeated claims of a single eyewitness.

On the other hand, we know that repeated information can lead people to make mistakes. Trivia questions that require a true/false response are more likely to be rated as true when they are repeated;⁸ when people repeatedly view pictures of a place they have never visited, they become more confident that they have been there before;⁹ and when one person states an opinion multiple times, other people are more likely to believe that opinion is held by others as well.¹⁰ Considered together, these findings suggest that the repetition of inaccurate claims should be more important than the consensus of multiple eyewitnesses.

Footnotes

1. This article is adapted from Jeffrey L. Foster et al., *Repetition, Not Number of Sources, Increases Both Susceptibility to Misinformation and Confidence in the Accuracy of Eyewitnesses*, 139 ACTA PSYCHOLOGICA 320 (2012).
2. Karen J. Mitchell & Maria S. Zaragoza, *Repeated Exposure to Suggestion and False Memory: The Role of Contextual Variability*, 35 J. OF MEMORY & LANGUAGE 246 (1996); Maria S. Zaragoza & Karen J. Mitchell, *Repeated Exposure to Suggestion and the Creation of False Memories*, 7 PSYCHOL. SCI. 294 (1996).
3. Michael Ross et al., *Assessing the Accuracy of Conflicting Autobiographical Memories*, 26 MEMORY & COGNITION 1233 (1998).
4. Adam J. L. Harris & Ulrike Hahn, *Bayesian Rationality in Evaluating Multiple Testimonies: Incorporating the Role of Coherence*, 35 J. OF EXPERIMENTAL PSYCHOL.: LEARNING, MEMORY, & COGNITION 1366 (2009).
5. Steven E. Clark & Gary L. Wells, *On the Diagnosticity of Multiple-Witness Identifications*, 32 LAW & HUM. BEHAV. 406 (2008).
6. David H. Dodd & Jeffrey M. Bradshaw, *Leading Questions and Memory: Pragmatic Constraints*, 19 J. OF VERBAL LEARNING & VERBAL BEHAV. 695 (1980).
7. Lana A. Vornik et al., *The Power of the Spoken Word: Sociolinguistic Cues Influence the Misinformation Effect*, 11 MEMORY 101 (2003).
8. Frederick T. Bacon, *Credibility of Repeated Statements: Memory for Trivia*, 5 J. OF EXPERIMENTAL PSYCHOL.: HUM. LEARNING & MEMORY 241 (1979).
9. Alan S. Brown & Elizabeth J. Marsh, *Evoking False Beliefs About Autobiographical Experience*, 15 PSYCHONOMIC BULL. & REV. 186 (2008).
10. Kimberlee Weaver et al., *Inferring the Popularity of an Opinion From Its Familiarity: A Repetitive Voice Can Sound Like a Chorus*, 92 J. OF PERSONALITY & SOC. PSYCHOL. 821 (2007).

WHY DOES REPETITION LEAD PEOPLE TO MAKE THESE ERRORS?

One possibility is that when we encounter information we have seen before, our cognitive system processes that information differently. Call it an adaptive shortcut: if you've seen *x* before and it didn't attack you the first time, then *x* is probably safe enough for your brain to spend less effort making sense of it. When information is processed with this shortcut, we do not know it directly, but we often experience a feeling of familiarity: "Ah, I have seen this before." Cognitive scientists have discovered that we also associate this kind of processing with a feeling of truth.¹¹ In other words, repeated information tends to feel more familiar, and more true, than unrepeated information.

IS IT THE REPETITION OF MISLEADING CLAIMS THAT MATTERS OR THE NUMBER OF PEOPLE WHO MAKE THEM?

We addressed the effects of repetition and number of eyewitnesses in two experiments. In our first experiment, we asked if repeating misleading claims would change the way people remembered a mock crime, regardless of how many eyewitnesses repeated those claims. To answer this question, people took part in an experiment based on a well-known eyewitness-memory error called the *misinformation effect*: They watched an event, then read a misleading description of the event, and finally were tested for what they remembered seeing.¹² Typically, many people report seeing the misleading details in the event.¹³

In our study, people first watched a video of an electrician who stole items while doing repairs at a client's house. Later, they read three eyewitness police reports—ostensibly written over three consecutive days—about the activities of the electrician. Sometimes, all three reports misled people about what happened in the video; other times only one of the three reports misled people. To manipulate the source(s) of the reports, we told half the people that three different eyewitnesses made these reports; we told the other half that the same eyewitness made all three reports. For example, people read three eyewitness reports from Day 1, Day 2, and Day 3: For half of the people, Eyewitness 5 made the Day 1 report; Eyewitness 9 made the Day 2 report; and Eyewitness 16 made the Day 3 report. The other half read the same reports—but all three reports were attributed to Eyewitness 9. Later, people took a test asking them about specific details they saw in the mock crime.¹⁴

In summary, people read the reports in one of four conditions: 1) three eyewitnesses, each making the same misleading claims across the three reports; 2) one eyewitness making the same claims across the three reports; 3) three eyewitnesses, only one of who makes the claims in only one report; and 4) one eyewitness who makes the claims in only one report.¹⁵

If what matters most is the number of fellow eyewitnesses giving inaccurate, misleading information, then our results should show that people were the most misled when they read misinformation three times from three eyewitnesses. But if what matters most is the repetition of inaccurate information, then our results should show that people became more misled when misleading claims were repeated, regardless of how many eyewitnesses made them.

Our results suggest that it was repetition that mattered most. We found three important results. First, and consistent with research on the misinformation effect, when people read misleading details about the crime they had witnessed, they incorporated some of those misleading details into their memory of the original crime. Second, when the misinformation was repeated, people became more misled than when the misinformation was not repeated. And third, people were similarly misled regardless of whether that misinformation was attributed to a single eyewitness who repeated it or to three independent eyewitnesses converging on the same misleading claims. In short, it was the repetition of misleading claims that mattered, not how many sources the misinformation came from.¹⁶

Let's return to our original example. Based on our results, we can predict that if John repeatedly tells Ringo the incorrect color of the robber's hat, Ringo will more likely be misled than if John tells him only once. But we can also predict that if that claim were repeated, it would make little difference if John says it, or if John, Paul, and George each make the same claim once: Either way, Ringo would hear it three times and be similarly misled. But what if Ringo had never seen the crime unfold in the first place and was trying to determine the truth about what occurred? How might John's repeated testimony affect Ringo's belief about what really happened? That is the question we addressed in our second study.

"[I]t was the repetition of misleading claims that mattered, not how many sources the information came from."

11. Adam L. Alter & Daniel M. Oppenheimer, *Uniting the Tribes of Fluency to Form a Metacognitive Nation*, 13 PERSONALITY & SOC. PSYCHOL. REV. 219 (2009); Hal L. Arkes et al., *Determinants of Judged Validity*, 27 J. OF EXPERIMENTAL SOC. PSYCHOL. 576 (1991); Alice Dechêne et al., *The Truth About the Truth: A Meta-Analytic Review of the Truth Effect*, 14 PERSONALITY & SOC. PSYCHOL. REV. 238 (2010); Colleen M. Kelley & D. Stephen Lindsay, *Remembering Mistaken for Knowing: Ease of Retrieval as a Basis for Confidence in Answers to General Knowledge Questions*, 32 J. OF MEMORY & LANGUAGE 1 (1993); Marcia Johnson et al., *Source Monitoring*, 114 PSYCHOL. BULL. 3 (1993); Christian Unkelbach, *Reversing the Truth Effect: Learning the Interpretation of Processing Fluency in Judgments of Truth*, 33 J. OF EXPERIMENTAL PSYCHOL.: LEARNING, MEMORY, & COGNITION 219 (2007); Christian

Unkelbach & Christoph Stahl, *A Multinomial Modeling Approach to Dissociate Different Components of the Truth Effect*, 18 CONSCIOUSNESS & COGNITION 22 (2009).

