

**IN THE SUPREME COURT OF PENNSYLVANIA
EASTERN DISTRICT**

NO. 28 EAP 2011

COMMONWEALTH OF PENNSYLVANIA,

vs.

BENJAMIN WALKER,
Appellant

**BRIEF FOR AMICI CURIAE
THE INNOCENCE NETWORK AND
THE PENNSYLVANIA INNOCENCE PROJECT
IN SUPPORT OF APPELLANT BENJAMIN WALKER**

Appeal from the Judgment of the Superior Court Filed August 23, 2010,
at 1477 EDA 2008, Affirming the December 12, 2007,
Order of the Court Of Common Pleas of Philadelphia County
at CP-51-CR-1201561-2005.

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INTEREST OF *AMICI CURIAE*

The Innocence Network (“the Network”) is an association of organizations dedicated to providing pro bono legal and/or investigative services to prisoners for whom evidence discovered post conviction can provide conclusive proof of innocence. The 66 current members of the Network represent hundreds of prisoners with innocence claims in all 50 states and the District of Columbia, as well as Australia, Canada, the United Kingdom, and New Zealand.¹ The Innocence Network and its members are also dedicated to improving the accuracy and reliability of the criminal justice system in future cases. Drawing on the lessons learned from cases in which the system convicted innocent persons, the Network advocates reforms designed to enhance the truth-seeking functions of the criminal justice system and thereby prevent future wrongful convictions. In this case, the Innocence Network seeks to present a broad legal and scientific perspective on eyewitness identifications to the end of informing the Court’s determination of whether the continued categorical exclusion of genuinely scientific expert testimony regarding the risks of eyewitness misidentification serves the interests of justice or perpetuates the risk of convicting the innocent and allowing the guilty to escape justice.

¹ The member organizations include the Alaska Innocence Project, Association in Defense of the Wrongly Convicted (Canada), California Innocence Project, Center on Wrongful Convictions, Connecticut Innocence Project, Downstate Illinois Innocence Project, Duke Center for Criminal Justice and Professional Responsibility, The Exoneration Initiative, Georgia Innocence Project, Hawaii Innocence Project, Idaho Innocence Project, Innocence Network UK, Innocence Project, Innocence Project Arkansas, Innocence Project at UVA School of Law, Innocence Project New Orleans, Innocence Project New Zealand, Innocence Project Northwest Clinic, Innocence Project of Florida, Innocence Project of Iowa, Innocence Project of Minnesota, Innocence Project of South Dakota, Innocence Project of Texas, Justice Project, Inc., Kentucky Innocence Project, Maryland Innocence Project, Medill Innocence Project, Michigan Innocence Clinic, Mid-Atlantic Innocence Project, Midwestern Innocence Project, Mississippi Innocence Project, Montana Innocence Project, Nebraska Innocence Project, New England Innocence Project, Northern Arizona Justice Project, Northern California Innocence Project, Office of the Public Defender (State of Delaware), Office of the Ohio Public Defender, Wrongful Conviction Project, Ohio Innocence Project, Osgoode Hall Innocence Project (Canada), Pace Post-Conviction Project, Palmetto Innocence Project, Pennsylvania Innocence Project, Reinvestigation Project (Office of the Appellate Defender), Rocky Mountain Innocence Center, Sellenger Centre Criminal Justice Review Project (Australia), Texas Center for Actual Innocence, Texas Innocence Network, Thomas M. Cooley Law School Innocence Project, Thurgood Marshall School of Law Innocence Project, University of British Columbia Law Innocence Project (Canada), Wake Forest University Law School Innocence and Justice Clinic, Wesleyan Innocence Project, Wisconsin Innocence Project, and Wrongful Conviction Clinic.

The Pennsylvania Innocence Project is a nonprofit legal clinic and resource center founded in 2008, housed at Temple University's Beasley School of Law, and a member of the Network. Its board of directors and advisory committee include practicing lawyers, law professors, former United States Attorneys, former state court prosecutors, and the deans of the law schools of Temple University, Villanova University, Drexel University, the University of Pennsylvania, and Rutgers-Camden. The Project provides *pro bono* investigative and legal services to indigent prisoners throughout the Commonwealth of Pennsylvania whose claims of actual innocence are supported by the results of DNA testing or other, powerfully exculpatory evidence or whose claims, after a preliminary investigation, evince a substantial potential for the discovery of such evidence. In addition, the Project works to remedy the underlying causes of wrongful convictions better to ensure that no one will be convicted and imprisoned for a crime they did not commit and to lessen the risk that a wrongdoer will escape justice because an innocent person was convicted in their stead. Allowing into the courtroom the light shed by expert testimony on the vagaries of human memory and other relevant cognitive issues will assist jurors in evaluating eyewitness identification evidence and, in that way, foster the ascertainment of the truth and the just determination of criminal proceedings.

