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Scientific Advances in Eyewitness Identification Evidence

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I. INTRODUCTION

A decade ago, law enforcement in two Minnesota counties, Hennepin and Ramsey, explored the potential benefits of a “double-blind sequential” lineup recommended by eyewitness 

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scientists. The double-blind sequential procedure is a strategy to improve the quality of eyewitness identification evidence based on scientific investigation of eyewitness decisions. In these two counties, pilot studies were conducted to determine the practicability of the procedure, and by 2006, double-blind sequential lineups had been implemented as a best practice for eyewitness identification evidence. These Minnesota law enforcement agencies built upon the scientific data by demonstrating that double-blind sequential procedure works in practice.

The uncertain reliability of eyewitness identification evidence has been highlighted in recent state and United States Supreme Court decisions, underscored by numerous cases of wrongful conviction, and placed at the center of policy and procedural changes across the nation for collection of eyewitness evidence by law enforcement. Most recently, the National Academy of Sciences undertook a lengthy review of the research literature and provided resounding support for eyewitness science, recommending changes in police and legal practice to accommodate settled eyewitness science principles.

The strong rationale for changes in how eyewitness evidence is collected and used in legal proceedings is founded on sound eyewitness science. This begs the question: What are the scientific findings? This article will provide an update regarding the status of empirical research on the double-blind sequential lineup protocol.
eyewitness research and place the findings of the past forty years within the context of legal decision making and law enforcement practice. This information is directly relevant not only to law enforcement but to attorneys, judges, and policymakers. The purpose is to inform legal professionals about the valuable contributions of eyewitness science to the endeavors of the justice system and to describe improvements for the ways in which eyewitness evidence is collected and preserved.

II. LEGAL BACKGROUND

Eyewitness identification is persuasive evidence of criminal wrongdoing. On the witness stand, a confident and consistent eyewitness is likely to deliver compelling testimony that is very believable to a jury. However, memory is fallible and even a well-intentioned and confident eyewitness may bring flawed recall to a police lineup and falsely incriminating evidence to court. Historically, courts have recognized eyewitness identification evidence as problematic even as juries continued to find eyewitness testimony convincing.

In the 1960s, the United States Supreme Court instituted safeguards to protect criminal defendants from wrongful convictions as a result of misidentification. For example, in United States v. Wade, the Court held that the Sixth Amendment right to counsel applies to critical stages of pretrial proceedings including the physical lineup procedure. The Court recognized “[t]he vagaries of eyewitness identification” and the “innumerable dangers and variable factors which might seriously, even crucially, derogate from a fair trial.” The United States Supreme Court ruled in Stovall v. Denno that an unduly suggestive lineup constitutes a due process violation if it could lead to an irreparably mistaken

8. See infra Part III.
9. See infra Part IV.
10. See infra Parts V–VI.
12. Id. at 65.
13. Id. at 51–54.
15. Id. at 228.
Therefore, a defendant could move to suppress prejudicial identification testimony depending on the "totality of the circumstances" surrounding the testimony. The next year, in Simmons v. United States, the Court ruled that each potential due process violation during a lineup must be examined on the facts of the individual case. Lineups would be excluded from trial if the "procedure was so impermissibly suggestive as to give rise to a very substantial likelihood of irreparable misidentification." In the 1970s, the Court began retreating from the broader safeguards guaranteed in Wade, Stovall, and Simmons. In United States v. Ash, the Court refused to extend the protection of a Sixth Amendment right to counsel to photographic lineups, reasoning that a photo display did not involve such risk so as to require a safeguard. The Court also found that even extremely biased lineups were not per se exclusionary. Instead, it was necessary to determine whether an admittedly suggestive lineup was nonetheless reliable.

Neil v. Biggers established five factors for determining the trustworthiness of an eyewitness identification: the witness's opportunity to view the perpetrator during the crime, the witness's attention to the perpetrator at the time of the crime, the accuracy of the witness's initial description of the perpetrator, the witness's certainty at the lineup, "and the length of time between the crime and the [identification]." In Manson v. Brathwaite, the Court concluded "that reliability is the linchpin in determining the admissibility of identification testimony." This decision firmly emphasized that the important question was not whether the identification procedure was prejudicial to the criminal defendant, but whether the identification itself was reliable.

With Manson, the Supreme Court mapped out a two-pronged decision process along with the criteria believed useful for
evaluating eyewitness identification evidence.\textsuperscript{27} The Court directed that if the identification was achieved under use of suggestive procedures (Prong 1), then the reliability of the evidence is to be evaluated (Prong 2) using the \textit{Biggers} criteria.\textsuperscript{28} The validity of these criteria has been challenged in recent years in the scientific literature discussed below.\textsuperscript{29}

The United States Supreme Court recently reviewed an eyewitness case for the first time since 1977.\textsuperscript{30} The \textit{Manson} standard was left undisturbed by the Court’s decision, as was the two-pronged decision process for evaluation of eyewitness evidence reliability.\textsuperscript{31} While commending the science that clearly demonstrated the frequent lack of reliability in eyewitness memory, the Court reiterated that court consideration of eyewitness identification reliability is not afforded to defendants automatically, but only if the state conducted a suggestive identification procedure.\textsuperscript{32}

Two recent state court cases, however, have reshaped the legal architecture for identification evidence in those states. The New Jersey Supreme Court appointed a Special Master (Retired Judge Geoffrey Gaulkin), who reviewed the science on eyewitness memory in an eighty-eight-page document,\textsuperscript{33} concluding that “the soundness and reliability of that evidence is indisputable.”\textsuperscript{34} Eyewitness identification has also been described as “the gold standard in terms of the applicability of social science research to the law.”\textsuperscript{35}

\textsuperscript{27} Id. at 110.
\textsuperscript{28} Id. at 110, 114.
\textsuperscript{29} \textit{See infra} Part V.
\textsuperscript{31} \textit{See} Perry, 132 S. Ct. at 718–20.
\textsuperscript{32} Id. at 718.
\textsuperscript{34} Id. at 72.
\textsuperscript{35} State v. Henderson, 27 A.3d 872, 916 (N.J. 2011) (noting that this view was from expert testimony offered by the defense on remand).
The New Jersey Supreme Court issued its opinion in *State v. Henderson*:

We find that the scientific evidence considered at the remand hearing is reliable. That evidence offers convincing proof that the current test for evaluating the trustworthiness of eyewitness identifications should be revised. Study after study revealed a troubling lack of reliability in eyewitness identifications. From social science research to the review of actual police lineups, from laboratory experiments to DNA exonerations, the record proves that the possibility of mistaken identification is real. Indeed, it is now widely known that eyewitness misidentification is the leading cause of wrongful convictions across the country.

In the end, we conclude that the current standard for assessing eyewitness identification evidence does not fully meet its goals. It does not offer an adequate measure for reliability or sufficiently deter inappropriate police conduct. It also overstates the jury’s inherent ability to evaluate evidence offered by eyewitnesses who honestly believe their testimony is accurate.

The New Jersey Supreme Court defined two principle steps as a corrective strategy. First, when a defendant can show evidence of suggestiveness in the identification procedure, a thorough pretrial inquiry will determine if the eyewitness evidence is admissible. Second, the court system is charged to develop enhanced jury instructions on eyewitness identification for trial judges to employ.