12. Foster et al., *supra* note 1, at 321.

13. Elizabeth F. Loftus et al., *Semantic Integration of Verbal Information Into a Visual Memory*, 4 J. OF EXPERIMENTAL PSYCHOL.: HUM. LEARNING & MEMORY 19 (1978); Mitchell & Zaragoza, *supra* note 2; Melanie K. T. Takarangi et al., *Modernising the Misinformation Effect: The Development of a New Stimulus Set*, 20 APPLIED COGNITIVE PSYCHOL. 583 (2006).

14. Foster et al., *supra* note 1, at 321.

15. *Id.*

16. *Id.* at 322.

“[A] single eyewitness’s repeated claims were as influential as the claims made by three eyewitnesses.”

IS IT THE REPETITION OF EYEWITNESS CLAIMS OR THE NUMBER OF PEOPLE WHO MAKE THEM THAT AFFECT BELIEF IN THEIR ACCURACY?

Although our first experiment showed that repeating misinformation three times made people less accurate about what they saw, we still do not know if repeating inaccurate information would change how people might judge what happened

when they never saw the crime unfold in the first place—this, of course, is the situation analogous to being a juror. It may be that people who did not see the crime would be even more susceptible to the influence of repetition: After all, they never saw the crime unfold and must rely entirely on the testimony of an eyewitness. But on the other hand, people may be more likely to scrutinize the sources of the claims when judging the accuracy of those claims, a behavior that should lead people to be more confident in claims that reach a consensus among multiple eyewitnesses.

In our second experiment, we wanted to know how the repetition of a claim and the number of sources making that claim might affect people’s beliefs about the claim’s accuracy. In our second experiment, we asked people to read the same three eyewitness reports from our first experiment, but in this case, people did not watch the video of the original crime. Thus, they could not know if claims about how the crime unfolded were true. After they read the eyewitness reports, people reported their confidence that each claim actually happened in the original crime.

Once again, our data suggest that it was repetition that mattered most. We found that when claims were repeated, people became more confident about those claims than when they were not repeated. In addition, people were similarly confident about repeated claims regardless of whether they were attributed to a single eyewitness who repeated it or three independent eyewitnesses all converging on the same claims. In short, it was the repetition of misleading claims that mattered, not how many sources the misinformation came from.¹⁷

SUMMARY AND CONCLUSIONS

Across two experiments, we asked two questions: First, does one person repeating inaccurate claims do more damage to the memories of other eyewitnesses than that same person making the claims only once? And second, when those inaccurate claims are repeated, does it matter how many people make them? The answers are yes and no, respectively. Our findings converged on the important role of repetition—over

and above the role of how many people make the claims. More specifically, we found that the misleading claims of a single eyewitness were more damaging to fellow eyewitnesses’ memories when that eyewitness repeated them, and that the claims of a single eyewitness were more credible to people who never saw the crime when the eyewitness repeated them. Moreover, a single eyewitness’s repeated claims were as influential as the claims made by three eyewitnesses.

Why would one eyewitness repeating a claim become just as credible as three eyewitnesses? While the adaptive explanation we presented earlier—that if x has not eaten you before then x is probably safe—can explain why repeated information feels more true, it does not explain why people didn’t put even more stock in claims repeated by multiple eyewitnesses.¹⁸ We propose two possible explanations for this surprising finding. First, it may be that people did in fact put more stock into the repeated claims of multiple eyewitnesses,¹⁹ but that people also saw a single eyewitness repeating claims as highly consistent. Indeed, consistency is one attribute that makes people appear more credible, and thus more accurate.²⁰ In other words, one eyewitness repeating a claim may make the claim more credible for a different reason than three eyewitnesses each stating the same claim once does. On the other hand it may be that people failed to attend to the source of the repeated claims when judging their accuracy. Indeed, the likely explanation of why repeated misinformation misleads subjects more than unrepeated misinformation is that subjects’ increased feelings of familiarity are not accompanied by increases in their ability to monitor the source of that familiarity.²¹ Although both of these mechanisms will produce the patterns we found here, they provide different pathways to finding a way to reduce the effects of repetition. As such, future research will need to disentangle the effects of these mechanisms.

Of course, in the real world, multiple eyewitnesses may stand out in a variety of ways that our written reports did not. In our study the distinction between a single eyewitness and multiple eyewitnesses was controlled so that they varied on identification number only. In court, these eyewitnesses would vary in superficial (accent, gender, etc.) and important (relationship to the suspect, motive, etc.) ways—distinctions that jurors might use to determine the credibility of their claims. But would these distinctions actually help to reduce the deleterious effects of repetition? That question is still one to be answered by additional experimentation.

In the meantime, the problems with inaccurate eyewitnesses during a trial are unquestionable.²² Indeed, looking back at the 289 wrongfully convicted people freed by The Innocence Project to date shows that in more than 75% of cases, eyewitness testimony played a role in their wrongful convictions.²³ Our research suggests that a single person repeating inaccurate

17. *Id.* at 324.

18. Kelley & Lindsay *supra* note 11; Weaver et al. *supra* note 10; Unkelbach, *supra* note 11.

19. Harris & Hahn, *supra* note 4; Ross et al., *supra* note 3.

20. Neil Brewer & Anne Burke, *Effects of Testimonial Inconsistencies and Eyewitness Confidence on Mock-Juror Judgments*, 26 LAW AND HUM. BEHAV. 353 (2002).

21. Zaragoza & Mitchell, *supra* note 2.

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

23. Innocence Project, <http://www.innocenceproject.org/understand/Eyewitness-Misidentification.php>

claims can lead jurors and other eyewitnesses to put more faith in those claims than they should—calling on us to be wary about the power of a single, repeated voice.



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Jury Instructions on Witness Identification

Brian H. Bornstein & Joseph A. Hamm

One of the most important things a judge does when presiding over a jury trial is instruct jurors on the law. No doubt judges themselves are well-versed in the law, and the language of jury instructions is the source of much pre-deliberation wrangling on the part of the attorneys. Yet once judges settle on proper instructions, how effectively do they communicate the law to jurors? What can courts do to make jury instructions more effective? Do judges' nonverbal actions, as well as their words, influence jury decisions?

These questions come up in any jury trial, but they are particularly important in trials relying heavily on witness-identification testimony,¹ for six reasons. First, misidentifications are the most common cause of false convictions.² Second, jurors have strong intuitions about the factors that make witness identifications more or less accurate, and many of those intuitions are erroneous.³ Third, judges themselves have limited knowledge about the factors that do and do not affect identification accuracy.⁴ Fourth, a vast amount of empirical research has been conducted on witness identification, giving judges a unique opportunity to guide juror decision making so that it

comports with relevant data on the issue.⁵ Fifth, testimony about witness identifications can often be quite technical—especially if it involves expert testimony, as these cases increasingly do—placing challenges on juror decision making.⁶ And sixth, traditional procedural safeguards designed to reduce false identifications and convictions—such as voir dire, motions to suppress suggestive identifications, and cross-examination—have only limited effectiveness.⁷ Thus, judges are well situated to aid jurors in making proper use of witness-identification testimony.