Amici have a compelling interest in ensuring that criminal trials arrive at accurate determinations of guilt and promote justice. Inasmuch as mistaken eyewitness identifications are the principal cause of wrongful convictions, *Amici* have a compelling interest in the adoption of rules of evidence that reduce the risk of a finding of guilt based on misidentification.

STATEMENT OF THE CASE

Amici Curiae adopt and incorporate the Statement of the Case as presented by Appellant in his Brief to this Court.

STATEMENT OF QUESTIONS PRESENTED

1. SHOULD NOT TRIAL JUDGES IN PENNSYLVANIA HAVE DISCRETION TO ADMIT WELL-FOUNDED SCIENTIFIC EXPERT TESTIMONY REGARDING HUMAN PERCEPTION, MEMORY, AND RECALL IN A CASE INVOLVING EYEWITNESS IDENTIFICATION?

Suggested Answer: Yes.

2. SHOULD NOT EXPERT TESTIMONY ON “HOW THE MIND WORKS” BE ADMISSIBLE, WHETHER OFFERED BY THE DEFENSE OR THE PROSECUTION, WHEN THERE IS CLEAR PROOF OF SCIENTIFIC RELIABILITY AND “GENERAL ACCEPTANCE WITHIN THE RELEVANT COMMUNITY OF SCIENTISTS,” THE TESTIMONY IS RELEVANT, HELPFUL TO THE TRIER OF FACT, AND DOES NOT COMMENT ON THE CREDIBILITY OF A PARTICULAR WITNESS OR CLASS OF WITNESSES?

Suggested Answer: Yes.

SUMMARY OF ARGUMENT

Studies of DNA-based exonerations demonstrate that eyewitness error is the leading contributor to convictions of innocent people. Eyewitness identification testimony is fallible, susceptible to inaccuracies, and yet so convincing that, when it is wrong, it poses a serious risk of convicting an innocent person.

Thirty years of cognitive scientific research have reshaped our understanding of how eyewitness identification works, how it can go wrong, and what can be done to improve its accuracy. The current due process test for determining the admissibility of an eyewitness identification that is alleged to have been tainted by an unnecessarily suggestive lineup or photo array is inadequate to ensure that the eyewitness identification testimony is reliable.

Pennsylvania should join the overwhelming majority of jurisdictions in giving the trial court discretion to admit expert testimony regarding studies of human perception, memory, and recall having a bearing on the accuracy of eyewitness identifications. Such testimony should be admissible at every stage of a criminal proceeding when it is relevant to a judicial

determination of a motion to suppress evidence of an eyewitness identification matter or to a determination by the factfinder of the accuracy of an in-court identification. Permitting qualified expert witnesses to give judges and juries the benefit of scientific evidence for use in interpreting eyewitness identification evidence will foster the ascertainment of the truth, enhance public confidence in convictions, and ensure justice to the innocent and the guilty alike.

Social science evidence pertaining to how the mind works should be admissible under the same standards that apply to other expert testimony, regardless of whether the evidence is offered by the prosecution or defense. Having experts testify to research findings useful to the trier of fact's understanding of an issue in the case, or to a determination of a fact in issue, will not violate the Court's existing ban on expert opinions that tell the jury if a witness is truthful or lying. So long as the social science expert testimony is relevant to an issue in the case, is scientifically reliable, has earned general acceptance in the relevant scientific community, and meets the other admissibility requirements of Pa. R. E. 702, it should be admitted to help the trier of fact interpret the evidence in the case. The use of such vetting scientific evidence would help ensure that verdicts rest on a sound foundation, not on ignorance, myths, or misconceptions.

ARGUMENT

I. INTRODUCTION: MISTAKEN EYEWITNESS IDENTIFICATIONS THWART JUSTICE BY IMPRISONING INNOCENTS AND ALLOWING THE GUILTY TO ESCAPE PUNISHMENT.