The Oregon Supreme Court in *State v. Lawson* more directly met the onus of scientific memory research by placing eyewitness evidence squarely within the dictates of the state’s evidentiary guidelines. That is, the party that proffers eyewitness testimony at trial must bear the burden of demonstrating the reliability of that evidence, regardless of whether it was obtained through suggestive or non-suggestive police actions. The focus is on the

36. *Id.* at 877–78.
37. *Id.* at 919.
38. *Id.*; see also Press Release, Geoffrey Gaulkin, *supra* note 33, at 74–75.
40. *Id.* at 685.
trustworthiness of the evidence, and the validity of that evidence lies in the personal knowledge of the witness, untainted by external influences or information. Therefore, the judge is required to determine whether the evidence had its source in the personal knowledge of the witness or from outside contaminating information. According to Boston attorney James Doyle: "Perhaps most importantly, the Oregon Supreme Court emphasized that whether or not anyone has committed misconduct, judges are required to carefully balance the probative value of eyewitness evidence against that evidence's prejudicial effect in light of the findings of modern psychology." In ruling so, the court relied heavily on the scientific knowledge that has emerged in recent decades.

III. THE SCIENTIFIC EVIDENCE: THREE CORE QUESTIONS

Eyewitness scientists have focused their investigations on three core concerns that have both theoretical and practical relevance: (1) How reliable are eyewitnesses? (2) Why do eyewitnesses make errors? (3) Can these errors be prevented? These three questions will be addressed in the sections below. First, however, it is useful to define the methods through which scientific knowledge about eyewitness memory is obtained.

A. The Nature of the Scientific Evidence

Scientists for four decades have developed and reported empirical findings that shed light on how mistaken identifications happen and why eyewitnesses can become so confident even in wrong identifications. As noted in the Henderson decision, scientific knowledge about eyewitness memory comes from multiple sources. First, eyewitness researchers explore the complex phenomenon of eyewitness identification decisions as other scientists do in their own domains—by taking the phenomenon apart in the laboratory in order to understand its

41. Id. at 699.
42. Id. at 692.
44. Lawson, 291 P.3d at 690.
45. See, e.g., Wells, Memon & Penrod, supra note 11.
underlying components and the cause-and-effect relationships among these components.\(^\text{47}\) Hundreds of controlled laboratory experiments have provided understanding of how various factors enhance or inhibit eyewitness decision accuracy.\(^\text{48}\) These factors encompass not only issues of memory strength but also social and motivational influences on eyewitness decisions.\(^\text{49}\)

Laboratory experiments possess the crucial attribute of "ground truth" that rarely exists in field tests with real cases: absolute knowledge regarding the certain identity of the culprit.\(^\text{50}\) Lab scientists create artificial crime events through staged video or live enactments so they can subsequently compare eyewitness responses to a culprit-present lineup (the culprit is in the lineup) versus a culprit-absent lineup (the culprit has been replaced by an innocent "filler").\(^\text{51}\) This aspect of lab research establishes a lineup procedure's capacity to reduce misidentifications (in culprit-absent lineups) and its concomitant impacts on correct decisions in culprit-present lineups. The best identification procedure is one that can maintain legitimate correct identifications of the culprit while tamping down identification errors.\(^\text{52}\)

Replication of experimental results is a basic requirement of good science. Research teams in different labs will test the same hypothesis with somewhat differing stimulus materials (crime events and lineups), participant-subjects, and strategies. If many studies across time converge on a common outcome and psychological principle, confidence in that research finding will grow, especially if the studies are peer-reviewed and published in reputable science journals.\(^\text{53}\) For legal professionals and many others, however, one of the difficulties in understanding a new,
large, and unfamiliar body of science is that it is so difficult to read and make sense of so many individual studies. Fortunately, eyewitness researchers have recognized the usefulness of a cohesive data review, and they make frequent use of the statistical review technique called meta-analysis.\textsuperscript{54} A meta-analysis pulls together all available research on a topic, combines the data from the empirical studies across laboratories, and provides an overall statistical summary of the results.\textsuperscript{55} The meta-analysis directly answers the question of interest: What is the status of this hypothesis when all the studies are combined?\textsuperscript{56}

Most usefully, meta-analysis allows detection of reliable patterns of outcomes that occur across studies.\textsuperscript{56} The analysis furthermore informs us about circumstances that produce a nonconforming outcome.\textsuperscript{57} For example, studies have consistently found that older adults (sixty years plus) produce more identification errors than do younger adults (eighteen to thirty years), as can be seen in many studies.\textsuperscript{58} Attention can be drawn to one study with an unusual outcome among the extant literature. This single study produced no difference in accuracy between the older and younger age groups. Closer examination revealed that the “older adults” tested were in fact thirty-five to fifty-five years old.\textsuperscript{59} The reliable pattern of older eyewitness identification errors that turns up across most studies is thus not negated by this one


\textsuperscript{56} Id. at 201–02.

\textsuperscript{57} See id.


\textsuperscript{59} See Daniel B. Wright & Joanne N. Stroud, \textit{Age Differences in Lineup Identification Accuracy: People Are Better with Their Own Age}, 26 Law & Hum. Behav. 641, 645 (2002).
“no-difference” finding. Instead, we now know more about the age at which deficits occur (beyond thirty-five to fifty) and that this mid-age group performs as well as the eighteen to thirty group.60

An important point here is that meta-analyses are likely to uncover some “non-effects”—that is, a few studies may fail to produce the typical outcomes. Often the failure of a study to replicate the wider body of research is explicable upon further examination. It is also true that simply by chance some studies will produce odd outcomes, what scientists call “noise” in the data. The value of scientific meta-analysis, for researchers and for the legal system, is to delineate enduring patterns in the data and not place undue confidence in the odd outcome. Simply put, the smart money is on the pattern, not the noise. Meta-analyses are particularly helpful for expert witnesses and attorneys who wish to clearly summarize the literature.61

Once principles of memory are established in the lab, it is useful to move to the field for subsequent testing with real eyewitnesses to crimes in real investigations. Recently, the best lineup practices recommended by eyewitness scientists were put to the test in four U.S. cities—Austin (Texas), Charlotte-Mecklenburg, San Diego, and Tucson.62 The outcomes of this large field experiment were consistent with the decades of laboratory research outcomes and provided confidence in the benefits of the recommended double-blind sequential lineup procedure to reduce misidentifications.

A final source of information is archival studies of existing data from police jurisdictions or legal cases. The best-documented legal cases are those of the Innocence Project.63 In addition, ten

60. See generally id. (finding no difference between the two age groups studied).
61. See Blumenthal, supra note 55, at 206–07.
63. The Innocence Project is a “public policy organization dedicated to exonerating wrongfully convicted individuals through DNA testing and reforming the criminal justice system to prevent future injustice.” INNOCENCE PROJECT, http://www.innocenceproject.org (last visited Nov. 14, 2014); see also BRANDON L. GARRETT, CONVICTING THE INNOCENT: WHERE CRIMINAL PROSECUTIONS GO WRONG
published archival police datasets are available (including the Hennepin County study discussed above). One of the most intriguing aspects of the archival data is the consistent level of errors made by these real witnesses. Of witnesses who made a positive identification of a lineup member, one-third chose a filler—a known error. This is probably an underestimate, given that police often do not document filler picks, instead recording them as non-identifications. This level of error validates the concerns of research scientists that eyewitnesses too frequently base lineup decisions on a weak and unreliable memory.

B. How Reliable Are Eyewitnesses? Eyewitness Errors and Wrongful Conviction

The Innocence Project recently reported the exoneration of Nathan Brown, who served seventeen years in a Louisiana prison for robbery and attempted rape before being exonerated by DNA evidence in 2014. The conviction was based largely on mistaken identification by the victim initially during a one-on-one show-up identification procedure and subsequently in court.

The negative ramifications of wrongful conviction extend beyond the horrific effects on the lives of the violated innocent person and his or her loved ones. Investigators, attorneys, and testifying witnesses who have helped to prosecute a later exonerated individual are likely shaken with the realization that even well-intentioned “by the book” procedures can end very...
Wrongful convictions can erode public confidence in the justice system and citizens' sense of security. Importantly, a wrongful conviction consists of two errors: an innocent person is convicted and the true perpetrator is left on the streets to commit additional offenses.