The purpose of this article is to review psychological research on the impact of jury instructions regarding witness identification, and to present data from several experiments we recently conducted on the topic.⁸ Part I covers the issue of jurors' comprehension of judges' instructions, both generally and with regard to identification issues in particular, and concerning nonverbal as well as verbal behavior. Part II presents the results of three jury-simulation studies examining the effect of different kinds of jury instructions about witness-identification testimony. Finally, Part III summarizes the liter-

Footnotes

1. Most witness identifications are based on visual perception, hence eyewitness identifications. However, some identifications are based on other sensory modalities, especially auditory perception—often referred to as earwitness identifications. We therefore use the more general term *witness identification* unless discussing eyewitness or earwitness identification specifically.
2. Many, if not most, false convictions undoubtedly go undetected. Nonetheless, those that are detected, through DNA testing, show that over 75% involve mistaken witness identification. Gary L. Wells et al., *Eyewitness Identification Procedures: Recommendations for Lineups and Photospreads*, 22 LAW & HUM. BEHAV. 603, 605 (1998); Gary L. Wells et al., *Eyewitness Evidence: Improving Its Probative Value*, 7 PSYCH. SCI. IN THE PUBLIC INTEREST 45, 48-9 (2006). For up-to-date figures on DNA exonerations and case studies on false convictions involving eyewitness testimony, see The Innocence Project website, <http://www.innocenceproject.org>. For a thorough summary of the research literature on eyewitness reliability and its legal implications, see *State v. Henderson*, 208 N.J. 208, 27 A. 3d 872 (2011).
3. For review, see Melissa Boyce et al., *Belief of Eyewitness Identification Evidence*, in THE HANDBOOK OF EYEWITNESS PSYCHOLOGY (VOL. 2): MEMORY FOR PEOPLE 501 (Roderick C. L. Lindsay et al., eds., 2007); J. Don Read & Sarah L. Desmarais, *Expert Psychology Testimony on Eyewitness Identification: A Matter of Common Sense?* in EXPERT TESTIMONY ON THE PSYCHOLOGY OF EYEWITNESS IDENTIFICATION 115 (Brian L. Cutler, ed., 2009).
4. Richard A. Wise & Martin A. Safer, *What US Judges Know and Believe about Eyewitness Testimony*, 18 APPLIED COG. PSYCH. 427 (2004). Judicial misconceptions about witness-identification testimony have been found in samples of non-American judges as well. See Pär A. Granhag et al., *Eyewitness Testimony: Tracing the Beliefs of Swedish Professionals*, 23 BEHAV. SCI. & LAW 709 (2005) (Swedish judges); Svein Magnussen et al., *What Judges Know About Eyewitness Testimony: A Comparison of Norwegian and U.S. Judges*, 14 PSYCH., CRIME & LAW 177 (2008) (Norwegian judges); Richard A. Wise et al., *A Comparison of Chinese Judges' and U.S. Judges' Knowledge and Beliefs About Eyewitness Testimony*, 16 PSYCH., CRIME & LAW 695 (2010) (Chinese judges).
5. Although judges cannot, of course, introduce new evidence when instructing the jury, they can nonetheless instruct jurors on the weight to give different elements of an identifying witness's testimony. Indeed, part of the New Jersey Supreme Court's mandate in *Henderson*, *supra* note, was to do just that. The new instructions have recently been promulgated and take effect on September 4, 2012. See Benjamin Weiser, *New Jersey Court Issues Guidance for Juries about Reliability of Eyewitnesses*, N.Y. TIMES (July 19, 2012).
6. See generally Tanja R. Benton et al., *Has Eyewitness Research Penetrated the American Legal System? A Synthesis of Case History, Juror Knowledge, and Expert Testimony*, in THE HANDBOOK OF EYEWITNESS PSYCHOLOGY (VOL. 2): MEMORY FOR PEOPLE 453 (Roderick C. L. Lindsay et al. eds., 2007); David Faigman et al., MODERN SCIENTIFIC EVIDENCE: THE LAW AND SCIENCE OF EXPERT TESTIMONY VOL. 2: SOCIAL & BEHAVIORAL SCIENCE 449 (2005).
7. Lori van Wallandael et al., *Mistaken Identification = Erroneous Conviction? Assessing and Improving Legal Safeguards*, in THE HANDBOOK OF EYEWITNESS PSYCHOLOGY (VOL. 2): MEMORY FOR PEOPLE 557 (Roderick C. L. Lindsay et al. eds., 2007); Jennifer L. Devenport et al., *Effectiveness of Traditional Safeguards Against Erroneous Conviction Arising from Mistaken Eyewitness Identification*, in EXPERT TESTIMONY ON THE PSYCHOLOGY OF EYEWITNESS IDENTIFICATION 51 (Brian L. Cutler ed., 2009).
8. We would like to thank Ryan Anderson and Jenna Henkes for their assistance in conducting the studies.

ature and offers recommendations for judges dealing with cases involving witness identifications.

JURORS' COMPREHENSION OF INSTRUCTIONS

General Comprehension

Empirical research consistently demonstrates that jurors often struggle to comprehend judges' instructions.⁹ This has been found in both mock-jury studies¹⁰ and in post-trial interviews of actual jurors.¹¹ For example, Reifman and colleagues surveyed over 200 Michigan citizens summoned for jury duty, comparing those who served on criminal trials, civil trials, and those who ended up not serving.¹² They questioned participants on various aspects of procedural and substantive law. Performance varied somewhat depending on case and question type, but overall it was less than 50%, and in some instances jurors who actually received judges' instructions performed no better than uninstructed participants.¹³

Several jury-simulation studies have found that simplifying jury instructions significantly improves jurors' comprehension.¹⁴ The revising efforts rely primarily on techniques such as using shorter sentences, replacing passive with active voice, simplifying vocabulary and reading difficulty, and eliminating legal jargon. Some studies have also found a benefit from including instructional aids such as flowcharts.¹⁵ The success of these empirical studies led the American Bar Association to promote revising jury instructions for greater comprehensibility,¹⁶ and several states have recently overhauled their jury instructions in part or in whole.¹⁷

Judges' Nonverbal Behaviors

These studies show clearly that the exact language judges use to deliver jury instructions influences jurors' comprehension. But what about the things that judges *do not* say, that is, their demeanor and nonverbal behavior? It is a well-known psychological phenomenon that communicators' expectations, transmitted nonverbally, can unintentionally affect others' responses to the message.¹⁸ Jurors are not immune to such effects.¹⁹ For example, Andrea Halvorsen and colleagues conducted a jury-simulation experiment that varied the judge's expectation regarding the defendant's guilt: The judge believed the defendant to be either guilty or not guilty.²⁰ Although the instructions were identical in both conditions, adult (non-student) mock jurors were more likely to find the defendant guilty when the judge believed the defendant to be guilty (79.2%) than when the judge believed the defendant was not guilty (66.7%).²¹ As the instructions were the same, the only possible explanation is that judges somehow conveyed their expectation via their demeanor. Importantly, the effect of judges' nonverbal behaviors was greater when they read standard jury instructions than when they read instructions that had been revised for greater comprehensibility.²² Other research has found that

"[S]tudies show [the] language judges use to deliver jury instructions influences jurors' comprehension. But what about the things that judges do not say...?"