No interest is served by imprisoning the wrong person for a crime, except perhaps the interest of the real perpetrator. As Justice Marshall noted in his dissent in *Manson v. Brathwaite*, a legal framework that permits unreliable and misleading eyewitness identifications to be put before juries “will allow dangerous criminals to remain on the streets while citizens

assume that police action has given them protection.”² For example, the May 2005 murder of Patricia McDermott in Philadelphia was facilitated, in part, by the fact that her murderer had previously evaded capture while two innocent men were wrongly arrested for his previous shootings.³ Both men, Morris Wells and Clyde Johnson IV, were arrested based on photo array identifications by two eyewitnesses.⁴ Further, Johnson’s conviction occurred despite the eyewitnesses initially describing their perpetrator as a dark-skinned man over six feet tall, when Johnson had a light complexion and stood just over five and one-half feet tall.⁵ Thus, while the presumption of innocence has historically been spoken of as a trade-off between wrongly convicting and wrongly acquitting,⁶ a wrongful conviction is also a *de facto* wrongful acquittal.⁷

² 432 U.S. 98, 128 (1977) (Marshall, J., dissenting).

³ Jules Epstein, *Tri-State Vagaries: the Varying Responses of Delaware, New Jersey, and Pennsylvania to the Phenomenon of Mistaken Identifications*, 12 WIDENER L. REV. 327, 329-30 (2006) (noting that when Covington was arrested for the murder of Patricia McDermott, he “led the police to compelling evidence of his responsibility for a series of other shootings, two of which had already been ‘cleared’ by arrests.”).

⁴ *Id.*

⁵ *Id.*

⁶ See, e.g., *Coffin v. United States*, 156 U.S. 432, 454-56 (1895). Some of these famous statements as follows:

‘The noble (divus) Trajan wrote to Julius Frontonus that no man should be condemned on a criminal charge in his absence, because it was better to let the crime of a guilty person go unpunished than to condemn the innocent.’ Dig. L. 48, tit. 19, l. 5.

...
Fortescue says: ‘Who, then, in England, can be put to death unjustly for any crime? since he is allowed so many pleas and privileges in favor of life. None but his neighbors, men of honest and good repute, against whom he can have no probable cause of exception, can find the person accused guilty. Indeed, one would much rather that twenty guilty persons should escape punishment of death than that one innocent person should be condemned and suffer capitally.’ *De Laudibus Legum Angliae* (Amos’ translation, Cambridge, 1825).

Lord Hale (1678) says: ‘In some cases presumptive evidence goes far to prove a person guilty, though there be no express proof of the fact to be committed by him; but then it must be very warily pressed, for it is better five guilty persons should escape unpunished than one innocent person should die.’ 2 Hale, P. C. 290. He further observes: “And thus the reasons stand on both sides; and, though these seem to be stronger than the former, yet in a case of this moment it is safest to hold that in practice, which hath least doubt and danger,-‘Quod dubitas, ne feceris.’” 1 Hale, P. C. 24.

(continued...)

Erroneous eyewitness identifications are the primary culprit in wrongful convictions.⁸ In a study of 250 cases in which defendants were exonerated after conviction, Professor Brandon L. Garrett found that the “role of mistaken eyewitness identifications in these wrongful convictions is now well known. Eyewitnesses misidentified 76% of the exonerees (190 of 250 cases).”⁹ A 2009 Innocence Project study of over 200 cases in which convicted defendants were exonerated by DNA evidence found that mistaken eyewitness identifications accounted in whole or in part for 75% of the wrongful convictions.¹⁰ Specifically, the Innocence Project found that “[o]ver 175 people have been wrongfully convicted based, in part, on eyewitness misidentification and have been later proven innocent through DNA testing.”¹¹ In an earlier study of 328 exonerations from 1989 to 2003 (144 of which were DNA exonerations), there were 209 wrongful convictions (64% of the total number) in which at least one eyewitness

(continued...)

Blackstone (1753-1765) maintains that “the law holds that it is better that ten guilty persons escape than that one innocent suffer.” 2 Bl. Comm. c. 27, marg. p. 358, *ad finem*.

⁷ As Justice Marshall writes in his dissent to *Manson*: “For if the police and the public erroneously conclude . . . that the right man has been caught and convicted, the real outlaw must still remain at large. Law enforcement has failed in its primary function and has left society unprotected from the depredations of an active criminal.” 432 U.S. at 127.

⁸ “[M]istaken eyewitness identifications are responsible for more wrongful convictions than all other causes combined.” *United States v. Brownlee*, 454 F.3d 131, 141-42 (3d Cir. 2006), quoting A. Daniel Yarmey, *Expert Testimony: Does Eyewitness Memory Research Have Probative Value for the Courts?*, 42 CANADIAN PSYCHOLOGY 92, 93 (May 2001). “[E]yewitness evidence presented from well-meaning and confident citizens is highly persuasive but, at the same time, is among the least reliable forms of evidence.” *Id.* (Emphasis added).