The introduction of DNA testing in the early 1990s generated objective evidence of wrongful conviction and, to date, the Innocence Project has documented over 300 wrongful convictions. The greater availability of DNA in rape cases compared to other crimes likely explains the preponderance of rape cases among DNA exonerations. Hence, it can be argued that cases in which false convictions are exposed by DNA are the "tip of [the] iceberg" in miscarriages of justice. There are likely to be large numbers of undetected wrongful convictions in rape cases without testable DNA, and some larger number of undetected false convictions in robberies and serious violent crimes for which DNA collection is not possible. The National Registry of Exonerations, maintained as a joint project between the University of Michigan Law School and The Center for Wrongful Convictions at Northwestern University School of Law, lists 1553 cases since 1989 in which a person was wrongly convicted but later exonerated by new evidence of innocence.

If there were no discernible evidence patterns in these cases, the legal system may simply have to chalk up the errors to unfortunate instances of a fallible justice system. However, the DNA exoneration cases show a clear pattern of eyewitness error: approximately seventy-six percent of the cases involved a witness who made an identification error, and in some cases multiple witnesses identified the same innocent suspect. The National

69. Id.
71. See id.
73. Id. at 531.
74. Id.
76. GARRETT, supra note 63, at 9.
Registry of Exonerations reports that mistaken identifications have been involved in approximately thirty-five percent of exoneration cases and in eighty-three percent of robbery and seventy-three percent of sexual assault cases. Thus, substantial attention has been drawn to eyewitness error as a major contributor to unjust convictions, and DNA exonerations have become the catalyst for lineup reform in some jurisdictions. For example, in the wake of the New Jersey State v. Cromedy decision—an eyewitness evidence case in which a DNA test of biological evidence collected from the victim exonerated the defendant—Attorney General John Farmer turned to the lineup reforms recommended by researchers. Using the unique authority granted to the Attorney General in that state, Farmer implemented mandatory statewide guidelines, making New Jersey the first state to uniformly adopt double-blind sequential lineup procedures.

The DNA exoneration cases deliver a specific lesson about eyewitness error that aligns well with a persistent scientific question. Namely, the lineups that produced identification errors did not include the real culprit. The police had a suspect, of course, but that suspect was not the perpetrator of the crime. Yet these well-intentioned eyewitnesses chose the innocent suspect and went on to accuse him in a courtroom. Clearly, the lineup member chosen could not have matched the witness’s memory of the culprit and yet, these witnesses failed to claim “he’s not there” or “I don’t


83. See id. at 17–21.
recognize any of these faces”—which would have been the correct answer to a lineup in which the culprit is not present.

And, there is more to the problem. It is not just the identification that can drive an investigation forward, convince a prosecutor to charge a case, or be compelling evidence at trial. That eyewitness must also be confident. Thus, the perplexing question for eyewitness scientists: Why does an eyewitness select a lineup member even in the absence of recognition memory? Furthermore, how can an eyewitness who has made a wrong identification be so confident? And a very important final question: Why did the witness specifically choose the suspect from the lineup if he or she is innocent?

C. Why Do Eyewitnesses Make Errors?

Consider the ideal eyewitness: All sensory systems operate optimally (including required eyewear and absence of ear-buds), in an attentive, calm, and non-intoxicated witness, within a situation that provides an unobstructed, well-illuminated view at a distance and for a duration of time that allows a reasonable study of the culprit and circumstances. The ideal witness will attend to and perceive all that transpires; encode this information completely, meaningfully, and accurately into memory; retain the information across time; and then retrieve and report it faithfully and fully when requested by investigators. This ideal witness has passed through four steps of a simple model akin to the operation of our memory system. Eyewitnesses perceive stimuli and subsequently encode, retain, and retrieve information and images. This simple example of the ideal witness is an appealing device for grasping the witness experience and for understanding all that can go wrong in the eyewitness account of a crime. Because, alas, this ideal witness

86. Id.
87. Id.
does not exist. In the next paragraphs, witness vulnerability to error at each of these four stages is explored.

1. Estimator and System Variables

There is a useful forensic distinction to be made between the first two steps of the eyewitness memory experience (perception and encoding) and the final two steps (retention and retrieval). Even before law enforcement arrives on the scene, many factors will influence perception and encoding processes. Consider a distracted witness who only briefly views three strangers wearing dark glasses and hats under conditions of poor lighting at a substantial distance. Research supports common-sense assumptions that short crime duration,99 greater distance,90 poor illumination,91 offender disguises,92 and distractions from full attention93 will diminish the quality of eyewitness memory.94

Research has also uncovered influences on memory that may not always be common knowledge.95 Three examples from the eyewitness literature illustrate this point. First, witness fear and stress are likely to diminish, rather than aid, the quality of memory,
contrary to common wisdom. The human “fight or flight” physiological response to threat—that mobilizes energy for the physical action of fighting hard or running fast—is geared toward enhancing prospects of survival, not memory. While the gist of the frightening experience is not easily forgotten, details are often not encoded correctly, if at all.

A second well-documented phenomenon is the “weapon focus effect.” Research shows that a weapon is likely to draw the attention of the witness, reducing time for attention directed to facial features. Lab studies indicate that presence (versus absence) of a weapon reduces accuracy of later lineup identifications.

A third example is that identification errors are significantly more likely when the event is “cross-race.” Most people are much better at encoding facial details for members of their own race than other races. A meta-analysis of studies spanning thirty years and encompassing the laboratory experiences of nearly 5000 research participants found that witnesses were 1.40 times more likely to correctly identify a previously-seen face of their own race compared to a face of another race, and 1.56 times more likely to falsely identify an other-race face never seen before.

Unfortunately, the justice system cannot mandate whether the race of the victim is the same as the offender, whether or not the offender carries a weapon, the illumination of the offender’s face, and additional critical factors. These many factors that diminish the quality of witness memory during perception and encoding are out of the control of law enforcement. Furthermore, the impact of

97. See id. at 687–88.
98. Id. at 699, 703.
100. Id. at 421–22.
101. Id. at 420. See generally Fawcett, Russell, Peace & Christie, supra note 93 (discussing the effect of weapons presence on memory).
103. Id.
104. Id. at 15.
these issues on any specific witness can only be estimated after the fact. Thus, these factors are referred to as “estimator variables.”

Once law enforcement has arrived on the scene, however, investigators can potentially control subsequent influences on witness memory. Impact of these “system variables” can be adjusted by the legal system through better procedures. System variables have become the focus of lineup procedural recommendations. For example, best police practices require that witnesses be interviewed sooner rather than later, that witness interviews be documented immediately, and that co-witnesses be separated before they confer in order to avoid memory contamination. Some of these practices cannot always be achieved (e.g., multiple witnesses to a crime frequently share their impressions before police have a chance to interview them), but many can be applied with greater consistency.

2. Eyewitness Memory Vulnerabilities During Memory Retention and Retrieval

An eyewitness to a crime is placed in an undesirable and unusual circumstance. There is often a powerful self-imposed pressure, as well as a push from investigators, family, and/or the media, to generate a detailed and coherent narrative of what happened and who is responsible. Witnesses may second-guess their own version of events when hearing co-witness accounts or details from a case investigator or other sources. For example, the “John Doe” sought in a costly FBI manhunt following the Oklahoma bombing of 1995 is now believed to have been non-existent, although three eyewitnesses described Timothy McVeigh’s

106. Id. at 1552–54.
"accomplice" at the time. The co-witnesses at a truck rental shop were apparently influenced by one employee who recalled confidently that Timothy McVeigh was with another man when he rented the truck used in the bombing. All three witnesses described the accomplice to investigators—after they first shared their recall with one another.