9. See generally Nancy S. Marder, *Bringing Jury Instructions into the Twenty-First Century*, 81 NOTRE DAME L. REV. 449, 454-58 (2006); Prof. Marder provides a cogent analysis of the reasons why jury instructions have remained resistant to change, as well as innovative approaches to improving jury instructions. See also Joel D. Lieberman, *The Psychology of the Jury Instruction Process*, in JURY PSYCHOLOGY: SOCIAL ASPECTS OF TRIAL PROCESS: PSYCHOLOGY IN THE COURTROOM, VOL. 1, 129 (Joel D. Lieberman & Daniel A. Krauss eds., 2009).

10. E.g., Craig Haney & Mona Lynch, *Comprehending Life and Death Matters: A Preliminary Study of California's Capital Penalty Instructions*, 18 LAW & HUM. BEHAV. 411 (1994); Richard L. Wiener et al., *Comprehensibility of Approved Jury Instructions in Capital Murder Cases*, 80 J. APPLIED PSYCH. 455 (1995); Carolyn Semmler & Neil Brewer, *Using a Flow-Chart to Improve Comprehension of Jury Instructions*, 9 PSYCHIATRY PSYCHOL. & LAW 262 (2002); Richard L. Wiener et al., *Guided Jury Discretion in Capital Murder Cases: The Role of Declarative and Procedural Knowledge*, 10 PSYCHOL., PUB. POL'Y & LAW 516 (2004).

11. Alan Reifman et al., *Real Jurors' Understanding of the Law in Real Cases*, 16 LAW & HUM. BEHAV. 539 (1992); Theodore Eisenberg & Martin T. Wells, *Deadly Confusion: Juror Instructions in Capital Cases*, 79 CORNELL L. REV. 1 (1993).

12. Reifman et al., *supra* note 11, at 544. Participants were surveyed shortly after their service was over.

13. *Id.* at 546-49. Notably, the questions were true-false, so participants should have been able to score 50% correct merely by chance.

14. The seminal study was conducted by Robert P. Charrow & Veda R. Charrow, *Making Legal Language Understandable: A Psycholinguistic Study of Jury Instructions*, 79 COLUMBIA L. REV. 1306 (1979). For review, see Joel D. Lieberman & Bruce D. Sales,

What Social Science Teaches Us about the Jury Instruction Process, 3 PSYCHOL., PUB. POL'Y & LAW 589 (1997); Michael T. Nietzel et al., *Juries: The Current State of the Empirical Literature*, in PSYCHOLOGY & LAW: THE STATE OF THE DISCIPLINE 23 (Ronald Roesch et al. eds., 1999); Lieberman, *supra* note 9.

15. Semmler & Brewer, *supra* note 10; Wiener et al., *Guided Jury Discretion*, *supra* note 10.

16. AM. BAR ASSOC'N, PRINCIPLES FOR JURIES AND JURY TRIALS (2005). Several of the principles address juror understanding, but the most directly relevant is Principle 14: "The court should instruct the jury in plain and understandable language regarding the applicable law and the conduct of deliberations." *Id.* at 20-21.

17. See Marder, *supra* note 9, at 475-81. Marder discusses the experience of several states, but she focuses on California's "plain-language" effort, which is probably the most ambitious attempt to date.

18. See generally Peter D. Blanck et al., *The Appearance of Justice: Judges' Verbal and Nonverbal Behavior in Criminal Trials*, 38 STANFORD L. REV. 89 (1985); Robert Rosenthal, *Covert Communication in Classrooms, Clinics, Courtrooms, and Cubicles*, 57 AMERICAN PSYCHOLOGIST 839 (2002).

19. Rosenthal, *supra* note 18, at 846.

20. Andrea M. Halvorsen et al., *Reducing the Biasing Effects of Judges' Nonverbal Behavior with Simplified Jury Instruction*, 82 J. APPLIED PSYCH. 590 (1997).

21. *Id.* at 595.

22. *Id.* It is also noteworthy that the authors did not observe an effect of judges' nonverbal behaviors when the mock jurors were students, as opposed to nonstudent adults. *Id.* at 594. Thus, those most likely to serve on actual juries—non-students—are most likely to be affected by judge's demeanor.

“[Can judges’ demeanor] be used... to enhance jurors’ comprehension or to improve their application of instructions[?]”

judge’s nonverbal behavior influences mock jurors’ perceptions of defendant liability in civil cases as well.²³

These studies demonstrate that a judge’s demeanor can influence trial outcomes, which is obviously undesirable. The question remains whether a judge’s demeanor can be used for a good end, namely, to enhance jurors’ comprehension or to improve their application of instructions. Our second study,

described *infra*, explores this possibility.

Comprehension of Witness-Identification Instructions

The studies discussed thus far concern simplifying instructions generally, and not instructions about witness-identification testimony in particular. In identification cases, defense counsel can request a cautionary instruction that addresses concerns about identification accuracy. The best-known such instruction derives from *United States v. Telfaire*.²⁴ The *Telfaire* instructions direct jurors to consider a limited number of specific factors when evaluating eyewitness testimony, such as opportunity to observe the perpetrator, strength of the identification, viewing conditions that may have influenced the identification, and the witness’s overall credibility.²⁵ Importantly, the instructions identify these factors, but they do not explain *how* they influence eyewitness memory. For example, they direct jurors to consider the witness’s opportunity to observe, but they fail to go further and explain that better opportunity to observe is associated with more reliable memory. Some of these factors might seem like common sense, but, as mentioned previously, jurors’ commonsense notions about eyewitness behavior are often erroneous.²⁶

Two issues come up with respect to instructions about identification witnesses. First, how well do jurors understand the instructions? Second, what effect do the instructions have on jurors’ decisions in cases that feature an identification witness? With respect to the first question, a meta-analysis²⁷ conducted by Nietzel and colleagues found that revised instructions improved mock jurors’ memory for the instructions, though not their memory for trial facts.²⁸ There is some evidence that revised instructions are particularly effective at moderating jurors’ evaluations of eyewitnesses.²⁹

Professor Edie Greene conducted a series of jury simulation studies to examine the second question.³⁰ Greene compared the standard *Telfaire* instructions to a revised *Telfaire* condition, which used simpler language and explained how various factors influence eyewitness memory, as well as to a control condition with no cautionary instructions. There was little difference between the control and standard *Telfaire* conditions; however, the revised *Telfaire* instructions made mock jurors more skeptical about eyewitness testimony, and they also had a better understanding of eyewitness memory.³¹ Neither set of instructions helped participants distinguish between good and poor eyewitnesses.³² However, other research has found that instructions about which factors specifically influence witness credibility do moderate the influence of witness testimony.³³ Thus, there is some cause for cautious optimism that instructions dealing specifically with witness-identification testimony can improve juror decision making.

RESEARCH OVERVIEW

We conducted a series of mock-jury studies to examine different means of improving jurors’ comprehension and application of witness-identification instructions. The techniques included rewriting the instructions, adding written instructions, and varying the judge’s demeanor while delivering the instructions.³⁴ In addition to requesting a verdict, we assessed

23. Marisa E. Collett & Margaret B. Kovera, *The Effects of British and American Trial Procedures on the Quality of Juror Decision-Making*, 27 LAW & HUM. BEHAV. 403, 415-16 (2003).