⁹ BRANDON L. GARRETT, *CONVICTING THE INNOCENT: WHERE CRIMINAL PROSECUTIONS GO WRONG* 48 (Harvard 2011).

¹⁰ Gary L. Wells & Deah S. Quinlivan, *Suggestive Eyewitness Identification Procedures and the Supreme Court’s Reliability Test in Light of Eyewitness Science: 30 Years Later*, 33 LAW & HUM. BEHAVIOR NO. 1 1, 1 (2009). See generally E. Connors, T. Lundgren, N. Miller, & T. McEwan, *CONVICTED BY JURIES, EXONERATED BY SCIENCE: CASE STUDIES IN THE USE OF DNA EVIDENCE TO ESTABLISH INNOCENCE AFTER TRIAL* (2009).

¹¹ INNOCENCE PROJECT, *REEVALUATING LINEUPS: WHY WITNESSES MAKE MISTAKES AND HOW TO REDUCE THE CHANCE OF A MISIDENTIFICATION* at 3 (2009).

misidentified the defendant.¹² Similarly, a 1999 Department of Justice report studying 28 felony convictions subsequently overturned on the basis of DNA evidence concluded that 85% of the convictions resulted primarily from erroneous eyewitness identifications.¹³ Attorney General Janet Reno explained:

Recent cases in which DNA evidence has been used to exonerate individuals convicted primarily on the basis of eyewitness testimony have shown us that eyewitness evidence is not infallible. Even the most honest and objective people can make mistakes in recalling and interpreting a witnessed event; it is the nature of human memory.¹⁴

These findings are consistent with other studies of wrongful convictions.¹⁵

¹² Samuel R. Gross et al., *Exonerations in the United States: 1989-2003*, 95 J. CRIM. L. & CRIMINOLOGY 523, 542 (2004), available at <http://truthinjustice.org/exonerations-in-us.pdf>, cited in *United States v. Brownlee*, 454 F.3d 131, 141-42 (3d Cir. 2006).

¹³ 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. POL'Y. & L. 3, 23-24 (2001).

¹⁴ NAT'L INST. OF JUSTICE, U.S. DEP'T OF JUSTICE, EYEWITNESS EVIDENCE: A GUIDE FOR LAW ENFORCEMENT at iii (1999).

¹⁵ See, e.g., Roy S. Malpass et al., *The Need for Expert Psychological Testimony on Eyewitness Identification*, in EXPERT TESTIMONY ON THE PSYCHOLOGY OF EYEWITNESS IDENTIFICATION 3 (Brian L. Cutler ed., 2009), available at http://works.bepress.com/christian_meissner/50/ (reviewing half a dozen studies of wrongful convictions that found erroneous eyewitness identification to be the primary (or in one case, one of two primary) bases for the wrongful convictions); NAT'L INST. OF JUSTICE, U.S. DEP'T OF JUSTICE, CONVICTED BY JURIES, EXONERATED BY SCIENCE: CASE STUDIES IN THE USE OF DNA EVIDENCE TO ESTABLISH INNOCENCE AFTER TRIAL (1996) at 12-15 & Ex. 3, available at http://nij.ncjrs.gov/App/publications/pub_search.aspx?searchtype=all&category=99&sort=title#nijpubs (reviewing 28 exonerations and finding that in all 22 of the non-homicide cases the victims identified the exoneree both prior to and at trial; many cases also had additional eye-witness identification); see also Jules Epstein, *Tri-State Vagaries: The Varying Responses of Delaware New Jersey, and Pennsylvania to the Phenomenon of Mistaken Identifications* 12 WIDENER L. REV. 327, 331-32 (citing to Yale law professor Edwin Borchard's book CONVICTING THE INNOCENT published in 1932, which documented 65 cases of wrongful conviction and concluded "Perhaps the major source of these tragic errors is an identification of the accused by the victim of a crime of violence . . . Juries seem disposed more readily to credit the veracity and reliability of the victims of an outrage than any amount of contrary evidence by or on behalf of the accused . . ."); see also *Brownlee* at 141-42, accumulating sources:

It is widely accepted by courts, psychologists and commentators that "[t]he identification of strangers is proverbially untrustworthy." Felix Frankfurter, *The Case of Sacco and Vanzetti: A Critical Analysis for Lawyers and Laymen* 30 (Universal Library ed., Grosset & Dunlap 1962) (1927) ("What is the worth of identification testimony even when uncontradicted? ... The hazards of such testimony are established by a formidable number of instances in the records of English and American trials. These instances are recent—not due to the brutalities of ancient criminal

(continued...)