The human cognitive system is a marvelous structure for building one's knowledge base through learning and reasoning processes. At the same time, the memory and decision processes that work adequately for us most of the time may not work ideally for eyewitnesses. For example, an otherwise useful cognitive function that purges or updates old information in favor of new may present difficulties for the eyewitness.

It is not surprising that eyewitnesses forget both important and unimportant details as time goes by, as we all do. But, eyewitness memory also can err through commission, incorporating new information that may seemingly sharpen the experience or shape the narrative for the witness in ways that, even if factually correct, become no longer a veridical report of that eyewitness's original experience. This is illustrated in the manner in which we incorporate new information seamlessly into our cognitive system and in the way we can reason ourselves into an answer in the absence of requisite knowledge.

3. Incorporation of New Information

As has been cautioned now for decades, eyewitness memory is not like a play-back system that can be accessed for a clean, full version of a past event. Information encoded into memory at the time of a crime is not stored in pristine or immutable condition but is instead quite vulnerable to revision, contrary to a common
assumption of an image “burned into memory.” Memories are not so much “retrieved” as they are “reconstructed,” often using current knowledge to understand the past event or to fill in a gap in the story in ways that make sense within a personal belief system. Furthermore, the content of new information is better remembered than the source of that information.

Thus, eyewitness veracity is dually cursed by the likelihood that original memory of the crime event will be tainted by new external information and that the witness will be unable to effectively parse information into what she knows now, versus what she knew at the time of the crime (a source monitoring error). An eyewitness may replace (or confuse) a perpetrator’s face with another image—of an innocent lineup member, a police composite, or a face seen in a mug-shot or other post-event context. Nevertheless, the subsequent “memory” is often quite compelling to the eyewitness, investigators, and jury. A challenge for eyewitness researchers and the legal system is to assess the level of reconstruction that afflicts an eyewitness’s memory report.

One of the most riveting and well-publicized DNA exoneration cases, the rape conviction of Ronald Cotton, includes a chain of identification tasks—a composite sketch, a photo lineup, a physical

115. See id. at 363-64.
117. This is called the misinformation effect. See, e.g., Loftus, supra note 114, at 361.
119. See SCHACTER, supra note 109, at 92-93 (discussing unconscious transference); Elizabeth F. Loftus, Unconscious Transference in Eyewitness Identification, 2 LAW & PSYCHOL. REV. 93, 96–98 (1976) (analyzing an unconscious transference experiment).
120. See State v. Clopten, 223 P.3d 1103, 1108 (Utah 2009) (“Indeed, juries seemed to be swayed the most by the confidence of an eyewitness, even though such confidence only correlates weakly with accuracy.”). See generally Richard A. Wise, Clifford S. Fishman & Martin A. Safer, How to Analyze the Accuracy of Eyewitness Testimony in a Criminal Case, 42 CONN. L. REV. 435 (2009) (discussing eyewitness overconfidence in their own testimony and studies demonstrating that even judges and attorneys are uninformed on identification accuracy).
lineup, an in-court ID—during which the face of the rapist, Bobby Poole, was replaced in the victim's memory with that of innocent Ronald Cotton.\textsuperscript{121} With one hundred percent confidence at trial, victim Jennifer Thompson called the day of Cotton's conviction, "the happiest day of my life"\textsuperscript{122} but failed to recognize Poole when she finally was confronted with him.\textsuperscript{123}

In at least fourteen DNA-exoneration cases "the exoneree was the only person repeated in multiple viewings" by the same eyewitness.\textsuperscript{124} These cases have the common thread of mistaken identification by eyewitnesses who became increasingly but erroneously convinced of the culprit's identity across two or more identification tasks.\textsuperscript{125} Eyewitness research similarly demonstrates the problems for eyewitness identification of repeated identification tasks.\textsuperscript{126} Repeated identification tasks are not uncommon in practice.\textsuperscript{127} Yet, most jurisdictions have no written policies about identification practices.\textsuperscript{128}

4. Memory Strength and Reasoning Processes

Remember back to a past exam of multiple-choice items—a college exam, a written driver's test, the LSAT, or the SAT. For some items, a quick scan of the response options was enough to immediately recognize the answer. For other items, the correct

\textsuperscript{121} See generally Jennifer Thompson-Cannino, Ronald Cotton & Erin Torneo, Picking Cotton: Our Memoir of Injustice and Redemption (2009) (providing an account of the events and process surrounding Cotton's false rape conviction).

\textsuperscript{122} Jennifer Thompson, 'I Was Certain, But I Was Wrong,' N.Y. TIMES (June 18, 2000), http://www.nytimes.com/2000/06/18/opinion/i-was-certain-but-i-was-wrong.html.

\textsuperscript{123} THOMPSON-CANNINO, COTTON & TORNEO, supra note 121, at 134.

\textsuperscript{124} GARRET, supra note 63, at 59.

\textsuperscript{125} See id. at 63–68 (discussing false confidence in eyewitness identifications).


\textsuperscript{128} See POLICE EXEC. RESEARCH FORUM, supra note 66, at 46.
answer did not jump out. Memory failed, so a secondary strategy was called up: eliminate unlikely options, try to find a decipherable cue in the question itself, or make a best guess. Helpful assistance from others might even have been attempted (another test-taker or the instructor).

In a similar manner, eyewitnesses are asked to report whether they recognize a suspect from a lineup. A witness may have an immediate recognition experience, a fast automatic positive identification (a "jump-out"). In the absence of immediate recognition—when memory for the culprit is not strong, culprit appearance has changed, or the culprit is not in the lineup—secondary processes will be prompted: slower, more effortful and deliberative modes of decision making. These psychological processes involve a continuum of judgment from automatic to deliberative. The witness using a deliberative process may be essentially attempting to find the suspect, a reasoning process that is quite different from immediate recognition. This difference in decision strategy has implications for the quality of evidence from a positive identification, and provides a basis for the procedural improvements recommended by scientists.

One common secondary strategy in our daily lives is to respond to a difficult question by answering an easier one, usually without noticing the change in tack. This strategy is often

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129. See Garrett, supra note 63, at 59–62 (discussing aspects of the eyewitness identification procedure).


132. Charman & Wells, The Moderating Effect of Ecphoric Experience, supra note 131, at 244 (“Furthermore, the more similar an innocent suspect is to the culprit (and hence the stronger the ecphoric experience), the higher a witness’s confidence.”).

133. Id. at 249 (“[W]e continue to advocate the use of methods that prevent post-identification feedback altogether, whether confirming or disconfirming.”).

successful and rather effortless.\footnote{135} For example, when we try to locate a vaguely-remembered server mid-meal in a restaurant (Was that the young man who took my order?), the answer to an alternative question may easily suffice (Which of these servers is closest to what I remember?). An error in this scenario has limited if any repercussions.