24. 469 F.2d 552 (D.C. Cir. 1972).

25. Devenport et al., *supra* note 7, at 62.

26. See Benton et al., *supra* note 6, at 475-85.

27. Meta-analysis is a statistical technique by which relevant comparisons within similar studies are statistically aggregated to determine their overall effect.

28. Nietzel et al., *supra* note 14, at 35 (Table 2.4). This meta-analytic study compared “enhanced” to standard jury instructions, where enhanced instructions included efforts to improve comprehensibility, as well as other attempts to heighten the instructions’ impact (e.g., through multiple deliveries).

29. *Id.*, at 35-36.

30. Edie Greene, *Judge’s Instruction on Eyewitness Testimony: Evaluation and Revision*, 18 J. APPLIED SOC. PSYCH. 252 (1988).

31. *Id.*

32. *Id.* These findings—that *Telfaire* instructions increase juror skepticism but do not sensitize jurors to relevant evidence—have been replicated elsewhere. See Gabriella Ramirez et al., *Judges’ Cautionary Instructions on Eyewitness Testimony*, 14 AMER. J. FORENSIC PSYCH. 31 (1996).

33. For example, Bollingmo and colleagues found that an instruction

informing participants that a victim-witness’s emotional expression is not a reliable cue to her credibility lessened the impact of variations in the witness’s emotional expression. Guri Bollingmo et al., *The Effect of Biased and Non-biased Information on Judgments of Witness Credibility*, 15 PSYCH., CRIME & LAW 61 (2009). Importantly, the witness was giving a statement during a police interview, not testifying at trial; and the instruction came from the experimenter, not the judge. Nonetheless, the content of her statement—a description of an alleged rape scenario—was essentially the same as what her trial testimony would have been, and observers’ evaluation of the witness’s credibility was comparable to the sort of credibility judgment that jurors would make at trial.

34. All studies were jury simulations, in which student participants adopted the role of jurors and were presented with abbreviated case facts and jury instructions. The trial was presented in written format, and data were collected online. These methodological characteristics—especially the use of student mock jurors, abbreviated trial materials, and online data collection—might raise questions about the relevance of the findings to how “real” jurors decide “real” cases. These are legitimate concerns, but they are beyond the scope of the present article. Although little research shows that such characteristics influence juror decision making, there is a paucity of research that addresses the issue. See Brian H. Bornstein, *The Ecological Validity of Jury Simulations: Is the Jury Still Out?* 23 LAW

subjective comprehension, using the same three items in all of the studies.³⁵ Specifically, participants were asked how confident they were that they had followed the judge's instructions, how much difficulty they had in understanding the judge's instructions, and how effective the instructions were in helping them reach their verdict.

Study 1

The first study evaluated the method of simplifying *Telfaire* instructions used in Greene's work,³⁶ and we compared this to modifying the instructions further to present specific information more directly relevant to the task at hand for the jury. Although pattern instructions have the advantage of reducing the likelihood of reversal on appeal,³⁷ they are often criticized as not fitting the considerations of the current case.³⁸ The *Telfaire* instructions provide a perfect example of this because although they are most often thought of as eyewitness instructions, they are also applicable to other forms of sensory-witness identification, like earwitness identification.³⁹ Specifically, they contain a statement that addresses the possibility that other senses may be used.⁴⁰ The present study therefore investigated the applicability of *Telfaire* and modified *Telfaire* instructions to a case involving earwitness, rather than eyewitness, testimony.

To compare these different instruction-improvement methods, 201 undergraduate students read an online trial summary involving a home invasion in which the victim heard (but did not see) the defendant. The victim and a police officer testified about a voice lineup in which the victim identified the defendant as the perpetrator. Participants then read reasonable-doubt instructions and one of three versions of sensory-witness instructions (or a no-instruction control). To replicate Greene's work, one-quarter of participants were presented with

the standard *Telfaire* instructions, and another quarter were presented with the *Telfaire* instructions as simplified by Greene. To compare this approach to a modification containing information more specific to earwitness identification, another quarter of the participants saw the *Telfaire* instructions modified to include the legally admissi-

ble issues involved with assessing earwitness identifications.⁴¹ The remaining quarter of the participants saw no identification instructions and read only the instructions about reasonable doubt.

We also created two versions of the instructions in which witnessing conditions (e.g., perpetrator's voice disguise and the delay between the crime and the identification) were either more or less likely to elicit a correct identification. We did this because it is important to assess the impact of the instructions not only on comprehension itself, but also on jurors' use of evidence presented at trial. Ideally, simplified instructions should improve jurors' use of evidence; in the present trial, that would mean relying more on the identification evidence when the witnessing conditions were conducive to good memory for the perpetrator than when they were not.⁴² After reading the randomly assigned instructions, participants were asked to return verdicts and complete subjective measures of comprehension.

Analyses indicated that although participants felt more confident in their verdict with the modified instructions than with standard *Telfaire* instructions,⁴³ there were no other differences

“[We] investigated the applicability of *Telfaire*... instructions to a case involving earwitness, rather than eyewitness, testimony.”

& HUM. BEHAV. 75 (1999) (discussing mock-juror and trial-presentation characteristics); Kevin M. O'Neil et al., *Web-based Research: Methodological Variables' Effects on Dropout and Sample Characteristics*, 25 BEHAV. RES. METHODS, INSTRUMENTS, & COMPUTERS 217 (2003) (discussing online research methods); Brian H. Bornstein & Sean G. McCabe, *Jurors of the Absurd? The Role of Consequentiality in Jury Simulation Research*, 32 FLA. ST. UNIV. L. REV. 443 (2005) (discussing real versus mock-juror decisions).

35. The studies did not include an objective measure of comprehension.

36. Greene, *supra* note 30.

37. Laurence J. Severance et al., *Toward Criminal Jury Instructions that Jurors Can Understand*, 75 J. CRIM. LAW & CRIMINOLOGY 198 (1984).

38. E.g., Devenport et al., *supra* note 7, at 62.

39. Earwitness identification refers to “the process of a witness hearing the voice(s) of a perpetrator(s) and encoding that information in memory, retrieving the stored information when called to describe the speaker's voice and/or identify the speaker in a voice lineup, and finally, testifying or communicating those responses to a police officer, trial judge, and/or jury.” A. Daniel Yarmey, *The Psychology of Speaker Identification and Earwitness Memory*, in THE HANDBOOK OF EYEWITNESS PSYCHOLOGY (VOL. 2): MEMORY FOR PEOPLE 101 (Rod C. L. Lindsay et al. eds., 2007), at 101.

40. “In general, a witness bases any identification he makes on his perception through the use of his senses. Usually the witness identifies an offender by the sense of sight—but this is not necessarily

so, and he may use other senses.” *United States v. Telfaire*, *supra* note 24 at 559.

41. *United States v. Angleton*, 269 F. Supp. 2d 868 (S.D. Tex. 2003). In *Angleton*, the court was asked to rule regarding which aspects of an expert witness's testimony about the factors important for earwitness-identification accuracy were admissible in court. The court accepted testimony about the negative effects of an identification sample that is too long, the influence of conversations the identifier had before identification, and the preference of using an audio lineup versus a single voice. The court rejected testimony about preexisting beliefs, the identifier's familiarity with target, the quality of the recording, and the influence of the police during the identification.