Expert testimony concerning the many factors that have been scientifically proven to affect the reliability of eyewitness identification testimony provides an important safeguard against the wrongful conviction of innocent people. This Court should clarify that such testimony should be allowed where it is determined to be relevant and to meet the requirements of Pa. R. E. 702.

II. THE *MANSON* TEST AS CURRENTLY CONSTITUTED AND APPLIED BY PENNSYLVANIA COURTS DOES NOT ACHIEVE ITS GOAL OF USING “RELIABILITY AS A LINCHPIN” TO PROTECT DUE PROCESS AND FAIR TRIAL INTERESTS.

A. The Current Legal Framework for Evaluating Eyewitness Identification Accuracy Relies Upon a Discredited Scientific Understanding of the Mechanics of Perception, Memory and Recall.

Doctors are not held to the standard of care from the 1920s – indeed, that would be malpractice. Justice should no more be tied to outdated science and research than medicine. By precluding expert testimony as to the mechanics of perception, memory and recall, Pennsylvania is operating on demonstrably false assumptions that have been abandoned by most other jurisdictions that have considered the issue. In fact, as discussed in greater detail *infra* at Part II.B.2, 47 of Pennsylvania’s sister states and every federal jurisdiction allows the admission of expert eyewitness identification testimony, at the discretion of the trial judge.

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procedure.”); *see also United States v. Wade*, 388 U.S. 218, 228, 87 S.Ct. 1926, 18 L.Ed.2d 1149 (1967) (stating that “[t]he vagaries of eyewitness identification are well-known; the annals of criminal law are rife with instances of mistaken identification”); C. Ronald Huff et al., *Guilty Until Proven Innocent: Wrongful Conviction and Public Policy*, 32 *Crime & Delinq.* 518, 524 (1986) (“the single most important factor leading to wrongful conviction in the United States ... is eyewitness misidentification”).

1. The Current Legal Framework for Eyewitness Identification Evidence.

In 1977, the Supreme Court set forth the minimum due process requirements for the admission of pretrial identification evidence.¹⁶ In *Manson*, the Court considered whether the Due Process Clause of the Fourteenth Amendment “compels the exclusion, in a state criminal trial, apart from any consideration of reliability, of pretrial identification evidence obtained by a police procedure that was both suggestive and unnecessary.”¹⁷ The Court set forth a two-part balancing test to be applied at pre-trial eyewitness identification suppression hearings: (1) whether the identification was the product of an unnecessarily suggestive identification procedure; and, if so, (2) whether the identification is reliable despite the suggestive nature of the procedure.¹⁸ The majority “conclude[d] that reliability is the linchpin in determining the admissibility of identification testimony”¹⁹ In making the reliability determination as required by the second part of the test, the Court directed lower courts to consider the totality of the circumstances including by examining the following non-exhaustive factors: “the opportunity of the witness to view the criminal at the time of the crime, the witness’ degree of attention, the accuracy of his prior description of the criminal, the level of certainty demonstrated at the confrontation, and the time between the crime and the confrontation.”²⁰ These factors are

¹⁶ *Manson v. Brathwaite*, 432 U.S. 98 (1977).

¹⁷ *Id.* at 99.

¹⁸ *Id.* at 107-14.

¹⁹ *Id.* at 114.

²⁰ *Id.* at 113.

to be weighed against the “corrupting effect of the suggestive identification itself.”²¹

Pennsylvania follows *Manson*.²²

While *Manson* is silent as to the admissibility of expert testimony regarding eyewitness reliability, Pennsylvania case law has historically precluded such testimony. Although the Pennsylvania Rules of Evidence provide that “[i]f scientific, technical or other specialized knowledge beyond that possessed by a layperson will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training or education may testify thereto in the form of an opinion or otherwise,”²³ Pennsylvania courts have excluded expert eyewitness identification testimony on the mistaken rationale that such testimony “would have given an unwarranted appearance of authority as to the subject of credibility, a subject which an ordinary juror can assess.”²⁴ On the contrary, as scientific research has repeatedly demonstrated, the matters about which expert eyewitness identification witnesses testify deal not with credibility, but accuracy, and are not within the knowledge of the average juror.

Similarly, while the admission of expert testimony is generally a matter of discretion for the trial court that will not be remanded, overruled or disturbed absent a clear abuse of discretion,²⁵ the Court has stripped trial courts of the discretion to admit expert

²¹ *Id.*

²² *See, e.g., Commonwealth v. Sutton*, 496 Pa. 91, 436 A.2d 167 (1981).

²³ Pa. R. E. 702.

²⁴ *Commonwealth v. Simmons*, 541 Pa. 211, 230, 662 A.2d 621, 631 (1995).