This process of choosing the closest to memory is well-known in lineup literature. In this context, however, repercussions are very serious. Relative judgment is the comparison of lineup members to one another in order to select the one who looks most like the offender relative to the other lineup members.\footnote{136} Relative judgment may work well if the culprit is in the lineup.\footnote{137} However, the intuitive "correctness" of relative judgment for the witness produces a dangerous situation when police place an innocent suspect in a lineup, particularly one who resembles the true culprit. A witness who moves from an absolute (this is the guy!) to a relative (closest!) judgment strategy places an innocent suspect at risk.\footnote{138}

Research indicates that a very difficult task for eyewitnesses is to recognize when the culprit is not in the lineup.\footnote{139} This straightforward conceptualization of relative judgment as a secondary decision strategy is rich in its implications for lineup procedural revisions and has provided the basis for recommended new lineup procedures. For example, the sequential (one-at-a-time) lineup was developed as a means to reduce witness reliance on relative judgment when immediate recognition fails.\footnote{140}

\begin{footnotes}
\footnotetext[135]{See id.}
\footnotetext[136]{Gary L. Wells, The Psychology of Lineup Identifications, 14 J. APPLIED SOC. PSYCHOL. 89, 89 (1984).}
\footnotetext[137]{See id. at 93.}
\footnotetext[138]{Gary L. Wells, What Do We Know About Eyewitness Identification?, 48 J. AM. PSYCHOLOGIST 553, 560 (1993). See generally R. C. L. Lindsay & Gary L. Wells, Improving Eyewitness Identification: Simultaneous Versus Sequential Lineup Presentations, 70 J. APPLIED PSYCHOL. 556, 562 (1985) (recommending the use of sequential lineups to "force witnesses away from the possibility of using a relative-judgment strategy").}
\footnotetext[139]{Wells, supra note 138, at 560.}
\footnotetext[140]{See Lindsay & Wells, supra note 138, at 561. See generally Gary L. Wells, Eyewitness Identification: Systemic Reforms, 2006 Wis. L. REV. 615, 643.}
\end{footnotes}
D. Can Eyewitness Error Be Prevented?

The legal system is very clear in its expectation for eyewitness identification evidence. An identification must be the result of an independent recollection by the witness and must not be influenced by administrator cues, suggestive procedures, case evidence, or any form of external intrusion.141 In Perry, the United States Supreme Court strongly reiterated that unnecessary suggestiveness in police procedures is a constitutional issue of due process that gives rise to judicial review and possible suppression of the evidence.142

A lineup must fairly secure the identification of a culprit or exonerate an innocent suspect based on the witness’s memory alone.143 This basic legal premise underlies reforms for eyewitness evidence procedures.144 The challenge for researchers and for the legal system therefore has been to develop identification procedures that tap legitimate witness recognition of the culprit and avoid procedural bias or suggestiveness that may compromise witness reliance on memory alone.145 At the same time, eyewitness scientists have illuminated the troublesome fact that too frequently eyewitnesses make a lineup pick even when memory is weak, increasing the risk of a mistaken identification.146

Ideally then, lineup procedures should capture the original experience of the eyewitness (without external influence), should be fair to the suspect (avoiding suggestiveness), and should minimize procedural biases that may prompt witnesses with weak or no memory of the culprit to choose from the lineup. Procedural biases may operate as general-impairment or specific suspect.147 A general-impairment bias (or more simply, general bias) pushes a witness to make an identification, but the push is not necessarily directed toward the suspect. Specific suspect bias (or more simply, suspect bias) points the witness toward the suspect and away from the

142. Id. at 724–25.
144. Id.
145. Wells, Steblay & Dysart, supra note 52, at 268.
146. Wells, supra note 65, at 13.
fillers, who are the known-innocent members of the lineup. For example, a biased lineup instruction ("Which of these is the person?") may prompt more identifications and thereby incur an increase in witness choosing but it does not explicitly implicate the suspect (a general-impairment bias). On the other hand, a poorly constructed lineup in which only the suspect bears resemblance to the witness’s description of the culprit will likely prompt a witness to pick the suspect (a specific suspect bias). Similarly, repeated identification tasks involving the same witness and suspect produce specific bias against a suspect, because a suspect may stand out in a lineup when he or she has appeared in a prior identification context: a mug shot book, a show-up (presentation of the suspect alone), or an earlier lineup. The issue of specific suspect bias is quite relevant to jury considerations. A jury may hear a case in which encoding and retention conditions were clearly substandard (e.g., a witness with a poor view who makes a cross-race identification long after the event). Yet, the jury may be minimally impressed by warnings about general-impairment concerns, because, after all, the witness still picked the defendant from a lineup. Suspect-bias variables, on the other hand, can provide an answer to the pressing question of why the witness picked this defendant if he or she is not guilty.

IV. SCIENTIFIC RECOMMENDATIONS FOR LINEUP PROCEDURE

The lineup procedural revisions recommended by scientists to increase the reliability of eyewitness evidence include components of lineup construction, lineup instructions to the witness, presentation of the lineup, and recording of lineup results.

A. Lineup Construction

The purpose of a lineup is for law enforcement to gather reliable evidence to test a suspicion that the suspect is indeed the

149. Brewer & Wells, supra note 147, at 24–25; Wells & Loftus, supra note 88, at 156.
150. Brewer & Wells, supra note 147, at 25.
151. Id.
152. See generally Wells & Loftus, supra note 88, at 150–52 (discussing the eyewitness misidentification of Thomas Brewster over a decade after the crime occurred, which brought him to trial for murder).
153. See Brewer & Wells, supra note 147, at 25.
perpetrator. Law enforcement presents a single suspect to the witnesses along with “fillers” (known innocents) of similar physical attributes. A witness’s firm rejection of a lineup (“He’s not there.”) may prompt police to reevaluate their suspicion about the suspect. A filler selection can indicate a weak witness memory or that the filler looks more like the perpetrator than does the suspect. And, of course, a suspect identification offers incriminating evidence against the suspect.

Properly selected lineup fillers help to ensure that the lineup does not immediately suggest to the witness who the police think the suspect is (i.e., it avoids a suspect bias). When all fillers match the witness’s description of the culprit and no lineup member stands out, the witness cannot use a simple process of elimination to arrive at the suspect. An eyewitness whose memory is weak should be dissuaded by the many unfamiliar faces in the lineup from falsely claiming recognition of the suspect.

Furthermore, suppose a witness with a poor memory nevertheless makes a lineup pick, perhaps using relative judgment. The risk to an innocent suspect is diminished if that risk is spread across lineup fillers. With a fairly-constructed lineup of six members, the likelihood that any one lineup member will be chosen by chance is one in six. Thus, the likelihood that an innocent suspect will be chosen by a witness who is simply guessing is one in six. A larger lineup can further reduce risk to an innocent suspect; for example, an eight-member lineup decreases the risk to an innocent suspect to one in eight. This rationale exposes the

155. Id.
157. Wells, Memon & Penrod, supra note 11, at 62.
158. Id.
159. Id. at 63.
problem of a show-up, in which a single suspect is unprotected from a simple guess. 161

The recommendation that only one suspect be included in a lineup is based on this logic, which asserts that risk from an unreliable witness can and should be spread away from an innocent suspect. 162 The extreme end of a contrary lineup construction strategy—an all-suspect lineup—can be seen in the Duke University lacrosse team rape case that came to attention in 2006. The witness, who described the multiple offenders as lacrosse team members, was shown a series of lineups with all team members, including one display with all forty-six lacrosse players. 163 There were no fillers. 164 Any witness pick would incriminate that selected team member—just as throwing a dart at the photos would have netted a suspect hit. In short, the procedures used were non-diagnostic for the guilt or innocence of the young men in the lineup. And, it is important to note that the absence of fillers in the lineups also meant that the witness’s credibility could not be challenged; she could not make a “wrong” pick. 165

Police do not know if the suspect is the culprit when they build the lineup. Therefore, fair lineup construction requires a method of fit-to-description as a means to limit bias against a suspect who may be innocent. 166 That is, all lineup members should match the description of the culprit provided by the eyewitness. Variability in lineup member appearance is allowed around the core verbal descriptors provided by the witness, a method that avoids both an impossible “clone” lineup and one that unfairly flags the suspect. 167

161. Id. at 525.
163. Wells, Cutler & Hasel, supra note 84, at 316.
164. Id. at 318–19.
165. Id.
A lineup constructed to increase physical similarity beyond the level of witness description provides no additional protection to the innocent suspect and can harm the eyewitness’s ability to identify the perpetrator.