42. This is often referred to as “sensitizing” jurors to the evidence. See Devenport et al., *supra* note 7; Greene, *supra* note 30. Put another way, revised instructions work if they reduce arbitrariness and improve jurors' application of the law and reliance on relevant evidence. See Shari S. Diamond, *Instructing on Death: Psychologists, Juries, and Judges*, 48 AMER. PSYCHOL. 423 (1993). Presumably, simplified jury instructions have this effect via better comprehension, an assumption for which there is some empirical support. See Richard L. Wiener et al., *Guided Jury Discretion*, *supra* note 10. Of course, if revised instructions reduced jurors' ability to apply the law correctly, then that would be a compelling argument against the revision.

43. $F(1,91)=4.06, p=.047$.

“[W]e conducted a third study to assess the effect of adding interactive instructions.”

by instruction condition on any other measure of subjective comprehension. Additionally, the instructions did not have an effect on the mock jurors' verdict, nor did they sensitize them to good-vs.-poor witnessing conditions.

Study 2

A second study was conducted to evaluate how the presentation of the instructions might affect jurors' subjective experience with them. To better approximate the conditions under which jurors experience trials, jury instructions were videotaped and presented either with or without written transcripts for the participant's reference. One hundred and forty-one participants were asked to read either the good or poor witnessing version of the same trial summary used in the above study and then presented with the general jury instructions regarding their application of the law. Participants were also randomly assigned to receive or not receive written versions of the instructions and then asked to return verdicts and rate the instructions.⁴⁴

This study also examined the effects of the judge's nonverbal communication. Because some research has shown that the judge's general demeanor can have an effect on the jury,⁴⁵ two versions of the jury instructions were videotaped and shown to participants. In the first version, which we refer to as the *encouraging* condition, the judge presented himself as interested and engaged in the trial and used language manipulated to be encouraging to the jury (e.g., “It is *extremely important* that you perform your duties,” and, “While the information presented here today may seem overwhelming, I *appreciate your commitment* to this trial.”). In the second condition, called the *stoic* condition, the judge acted somewhat disinterested in the case, refrained from using encouraging speech, and emphasized the imperatives in the instructions (e.g., “You *must* perform your duties,” and “You *will not* be concerned...”).⁴⁶

Analyses uncovered no significant effects of whether the participant was given written instructions on subjective instruction ratings. However, they did uncover a significant interaction with the witnessing condition on the measure of verdict,⁴⁷ such that participants who were able to reference a

written version of the instructions were significantly more likely to convict the defendant in the poor witnessing condition, indicating that the written version of the instructions actually decreased sensitivity to the relevant identification factors.⁴⁸ Contrastingly, the verdicts of participants who did not have the written instructions were not significantly affected by the witnessing condition.⁴⁹

No significant effects were identified for the judge's nonverbal communication. Participants were equally likely to convict regardless of whether they saw the stoic or encouraging instructions.⁵⁰ There was also no interaction of the stoic-vs.-encouraging instructions with the good-vs.-bad witnessing conditions, indicating that the judge's demeanor did not improve mock jurors' decision making by making them more sensitive to the witness-identification testimony.

Study 3

Finally, because some research has shown that interactive presentation of material increases its usefulness,⁵¹ we conducted a third study to assess the effect of adding interactive instructions. One hundred and two participants again read either the good or poor witnessing version of the trial summary, followed by the same videotaped instructions from the second study, which again either were or were not accompanied by a written transcript. This time, however, the instructions were also manipulated either to include or not include interactive instructions, creating a 2 (good-vs.-poor witnessing condition) by 2 (with or without interactive instructions) by 2 (with or without the accompanying written transcript) design. In the interactive-instruction condition, the video was cut into sections, each of which was immediately followed by a single multiple-choice question. Participants were unable to continue until they provided the correct answer. This method highlighted specific parts of the instructions relevant to their decision (e.g., burden of proof, reasonable doubt) and was expected to improve mock jurors' subjective experience and comprehension.

Analyses again showed that the availability of written instructions did not affect participants' subjective estimate of comprehension.⁵² Also, in contrast to Study 2, the written instructions did not desensitize participants to differences in the quality of the witness-identification testimony.⁵³ Analyses regarding the interactive-instructions manipulation indicated

44. Participants who received written instructions were split further into two different conditions: one that heard the instructions orally both before and after trial, and one that heard oral instructions only after the trial. These two groups are combined into a single “written-instructions” condition for present purposes.

45. See notes 18-23, *supra*, and accompanying text.

46. A pretest showed that participants found the encouraging judge significantly more friendly, encouraging, supportive, fair, kind, and approachable, and less stern and impatient, than the stoic judge.

47. $F(1,129)=5.42, p = .021$.

48. Of the participants who saw the good witnessing condition and the written instructions, 10% convicted. Of the participants who saw the poor witnessing condition and the written instructions, 39% convicted. Such a “desensitization” effect, if corroborated by additional research, would be quite troubling.

49. Of the participants in the good witnessing condition, 25% convicted, compared to 19% in the poor witnessing condition.

50. 20% of participants convicted in the stoic condition, whereas 29% convicted in the encouraging condition: $F(1,131)=1.38, p = .24$.

51. E.g., Cathy W. Hall et al., *Psychology of Computer Use: XXXIII. Interactive Instructions with College-Level Science Courses*, 76 PSYCHOL. REPORTS 963 (1995). Interactive instructions are instructions that are intended to move the learner from a passive to an active role by requiring his or her input to proceed, much like the questions that required a response in the current study.

52. Confidence in following instructions, $F(1,90) = 1.23, p = .27$; difficulty in understanding instructions, $F(1,89) = .004, p = .95$; effectiveness of the instructions, $F(1,89) = .001, p = .97$

53. $F(1,84) = 2.961, p = .09$

that although participants who saw the interactive instructions perceived them as being significantly more effective,⁵⁴ there was only a marginally significant main effect on verdict⁵⁵ and no interaction with witnessing condition.

CONCLUSIONS AND RECOMMENDATIONS

The findings of the present studies are largely consistent with other research on jurors' comprehension of jury instructions. Specifically, various revisions to the instructions—such as modifying the language, providing written as well as oral instructions, and including interactive instructions—had slight effects on mock jurors' subjective comprehension of the instructions, but these effects were not consistent across studies or measures. The modifications did not exert an overall effect on verdicts, but even more importantly—and distressingly—they also did not, by and large, sensitize mock jurors to relevant variations in trial testimony (i.e., good vs. bad witnessing conditions).⁵⁶ When the judge delivered instructions in a friendlier and more approachable manner, mock jurors perceived the judge more favorably; but the judge's demeanor likewise did not influence their verdicts or make them more sensitive to identification witness testimony.

Importantly, we observed almost no evidence that these modifications to jury instructions made mock jurors' decisions worse.⁵⁷ There is a clear benefit to making jurors feel that they understand the instructions better, even if that perception is not borne out in their verdicts.⁵⁸ Moreover, much research indicates that revising jury instructions leads to better objective comprehension as well.⁵⁹ Thus, modifying instructions would seem to be well worth the effort; although some innovations are costly, such as completely rewriting a jurisdiction's pattern jury instructions, others—such as making instructions interactive—are not.⁶⁰

The trickier problem is in modifying instructions not only to improve comprehension—whether that is measured subjectively or objectively—but also to improve the quality of jurors' decision making. There is some evidence that this can occur, as with revising capital jury instructions;⁶¹ however, the research on modifying instructions about witness identification has generally failed to accomplish this goal,⁶² and the present studies do not afford a much more optimistic conclusion. Identification might be particularly difficult to address via instructions because of jurors' strong, yet often erroneous,

intuitions about the topic.⁶³ Therefore, it might be necessary to educate jurors about the fallibility of identification witnesses in more detail, by incorporating into jury instructions the sorts of information that more commonly arise in expert testimony.⁶⁴ In light of the severe consequences of false identifications and resulting false convictions, further efforts on the part of judges to sensitize jurors to the vagaries of identification testimony would be highly worthwhile.