²⁵ *Commonwealth v. Brewer*, 2005 Pa. Super. 207, 876 A.2d 1029, 1035 (2005) (citing, *inter alia*, *Commonwealth v. Drumheller*, 570 Pa. 117, 135, 808 A.2d 893, 904 (2002)), *appeal denied*, 585 Pa. 685, 887 A.2d 1239 (2005).

eyewitness identification testimony because it speaks to witness credibility.²⁶ This policy is the result of a mistaken understanding of what constitutes witness “credibility.”

Thus, in Pennsylvania, innocent defendants have only two ways to defend against erroneous eyewitness identifications: (1) the exclusion of the identification at a pretrial suppression hearing, *if* the defendant can demonstrate that an unnecessarily suggestive identification procedure was used *and* that the identification is not reliable; and, failing suppression, (2) cross-examination of the eyewitness. In either event, defendants in Pennsylvania must proceed without the benefit of expert testimony, which would benefit factfinders at every stage of the proceeding – from suppression hearing to *voir dire* to the charging of the jury.

Currently, Pennsylvania courts must determine the reliability of the eyewitness testimony solely by weighing the five factors articulated in *Manson* against the evidence of suggestivity, without the benefit of pertinent scientific research; relatedly, Pennsylvania juries determine the reliability of eyewitness testimony by relying on their pre-existing assumptions about perception, memory and recall, also without the benefit of pertinent scientific research. As a result, verdicts are derived without the best information available to factfinders in the challenging context of these cases.

2. The Current Legal Framework is Inconsistent with the Scientific Landscape; Factfinders Require More Information to Properly Assess the Reliability of Proffered Eyewitness Identification Evidence.

Since 1977 – the very year *Manson* was decided – there has been an explosion of research in the eyewitness identification field, which now contains the largest and most rigorous

²⁶ See *Simmons*, 541 Pa. at 230, 662 A.2d at 631 (1995); *Commonwealth v. Bormack*, 2003 Pa. Super. 228, 827 A.2d 503 (2003), *appeal denied*, 577 Pa. 693, 845 A.2d 816 (2004).

body of scientific research of all the law-related social science fields.²⁷ In that time, dozens of social scientists have conducted thousands of eyewitness identification experiments. These experiments demonstrate how certain factors, both in isolation and in tandem with other factors, can erode the reliability of eyewitness identification evidence. This research has been published in hundreds of articles in a range of peer-reviewed psychological journals.²⁸ By relying on the scientific method and using sound experimental designs, eyewitness identification researchers have been able to ensure the internal validity of their research findings.²⁹ The scientific research relating to eyewitness identification and memory is robust, reliable, consist and, therefore, fit for courtroom use.

As a result, courts across the country have modified their application of the *Manson* framework to reflect this expansion and refinement of the scientific understanding of the issues that bear on the reliability of eyewitness identifications. Most recently – and perhaps most dramatically – is the case of *State v. Henderson*,³⁰ presently pending before the New Jersey Supreme Court.

In *Henderson*, upon its 2009 review of an appeal of a conviction based on eyewitness evidence, the New Jersey Supreme Court declared that the trial record was

²⁷ Report of the Special Master, *State v. Henderson*, No. A-8-08, at 8 (N.J. Super. Ct. App. Div. June 18, 2010) (Gaulkin, J.) available at <http://www.judiciary.state.nj.us/pressrel/HENDERSON%20FINAL%20BRIEF%20.PDF%20%2800621142%29.PDF> (attached hereto as Exhibit A).

²⁸ *Id.* at 72-73.

²⁹ Roy S. Malpass et al., *The Need for Expert Psychological Testimony on Eyewitness Identification*, in EXPERT TESTIMONY ON THE PSYCHOLOGY OF EYEWITNESS IDENTIFICATION 12-13 (Brian L. Cutler ed., 2009).

³⁰ *State v. Henderson*, 937 A.2d 988 (N.J. Super. Ct. App. Div. 2008), *cert. granted and denied*, 195 N.J. 521 (N.J. 2008), *remanded by* No. A-8-08, 2009 WL 510409 (N.J. Feb. 26, 2009).

inadequate to “test the current validity of [New Jersey] state law standards on the admissibility of eyewitness identification” and directed that a plenary hearing be held

To consider and decide whether the assumptions and other factors reflected in the two-part *Manson/Madison* test, as well as the five factors outlined in those cases to determine reliability, remain valid and appropriate in light of recent scientific and other evidence.³¹