B. Lineup Instructions

One of the most intractable problems of eyewitness identification is that many witnesses will choose a lineup member when they in fact should have said “he’s not there” or “I don’t know.” It appears that inherent pressure of a lineup scenario or the expectations that the perpetrators must be in the lineup prompts witnesses to make lineup selections even in the absence of clear recognition. Witnesses may shift to relative judgment—picking the lineup member closest to memory—a process that places an innocent suspect at risk. One means to reduce witness reliance on relative judgment, that is, to inhibit witnesses from picking from a lineup when they do not have sufficient memory strength, is to provide an instruction that (correctly) informs them that the culprit they saw may not be in the lineup. The recommendation is for an explicit instruction to the witness that the offender may or may not be in the lineup, thereby also allowing that “none of the above” may be the correct and reasonable response to the lineup. The NIJ Guide embraced this recommendation, and this cautionary instruction has become a noncontroversial policy reform in many U.S. jurisdictions.

This author recently evaluated sixteen experimental lab studies in a meta-analysis that specifically tested the presence versus absence of a may-or-may-not instruction. The instruction significantly reduced identification errors when the culprit was missing from the lineup, from seventy percent to forty-three percent, and a designated innocent suspect was picked by half as many witnesses (nineteen percent vs. forty percent). This

168. Smalarz & Wells, supra note 82, at 15.
169. Wells, supra note 136, at 100; Wells, Memon & Penrod, supra note 11, at 61.
170. NIJ GUIDE, supra note 107, at 31–32.
171. Id.
173. Id. at 70.
174. Id.
instruction also led to a non-significant and small (five percent) loss of correct identifications.\textsuperscript{175} The research is clear: an instruction that specifically alerts the witness to the possibility that the true perpetrator may not be in the lineup significantly decreases erroneous witness picks from the lineup, compared to an instruction that suggests culprit presence in the array. The primary impact of the admonition is to inhibit choosing from witnesses who otherwise would make identification errors, an avoidance of a general bias.

C. Double-Blind Lineup Administration

A standard protective measure of experimental and clinical research design is a double-blind procedure, in which neither the research participant nor the experimenter knows whether the participant is in the treatment or control group.\textsuperscript{176} In medical research, double-blind procedure requires that neither the evaluating clinician nor the patient know whether the patient is receiving the treatment or a placebo. The purpose is that the double-blind procedure protects against the inadvertent impact of knowledge that could taint research results (how the clinician interacts with the patient, records patient information and evaluates clinical outcomes, and how the patient perceives and reports the experience). The double-blind procedure also protects the research against claims of influence or bias.\textsuperscript{177}

In lineup practice, most police already use a “single-blind” procedure. The eyewitness is not told who the suspect is in the lineup (i.e., police do not instruct the witness: “Here is a lineup of six guys. We think number three is the one who robbed you. What do you think?”). Of course, this would be highly suggestive and contradict the purpose of the lineup. The scientific recommendation is that lineup procedures should in fact be “double-blind” to keep both the eyewitness and lineup administrator unaware of which lineup member is the police suspect.\textsuperscript{178} The lineup administrator does not know which lineup

\begin{footnotesize}
\textsuperscript{175} Id. at 72.
\textsuperscript{176} Wells, Steblay & Dysart, supra note 52, at 266.
\textsuperscript{177} Id.
\textsuperscript{178} Jennifer E. Dysart, Victoria Z. Lawson & Anna Rainey, Blind Lineup Administration as a Prophylactic Against the Postidentification Feedback Effect, 36 LAW & HUM. BEHAV. 312, 312 (2012).
\end{footnotesize}
member is the suspect, and furthermore, the witness is informed that the administrator does not know. This protocol avoids unintentional leaks of information from the lineup administrator regarding which lineup member is the suspect and which are mere fillers (a suspect bias) and cautions the witness that administrator comments or behaviors are not helpful clues to who the suspect is.\textsuperscript{179} As in clinical trials, double-blind procedure prompts recording clarity and integrity and protects against claims of administrator influence.\textsuperscript{180}

The recommendation for a double blind identification procedure was issued over two decades ago and has been long endorsed by eyewitness scientists.\textsuperscript{181} Identifications from lineups conducted by blind administrators have been found to be more diagnostic of suspect guilt than those conducted under a non-blind procedure.\textsuperscript{182} Exploration of the underlying conditions for witness vulnerability to influence has found that the impact from non-blind administrators is greatest when the lineup procedure is also affected by general bias factors of biased lineup instructions and simultaneous lineup format.\textsuperscript{183} Non-blind administrators behave differently toward witnesses.\textsuperscript{184} Yet, both witnesses and administrators may be unaware of administrator influence.\textsuperscript{185}

Beyond the worry of direct influence during the lineup procedure, there are additional negative effects of the non-blind lineup administration after the lineup decision is made. Research has established the impact of a non-blind lineup administrator on the written report of the lineup procedure and outcomes. An

\begin{itemize}
  \item \textsuperscript{179} See id. at 312–19.
  \item \textsuperscript{181} GARY L. WELLS, EYEWITNESS IDENTIFICATION: A SYSTEM HANDBOOK 75 (1988); Wells, Small, Penrod, Malpass, Fulero & Brimacombe, supra note 166, at 603–47.
  \item \textsuperscript{182} Sarah M. Greathouse & Margaret Bull Kovera, Instruction Bias and Lineup Presentation Moderate the Effects of Administrator Knowledge on Eyewitness Identification, 33 LAW & HUM. BEHAV. 70, 79 (2009).
  \item \textsuperscript{183} Id. at 76.
  \item \textsuperscript{184} Id. at 71–72; see also Ryan M. Haw & Ronald P. Fisher, Effects of Administrator-Witness Contact on Eyewitness Identification Accuracy, 89 J. APPLIED PSYCHOL. 1106, 1106–12 (2004).
  \item \textsuperscript{185} Greathouse & Kovera, supra note 182, at 79.
\end{itemize}
administrative reporting difference was documented in real field lineups. Analysis of eighty-seven lineups indicated that non-blind investigators administering simultaneous lineups were forty-four percent less likely to report verbatim witness comments (e.g., "That's him, I recognize the crooked teeth.") than were blind investigators administering sequential lineups. Non-blind administrators more frequently reported in third-person form (e.g., "The witness identified the suspect."), revealing an interpretation of the lineup outcome filtered through the lens of investigator knowledge. In this field comparison, blind status of the lineup was confounded with lineup format. Nevertheless, the take-away point is that a blind lineup administrator, by virtue of the lack of knowledge about the suspect, is unable to interject conclusions based on case information. In a similar manner, a blind lineup administrator cannot contaminate a witness's confidence with comments about the "correctness" of a witness's lineup selection, a problem that is discussed in a section below.