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54. $F(1,89) = 5.31, p = .024$.

55. Participants convicted less with interactive instructions (22%) than without (41%), $F(1,86) = 3.79, p = .055$.

56. Study 2 even found a desensitization effect, where written instructions made mock jurors worse at discriminating between good and poor identification witnesses. Because Study 3 did not replicate this finding, we consider it an anomaly and not a cause for concern.

57. It seems unlikely that simple modifications, such as simplifying complex language, would have a detrimental effect on jury decision making. However, other modifications could. For example, the inclusion of written and/or interactive instructions might confuse jurors, and the judge's demeanor could inadvertently send nonverbal cues affecting jurors' judgments (see notes 18-23, *supra*, and accompanying text).

58. For example, jurors who feel better about their jury service will be less likely to try and get out of jury duty in the future, and will also generally show higher levels of civic engagement.

59. See notes 14-17, *supra*, and accompanying text.

60. On innovations in jury instructions generally, see Marder, *supra* note 9.

61. See Wiener et al., *Guided Jury Discretion*, *supra* note 10.

62. See notes 24-33, *supra*, and accompanying text.

63. E.g., Boyce et al., *supra* note 3; Read & Desmarais, *supra* note 3.

64. On safeguards generally, and their pros and cons relative to expert testimony, see Henderson, *supra* note 2; see also van Wallandael et al., *supra* note 7; Devenport et al., *supra* note 7.

The Resource Page: Focus on Eyewitness Evidence



RECENT COURT OPINIONS

Perry v. New Hampshire, 132 S. Ct. 716 (2012).

The United States Supreme Court rejected a due-process challenge to the admissibility of eyewitness testimony. While police had the defendant in handcuffs at the scene where someone had been reported breaking into cars, a witness looked out her window and identified the defendant. Although the circumstances were suggestible, the Court said there was no due-process issue since the officers hadn't acted improperly—the officers didn't try to arrange the witness's identification while the defendant was handcuffed and at the crime scene.

State v. Henderson, 27 A.3d 872 (N.J. 2011).

The New Jersey Supreme Court took this case—and the question of how courts should handle the reliability of eyewitness testimony—very seriously. As part of the process of deciding the case, the court appointed a special master, who heard seven expert witnesses in more than ten days of testimony and who reviewed more than 200 published scientific studies, articles, and books. (Two of the expert witnesses are authors in this issue, James Doyle and Gary Wells.) An extensive section of the court's opinion summarizes this information, covering how memory works, factors that may enhance confidence in identifications from lineups and showups, and factors that affect identification accuracy in real-life situations.

The court set out a new process for determining the admissibility of identification testimony. First, to obtain a pre-trial hearing, the defendant must make an initial showing that there's "some evidence of suggestiveness that could lead to a mistaken identification." Second, the state must then show that the identification is reliable. Third, the ultimate burden to keep evidence out remains on the defendant, who must show "a very sub-

stantial likelihood of irreparable misidentification." Fourth, if the evidence is admitted, the court "should provide appropriate, tailored jury instructions." 27 A.3d at 919-20. The court provided guidance for trial courts about what factors should be considered in making these determinations. The court specifically required that a jury instruction about cross-racial-identification difficulties be given in such cases. 27 A.3d at 926.

As reported by Thomson West, the court's opinion runs 59 pages. The special master's 88-page (typewritten) report to the New Jersey Supreme Court is available online at <http://www.judiciary.state.nj.us/pressrel/HENDERSON%20FINAL%20BRIEF%20.PDF%20%2800621142%29.PDF>.



RECENT ARTICLES OF NOTE

Brandon L. Garrett, *Eyewitnesses and Exclusion*, 65 VANDERBILT L. REV. 451 (2012).

David A. Sonenshein & Robin Nilon, *Eyewitness Errors and Wrongful Convictions: Let's Give Science a Chance*, 89 ORE. L. REV. 263 (2010).

Note, *Evidence—Eyewitness Identifications—New Jersey Supreme Court Uses Psychological Research to Update Admissibility Standards for Out-of-Court Identifications—State v. Henderson*, 27 A.3d 872 (N.J. 2011), 125 HARV. L. REV. 1514 (2012).

John Monahan & Laurens Walker, *A Judges' Guide to Using Social Science*, 43 COURT REVIEW 156 (2007).

This article from *Court Review* provides a framework for courts to consider social-science information, including what's contained in this special issue of *Court Review* on eyewitness testimony. (Professor Monahan was one of the expert witnesses who testified before the special master during the New Jersey

Supreme Court's consideration of eyewitness testimony.) You can find this *Court Review* article on the web at <http://aja.ncsc.dni.us/publications/courtview/cr43-4/CR43-4Monahan.pdf>.



RECENT BOOKS OF INTEREST

BRANDON L. GARRETT, *CONVICTING THE INNOCENT: WHERE CRIMINAL PROSECUTIONS GO WRONG*. Harvard Univ. Press, 376 pp., 2011 (\$39.95 hardcover; \$18.95 paperback).

University of Virginia law professor Brandon Garrett considers what went wrong in the first 250 cases in which convictions were overturned based on DNA exonerations. Garrett contends that these wrongful convictions are the result of entrenched practices that go on regularly in our criminal courts. One chapter examines cases of eyewitness misidentification; another chapter sets out proposals to lessen the chances of wrongful convictions. If you'd prefer to read a book review rather than the 367-page book, University of Texas law professor Jennifer E. Laurin wrote a good one for the *Texas Law Review*, which you can find at 90 *Tex. L. Rev.* 1473 (2012).



OTHER RECENT DEVELOPMENTS

New Jersey Supreme Court Issues New Jury Instructions and Court Rules on Eyewitness Testimony

<http://www.judiciary.state.nj.us/pressrel/2012/pr120719a.htm>

Following up on its decision in *Henderson* (see above), the New Jersey Supreme Court released some new court rules and jury instructions on July 19, 2012. After the *Henderson* decision was issued in 2011, a committee drafted proposals for new jury instructions. The new instructions in New Jersey have been

designed to be tailored for use in a given case, with a list of factors jurors might consider in determining the reliability of eyewitness testimony; judges are to include only the factors appropriate in each case. The instructions are also tailored to the social-science research the court reviewed in *Henderson*.

The court also adopted a new rule that provides that out-of-court identifications resulting from lineups or showups won't be admissible unless a record of the procedures followed is made. The court also amended a rule regarding discovery in criminal cases, giving defendants a right to all notes and records regarding identification procedures and identifications made or attempted to be made. Both rules go into effect September 4, 2012.