As the Court ordered, the State of New Jersey, the defendant and *Amici* Innocence Project and Association of Criminal Defense Lawyers of New Jersey participated in the remand proceedings, which were presided over by Special Master Geoffrey Gaulkin, a retired New Jersey state appellate judge appointed by the New Jersey Supreme Court to handle the matter. Judge Gaulkin conducted the proceedings “more as a seminar than an adversarial litigation.”³² The parties submitted, and Judge Gaulkin considered, extensive scientific materials including more than 200 published scientific studies, articles and books. Judge Gaulkin presided over ten days of evidentiary hearings, at which seven expert witnesses –leading scientists in the field of eyewitness identification study – testified, and he received detailed proposed findings of fact and conclusions of law, and heard oral argument.³³ On June 18, 2010, based on his consideration of all of the information presented by the parties, Judge Gaulkin issued his report (the “Special Master’s Report”). The Special Master’s Report is now being considered by the New Jersey Supreme Court.

The Special Master’s Report endorsed the remedy set forth by the Innocence Project in its proposed legal findings, “The Renovation of *Manson*: A Dynamic New Legal

³¹ *Henderson*, No. A-8-08, 2009 WL 510409, at *1-2.

³² Special Master’s Report, Ex. A.

³³ *Id.* at 3-4.

Architecture For Assessing and Regulating Eyewitness Evidence,” as “wide-ranging, multifaced and highly detailed,”³⁴ and proposed that the current legal framework be modernized:

[The Innocence Project submission’s] design is sound: to maintain the *Manson/Madison* principle that reliability is the linchpin of the inquiry, to expand that inquiry to include all the variables unaddressed by *Manson/Madison* and to assure that judges and jurors are informed of and use the scientific findings that bear on reliability. Two core elements of that design are of critical importance.

First, it would be both appropriate and useful for the courts to handle eyewitness identifications in the same manner they handle physical trace evidence and scientific evidence, by placing at least an initial burden on the prosecution to produce, at a pretrial hearing, evidence of the reliability of the evidence. Such a procedure would broaden the reliability inquiry beyond police misconduct to evaluate memory as fragile, difficult to verify and subject to contamination from initial encoding to ultimate reporting...

Second, it would be appropriate and useful for this Court to take all available steps to assure that judges and juries are informed of and guided by the scientific findings...The judicial system should systematically and explicitly adopt and broadly use the scientific findings: in opinions setting standards and procedures for their use; in deciding admissibility issues; in promulgating jury instructions addressing specific variables; in broadening *voir dire* questioning; and in allowing appropriate expert testimony in all phases of the litigation.³⁵

Amici commends the Special Master’s Report to this Court, as it provides a thorough and thoughtful analysis of the legal and scientific eyewitness identification landscape.

The *Manson* test as applied by Pennsylvania courts is a faulty instrument for ensuring the reliability of eyewitness identification evidence. The absence of expert testimony to address the more nuanced issues of witness identification is particularly concerning – and in

³⁴ *Id.* at 84.

³⁵ The Special Master’s Report, Ex. A, at 84-86 (citations omitted and emphasis added).

some instances alarming – as the standard for the assessment of such evidence is flawed. As Judge Gaulkin observed in *Henderson*:

Designed to make reliability the “linchpin” of judicial examination of eyewitness testimony, *Manson/Madison* falls well short of attaining that goal, for it neither recognizes nor systematically accommodates the full range of influences shown by science to bear on the reliability of such testimony.³⁶

The current legal framework’s principal weakness derives from its incompatibility with over thirty years of scientific research focused on perception, memory, cognition and recall. This weakness is exacerbated by the lack of context and guidance to assist factfinders in understanding the reliability factors concerning identification proceedings and eyewitness memory more generally. Pennsylvania courts’ refusal to allow expert testimony relating to these issues renders meaningless the protections supposed by the *Manson* Court thirty years ago and calls sharply into focus the issues of eyewitness identifications as we know them to be today.

(a) The *Manson* “Balancing Test” Does Not Account for Tainted Witnesses.