D. Sequential Lineup Presentation

A traditional identification procedure presents all lineup members at the same time (simultaneously). Yet, there is no logical or empirical basis to assume that a reliable witness's memory of the culprit can be improved with a side-by-side comparison of lineup members, nor is there a financial benefit of a simultaneous display. Also, there is a risk in the traditional procedure: simultaneous lineup presentation allows witnesses to engage in relative judgment, thereby prompting lineup picks (a general bias), but also increasing risk to an innocent suspect who looks most like the culprit (a suspect bias). The scientific recommendation for increasing the reliability of eyewitness identification evidence is to employ a sequential rather than simultaneous display of the lineup members. That is, all lineups, photographic or live, should be presented to the witness one member at a time and the witness

186. Steblay, supra note 127, at 5-7.
187. Id. at 6.
188. Id.
190. Wells, supra note 138, at 560-62.
191. See generally Wells, Steblay & Disart, supra note 62.
should make a decision about each lineup member before moving to the next. ¹⁹²

A sizable amount of experimental literature has compared performance of eyewitnesses using the two lineup procedures (seventy-two studies).¹⁹³ The most complete and recent review has revealed a common pattern: compared to the simultaneous procedure, a sequential procedure produces a large reduction in mistaken identifications (twenty-two percent) with some accompanying loss of correct identifications (eight percent).¹⁹⁴ The loss of correct identifications is presumably due to the fact that witnesses could no longer employ relative judgment to find the suspect. A subsequent analysis of the same data by a different team of researchers concluded that the sequential procedure promotes a more conservative witness decision process ("the tendency of witnesses to choose from or reject a lineup").¹⁹⁵ It is likely this more conservative criterion is responsible for the higher overall accuracy rates with the sequential procedure.¹⁹⁶

Sequential and simultaneous lineup procedures were directly compared in a controlled, randomized field experiment sponsored by the American Judicature Society (AJS) involving almost 500 lineups, including both real witnesses and real crimes, ranging from fraud to murder, in four U.S. police jurisdictions.¹⁹⁷ The lineups were randomly assigned to simultaneous versus sequential lineup procedures.¹⁹⁸ Results were in concert with laboratory findings, in that sequential lineups generated significantly fewer (11.1%) filler identifications compared to simultaneous lineups (17.8%), with no loss of suspect identifications.¹⁹⁹

For police, the critical question is: "Is the identification a good predictor of the suspect's guilt?" Once a witness has made a positive identification from the lineup, the likelihood that this pick was a guilty rather than innocent person is better if the lineup was

¹⁹². Lindsay & Wells, supra note 138, at 559; Steblay, Dysart & Wells, supra note 2, at 99, 123.
¹⁹³. Steblay, Dysart & Wells, supra note 2, at 106.
¹⁹⁴. Id. at 99, 123.
¹⁹⁶. Id. at 253.
¹⁹⁸. Id. at 5.
¹⁹⁹. Id. at 13.
sequential versus simultaneous. In short, sequential lineup procedure produces identification evidence that is more probative. These results are now echoed with the AJS field data. While suspect identifications did not differ between sequential and simultaneous field lineups, forty-one percent of witness selections from simultaneous field lineups were filler picks compared to thirty-one percent of witness picks from sequential lineups. In this way, the sequential procedure increases the probative value of the identification evidence.

E. Witness Confidence Statements

As noted above, it is not only a positive identification of a suspect that presents strong evidence at trial, but also high witness confidence in that identification. The escalation of witness confidence between identification and court testimony can potentially be spurred by any number of external sources, including media reports of a suspect's previous crimes, police or attorney information about the status of the investigation, or new knowledge regarding co-witness statements. Thus, confidence at trial may be substantially higher than that at the identification. For this reason, best practice is to take a confidence statement in the witness's own words immediately at the time of the identification and before feedback about the correctness of that decision arrives from any source (as directed in the NIJ Guide).

This procedural recommendation is more nuanced than perhaps immediately appreciated. The thin slice of time immediately after the witness's identification is the first point of vulnerability for what can quickly become false witness confidence. A sizable body of research literature has revealed the astonishing power of a casual positive comment from a lineup

200. See Wells, Steblay & Dysart, supra note 52, at 269; see also Steblay, Dysart & Wells, supra note 2, at 123.
201. Steblay, Dysart & Wells, supra note 2, at 123.
203. Id. at 13. These percentages have been rounded to the closest whole number.
204. Wells & Bradfield, supra note 166, at 361; see also NIJ Guide, supra note 107, at 24–25.

http://open.mitchellhamline.edu/wmlr/vol41/iss3/11
administrator to affect eyewitness confidence. In the first study to examine this phenomenon, witness-participants viewed a security video and were asked to identify the offender from a lineup. The lineup did not include the offender, yet all witnesses made a selection. Immediately after these mistaken identifications, (false) confirming feedback was provided to a randomly-assigned group of witnesses: “Good. You identified the actual suspect.” Witnesses assigned to the control group were told nothing about their identification accuracy. Confirming feedback significantly inflated witnesses’ retrospective confidence reports compared to the control group. Furthermore, an extensive range of variables was inflated in conjunction with retrospective certainty, including witnesses’ positive evaluation of their viewing experience for the crime. Yet, the witnesses believed that the feedback did not affect their perceptions.

The post-identification feedback effect is robust across studies and noteworthy for multiple reasons. First, witnesses whose decisions were confirmed became more certain of their identification both at the time of the feedback (perhaps not surprisingly) but also retrospectively for the time of the identification. Importantly, these witnesses typically have made identifications from culprit-absent lineups; hence, their distorted reports correspond to mistaken identifications of innocent suspects, a forensically-relevant scenario of critical importance. This dramatic effect is produced by a simple, casual, even seemingly helpful, comment from the lineup administrator.

Second, memory of the circumstances surrounding the identification task and the crime itself has been altered. After

206. See generally id.
207. See Wells & Bradfield, supra note 166, at 363.
208. Id.
209. Id.
210. Id.
211. Id. at 367.
212. Id.
213. Id.
214. For meta-analysis data, see Steblay, Wells, & Douglass, supra note 205, at 1-18.
215. Id. at 5.
216. Id. at 5–6.
217. See Wells & Bradfield, supra note 166, at 363.
confirming feedback, witnesses recalled greater ease and speed of
the identification and reported having had a better view of the
perpetrator, having paid more attention, having had a better basis
to make an identification, and having greater clarity of the
offender's image in mind.219 These aspects of eyewitness experience
are the very attributes that are likely to bolster eyewitness credibility
in the eyes of investigators, prosecutors, and juries.220 In short, the
identification evidence has been contaminated.221

Additionally, witnesses who received confirming feedback
showed elevation in broader subjective measures: belief that they
possess good memory for strangers, greater trust in eyewitnesses
with similar experiences, and an increased willingness to testify
about their eyewitness experience.222 This combination—that jurors
are especially willing to believe a confident witness and that lineup
administrators can influence a witness's confidence—poses a
serious problem for courtroom evidence.223 The confidence of the
witness can be misaligned with accuracy,224 yet a witness who is truly
convinced of the correctness of the testimony will not exude cues
of deception or insincerity.225 Importantly, this post-identification
feedback effect has been replicated with real eyewitnesses to crimes
and with both incorrect and correct witness decisions.226

How can this slip of a comment be inhibited, so as to prohibit
false confidence? A recent study supports the most frequently
offered advice to law enforcement as to how to avoid post-
identification feedback effects: a blind lineup administrator who
can secure the confidence rating from the witness at the time of the
lineup.227

219. Wells & Bradfield, supra note 166, at 367.
220. Steblay, Wells & Douglass, supra note 205, at 11.
221. Wells & Bradfield, supra note 166, at 367.
222. Steblay, Wells & Douglass, supra note 205, at 5.
223. Id. at 11.
224. Siegfried Ludwig Sporer, Steven Penrod, Don Read & Brian Cutler,
Choosing, Confidence, and Accuracy: A Meta-Analysis of the Confidence-Accuracy Relation
225. Steblay, Wells & Douglass, supra note 205, at 12.
226. Id. at 7.
227. See Dysart, Lawson & Rainey, supra note 178, at 313.
V. EYEWITNESS EVIDENCE AND THE COURTS

The United States Supreme Court delivered the *Manson v. Briney* decision prior to the beginning of an ensuing wave of eyewitness research studies. The Court established the two-pronged strategy for the evaluation of eyewitness reliability. First was a determination of whether the identification procedure was unnecessarily suggestive. If the police procedure is not unduly suggestive, the identification evidence is allowable at trial. When the procedure is deemed too suggestive, the second prong of the strategy is triggered, and the reliability of the evidence is weighed against five criteria: the witness's opportunity to view the offender, degree of attention during the crime, certainty at the time of the identification, the accuracy of the witness's description of the defendant, and the amount of time elapsed between the crime and the identification.