WEBSITES OF INTEREST

The Innocence Project

<http://www.innocenceproject.org>

The Innocence Project is a national litigation and public-policy organization that works to exonerate wrongfully convicted defendants through DNA testing and to reform the criminal-justice system to prevent wrongful convictions. Its website has a wealth of information, including separate interactive educational pages on the most common causes of wrongful convictions: eyewitness misidentification, unvalidated or poor forensic science, false confessions, government misconduct, informants or snitches with incentives to lie, and bad lawyering.

To get to the information on these causes of wrongful convictions and how to prevent them, click on "Understanding the Causes" on the Innocence Project's

home page. Each section has interactive materials, with video, etc. The video materials on eyewitness errors include an interview with a rape victim who identified the wrong man, even though she tried hard during the crime to concentrate on details so that she could identify her rapist. The interviews with her, one of the police officers involved in her identification of the defendant, and with researchers, showed how the misidentification in this rape case occurred. Also included are suggested best practices and links to further materials. This part of the website was jointly prepared by the Innocence Project and University of Virginia law professor Brandon Garrett.

Professor Gary Wells's Home Page

<http://www.psychology.iastate.edu/~glwells/>

The first thing that strikes you when you go to Professor Gary Wells's home page is that he's an expert in psychology, not web design. But he posts news and links regarding eyewitness-testimony research and developments here, and there are lots of links along with lots of good information. It's an eclectic collection, but a useful one. If you go to Google and type in "Gary Wells home page," you'll get links to some of the materials on his site. Click on "The Eyewitness Test" to observe an event on video. You'll then have a chance to look at a lineup to see if you can pick out the person who committed the crime shown in the video.

National Association of Criminal Defense Lawyers Eyewitness ID Reform Overview

<http://www.nacdl.org/criminaldefense.aspx?id=14779&fid=2154>

The National Association of Criminal

Defense Lawyers keeps a separate area on its website devoted to eyewitness-identification issues. Their collection is especially useful because it has been kept up to date. One part of the collection is a set of links to media coverage of eyewitness issues; the media coverage provides a good overview of recent developments in the area. Another section provides links to reports and papers about eyewitness-identification issues: a 2011 American Judicature Society report, a 2004 American Bar Association resolution about best practices, and several Innocence Project reports among them. The site isn't comprehensive, and it's defense-oriented, but it's worth a look.

Professor Jon Mueller's Resources on Psychology in the Courtroom

<http://jfmuller.faculty.noctrl.edu/crow/topiccourtroom.htm>

Professor Jon Mueller at North Central College in Naperville, Illinois, has put together an interesting collection of materials aimed at those who teach about psychology in the courtroom. There are links to lots of interesting studies on topics like why it's so hard to tell if someone is lying, how often those who evaluate mental competency of defendants agree with one another, and how memory can be manipulated. There are separate sections with links to articles about eyewitness testimony and false confessions. The site isn't comprehensive, but the references that have been selected are generally both interesting and written so as to make scientific concepts understandable. In addition, the site is frequently updated.

AMERICAN JUDGES ASSOCIATION FUTURE CONFERENCES

2012 Annual Conference

New Orleans, Louisiana
Sheraton New Orleans
September 30-October 5
\$169 single/double

2013 Midyear Meeting

Orlando, Florida
Royal Plaza Hotel
May 2-4
Rate TBD

2013 Annual Conference

Kohala Coast, Hawaii
The Fairmont Orchid
September 22-27
\$219 single/double



The Resource Page



WEBSITES OF INTEREST

Traffic Resource Center for Judges

www.trafficresourcecenter.org

The Traffic Resource Center for Judges provides background reports, articles, and recommendations regarding many of the situations judges handling traffic cases will face. Most of the site is accessible through two tabs—"Impaired Driving" and "Traffic." Under "Impaired Driving," you can find materials related to drunk driving, drugged driving, field-sobriety testing, alternative sentencing, DWI/DUI court evaluations, and transdermal monitoring systems. Under "Traffic," you can find materials about aggressive driving, bicycles, child safety, distracted driving, driver education, teen driving, and pedestrian safety. The website was put together by the National Center for State Courts with funding from the National Highway Transportation and Safety Administration (NHTSA).

To get an idea of what's on the site, we checked out the materials under field-sobriety testing. You'll find three studies from the 1990s validating field-sobriety tests as an indicator that a person's blood-alcohol concentration is above specified levels. Included is a final report submitted to NHTSA in 1998 that validated the measures for the .08 level that was then being adopted by many states. Also included are three government reports supporting the use of the horizontal-gaze-nystagmus test.

Not included are materials that might be used by the defense bar in these cases to challenge the reliability of these tests or the training manuals used to train law-enforcement officers (which are published by NHTSA). For a review of the literature and studies about the field-sobriety tests, see Steven J. Rubenzer, *The Standardized Field Sobriety Tests: A Review of Scientific and Legal Issues*, 32 *LAW & HUMAN BEHAV.* 293 (2008).

Even so, the website contains a wealth of useful material. On many issues, there

are links to some appellate opinions on the topic, which can provide an easy start to research in the area. In other areas, like distracted driving, the site contains links to multiple reports—by government and nongovernment researchers—that would provide ready background facts for a presentation to a local civic club or student group, as well as background for the judge handling such cases.

In addition to the website, the Traffic Resource Center for Judges will respond to requests for information from judges and court staff. According to the news release announcing the Center's creation, its staff also can supply educational materials, such as PowerPoint slides and video clips from presentations on a variety of topics.



NEW REPORTS

Navigating the Hazards of E-Discovery: A Manual for Judges in State Courts Across the Nation (2d ed. 2012).

http://iaals.du.edu/images/wygwam/documents/publications/Navigating_eDiscovery_2nd_Edition.pdf

For many state-court judges, even ones handling regular civil dockets, you may not end up very often in the middle of a dispute involving the discovery of electronic materials (email, voicemails, documents on hard drives, and things like metadata). But when you do, it's nice to have a helpful guide to the issues and the process. The Institute for the Advancement of the American Legal System (IAALS) at the University of Denver has prepared a great guide, and it's tailored for state-court judges.

The guide has four parts: Part I provides a brief background on the vocabulary and technical aspects of electronic discovery. Part II looks at issues of concern to the litigants, including the cost of production and the preservation of evidence. Part III looks specifically at e-discovery challenges from the lawyer's per-

spective. Part IV looks at those issues from the court's perspective, including suggestions for courts to handle e-discovery disputes fairly but efficiently. Another section at the end of the manual provides a glossary of key terms and a list of materials for further reading.

The guide is easy to read, but it contains citations to all the key cases from around the United States on e-discovery, as well as references to leading articles and studies in the area. But the guide does a good job of summarizing the key points so that—at least in getting an overall understanding of the problems normally encountered in e-discovery—you'll be in pretty good shape after just reading this guide, which runs 30 pages (not including the appendices).

The section specifically addressed to judges is practical. For example, the guide encourages judges to start with whether the information is needed in the first place when it seems of marginal relevance and complicated balancing tests would have to be applied to determine who should pay the large costs that might be associated with retrieval, checking for privileged contents, and production: "It may well be that e-mails from ten years ago, or a legacy database [that] would require expensive restoration, is relevant, but before going through a complicated balancing test to determine who should pay, let the parties convince you that the information is needed in the first place."

If you handle e-discovery disputes from time to time, download the manual and keep it on your computer for reference. It won't answer all the questions in this area, but it's a good starting point, with plenty of references for more detailed information.



FOCUS ON EYEWITNESS EVIDENCE

Court Review surveys resources on eyewitness evidence at page 55.