The *Manson* criteria for eyewitness reliability have not fared well under empirical scrutiny over the past thirty-five years. Of greatest concern is that three of the five *Manson* criteria are secured through retrospective self-report of the witness that can be easily tainted. As we have seen, post-identification feedback can significantly inflate witness reports of certainty, view, and attention to the crime. This is an unfortunate deficit in the *Manson* criteria, that a suggestive police procedure can prompt distortion of the eyewitness's memory in the very direction that will "pass" the second *Manson* prong. Therefore, a *Manson* inquiry is unlikely to detect the unreliable witness at a pretrial hearing, and *Manson* does not incentivize law enforcement to avoid suggestive procedures.

Scientists and legal scholars have called for a new legal framework for the evaluation of eyewitness reliability based more

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229. *Id.* at 114.
230. *Id.*
231. *Id.*
232. *Id.* at 98–99.
234. See *id.* at 9.
235. See *id.* at 16.
236. *Id.* at 4, 16–17.
tightly on scientific research. The reason for this, articulated in the *Perry* scientific brief prepared by the American Psychological Association, includes the fact that traditional tools of the court—pretrial evidentiary hearings, cross-examination, jury instructions, and expert testimony—appear to inadequately protect against unreliable eyewitness testimony. The problem often rests with a confident and entirely sincere eyewitness, who is nevertheless incorrect.

VI. EYEWITNESS MEMORY AND JURIES

A central point of this article is that the legal system may have unreasonable expectations for eyewitness memory. Researchers have documented that jurors typically do not understand eyewitness memory principles and in fact may hold beliefs contrary to scientific principles. Nor does it appear that laypersons understand the implications of police procedure for eyewitness accuracy. One study asked experiment participants to judge the guilt of a suspect when the identification procedure had been conducted blind or non-blind. Participants were found to be unaware of the bias that can be incurred with non-blind lineups. The authors of the study reiterate the need to correct

237. See generally id.
243. See id. at 15.
misperceptions through courtroom methods of expert testimony and jury instructions.\textsuperscript{244}

A troubling fact is that even eyewitnesses themselves are relatively insensitive to the quality of encoding conditions under which they formed a memory of an offender or of the impact of police procedures on their identification decisions.\textsuperscript{245} Eyewitness scientists play an important role in helping legal decision makers assess eyewitness credibility. Video-recording of the witness’s identification attempt may be helpful to juror assessment of eyewitness accuracy.\textsuperscript{246} Legal remedies for eyewitness issues include reconsideration of \textit{Manson} criteria, suppression of identification evidence, motions in limine to limit testimony (e.g., on confidence), judicial instructions, and expert testimony.\textsuperscript{247} The recent report on eyewitness evidence by the National Academy of Sciences echoed many of these recommendations, urging increased court use of pretrial judicial inquiry, expert witnesses, and jury instructions to convey scientific information relevant to eyewitness memory.\textsuperscript{248} The report also recommended that juries be made aware of out-of-court identifications of the suspect by the witness, the manner and timeframe in which they were conducted, and the confidence level expressed by the eyewitness at the time.\textsuperscript{249} These are very positive steps forward.

VII. CONCLUSION

Eyewitness fallibility has been a perennial problem for the justice system. Eyewitness science now offers recommendations for best practices in the collection of eyewitness evidence, as a means to reduce the likelihood of eyewitness error. Minnesota

\textsuperscript{244} \textit{Id.} at 15–16.
\textsuperscript{245} \textit{See generally} R. C. L. Lindsay, Carolyn Semmler, Nathan Weber, Neil Brewer & Marilyn R. Lindsay, \textit{How Variations in Distance Affect Eyewitness Reports and Identification Accuracy}, 32 \textit{Law \& Hum. Behav.} 526 (2008) (discussing eyewitnesses being insensitive to the effect of distance on memory); Wells & Bradfield, \textit{supra} note 167, at S37–38 (discussing structural bias in lineups).
\textsuperscript{247} For a broader discussion of these legal remedies, see Smalarz & Wells, \textit{supra} note 82, at 21.
\textsuperscript{248} \textit{NAT’L RESEARCH COUNCIL OF THE NAT’L ACADS.}, \textit{supra} note 6.
\textsuperscript{249} \textit{Id.}
jurisdictions have been at the forefront of implementing these best practices, specifically in the use of the double-blind sequential procedure.

The blind sequential procedure facilitates two important behaviors relevant to the acquisition of the best possible information: the witness’s independent judgment about each photo based on memory alone, and the investigator’s objective documentation of those judgments. Thus, sequential procedures are more likely than traditional lineups to reveal what witnesses really remember and are trying to convey. This in turn allows attorneys, judges, and juries to be more confident when identifications are made and to appreciate the significance of conditional identifications.

Put another way, blind sequential procedures give us a clearer view of the truth.250

Across the country, jurisdictions that have mandated or recommended revised procedures include some entire states (New Jersey, North Carolina, Connecticut, Georgia, Oregon, Virginia, Texas, Rhode Island, and Wisconsin), as well as individual jurisdictions (e.g., Dallas; Boston; Philadelphia; Denver; San Francisco; Tucson; Northampton, Massachusetts; and Santa Clara, California).251 The Innocence Project keeps up-to-date listings of jurisdictional reforms.252 The International Association of Chiefs of Police has endorsed recommended identification procedures including sequential double-blind lineups.253 Nevertheless, a recent survey of law enforcement found only a minority of jurisdictions fully using these best practices.254 A survey of 532 U.S. law enforcement officers found that very few had knowledge of eyewitness factors or of how memory works.255

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252. Id.
254. POLICE EXEC. RESEARCH FORUM, supra note 66, at xiii.
255. See Wise, Safer & Maro, supra note 95, at 488.
Education and training are necessary components for change, a point recognized by the National Academy of Sciences in its recommendations for increasing the value of eyewitness evidence.256

The recent AJS study of lineup performance with real eyewitnesses presents a sobering statistic. Even with the best-recommended practices (double-blind sequential procedure), thirty-one percent of witnesses who made positive identifications chose filler picks (known errors).257 Thus, there is much room for improvement. It is useful to step back and take a long view of the interview and identification processes of the broader police investigation. For example: How did this suspect get in the lineup to begin with? How did the case detective decide how the investigation should proceed with this identification evidence? Up to forty percent of officers report that they would place a suspect in a lineup with no evidence of guilt but by simply playing a hunch, an unwritten policy with direct implications for the rate of culprit-absent lineups in the field and inherent risks for innocent suspects.258 We have very little information about how investigators respond to non-identifications, to contradictory eyewitness evidence, or to witness qualifiers of an identification, and whether evidentiary standards influence detective decisions and eyewitness decisions.

The central importance of eyewitness memory evidence in the legal system, and its substantial weight and significant consequences in criminal convictions and monetary awards, means that eyewitness science must be an informed and informing partner to law. Scientific evaluation of legal assumptions about the strengths and limitations of human memory remains essential, as do continued advances in empirically-based remedies to protect witness memory from disruption and contamination.

257. See supra text accompanying note 206.
258. Wise, Safer & Maro, supra note 95, at 497.
259. Wells, supra note 140, at 636–37.