The *Manson* test does not lend itself to an accurate determination of whether an identification was reliable notwithstanding its origin in an unnecessarily suggestive lineup or photo array. The problem is that an eyewitness’s report of his or her opportunity to observe, the degree of attention paid, the certainty of the identification, and the description of the wrongdoer, are all corrupted or distorted by the suggestive identification procedures themselves. In other

³⁶ *Id.* at 76. Judge Gaulkin went on to note that “[o]nly bits and pieces of the science have found their way into the New Jersey courtrooms,” *id.*, citing New Jersey cases that mandate, in limited circumstances, a jury instruction concerning cross-racial identifications and mandating a jury instruction that witness confidence may not indicate reliability. Of course, Pennsylvania’s Standard Jury Instructions are not based at all upon the now well-developed science, but rather mirror the *Manson* framework, now out of step with current scientific understandings.

words, the suggestive procedures not only taint the identification, they taint the witness's memory and cognition with respect to the so-called reliability factors.³⁷

As Professor Gary Wells³⁸ and Deah Quinlivan explained, “at least three of the *Manson* factors are not independent of the suggestive procedure itself. In other words, 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 the *Manson* criteria, thereby leading to a dismissal of the suggestiveness concern.”³⁹ Research has shown that suggestive procedures can affect witnesses' retrospective assessment of their opportunity to view the perpetrator,⁴⁰ witnesses' retrospective assessment of the attention they paid to the perpetrator

³⁷ See *State v. Greene*, No. A-5696-04T45696-04T4, 2007 WL 1223906, at *3 (N.J. Super. Ct. App. Div. Apr. 27, 2007) (noting that “the interplay of the potentially corrupting effect of a suggestive identification procedure on the resulting identification is a matter of great concern to the administration of criminal justice”).

³⁸ Wells is a professor of psychology who has performed experiments and published in the field of the reliability of eyewitness memory and identification, and the admission of his expert testimony has been upheld by the United States Court of Appeals for the Seventh Circuit, among other courts. *Newsome v. McCabe*, 319 F.3d 301, 305-06 (7th Cir. 2003) (noting “Wells' testimony was not a distraction in this civil proceeding but went to an important ingredient of the plaintiff's claim”).

³⁹ Gary L. Wells & Deah S. Quinlivan, *Suggestive Eyewitness Identification Procedures and the Supreme Court's Reliability Test in Light of Eyewitness Science: 30 Years Later*, at 9, available at http://www.psychology.iastate.edu/~glwells/Wells_articles_pdf/Manson_article_in_LHB_Wells.pdf (last visited July 12, 2011) (hereafter “Wells & Quinlivan, Suggestive Procedures”). Wells and Quinlivan also noted that “three of the five *Manson* criteria, namely view, attention, and certainty, are what psychological scientists call retrospective self-reports. . . . [which are] highly malleable in response to even slight changes in context (e.g., who is asking the question), the social desirability of the responses, the need to appear consistent, and reinterpretations of the past based on new events.” *Id.*

⁴⁰ Wells and Quinlivan describe the research as follows:

In a series of published experiments across a variety of psychological laboratories, witnesses to simulated crimes were shown lineups that did not include the culprit and made mistaken identifications. After their mistaken identification, a suggestive remark was made by the lineup administrator that seemed to confirm their selection (“Good, you identified the suspect in the case”) or no suggestive remark was made by the lineup administrator. Later, all of the witnesses were asked, “How good was the view that you had of the culprit?” and “How well could you make out details of the culprit's face while witnessing the crime?” Of course, all these witnesses had the same (quite poor) view of the culprit. And, those who were not given the confirmatory suggestive remark seemed to understand rather well that their view was very poor. In the original experiment by Wells and Bradfield (1998), for instance, none reported that their view was good or excellent. Among those who were given the confirmatory suggestive remark,

(continued...)

during the witnessed event,⁴¹ and witnesses' retrospective assessment of certainty.⁴² Three examples of common events that can falsely inflate confidence are: post-identification briefing,⁴³ identification by co-witnesses,⁴⁴ and feedback from the test administrator.⁴⁵

The consequences of this phenomenon are severe. It artificially inflates the apparent reliability of the eyewitness identification for both judges deciding admissibility and jurors trying to evaluate the real weight of the evidence. This, in turn, brings about an

(continued...)

however, 27% said that their view was good or excellent. Similarly, among those who were not given the confirmatory suggestive remark, none reported that they could easily make out details of the face. Among those given the suggestive remark, in contrast, 20% reported that they could easily make out details of the face. Hence, the suggestive remark managed to lead a fairly large portion of mistaken eyewitnesses who had very poor views and little or no ability to make out face details to self-report that they had a good view and could easily make out details of the face.

Wells & Quinlivan, *Suggestive Procedures*, at 10.

⁴¹ *Id.* at 11 (“numerous experiments show that confirmatory suggestive remarks following a mistaken identification (e.g., “Good, you identified the suspect”) lead witnesses to inflate their estimates of how much attention they paid to the culprit during the witnessed event (Bradfield et al. 2002; Dixon and Memon 2005; Douglass and McQuiston-Surrett 2006; Hafstad et al. 2004; Neuschatz et al. 2005; Skagerberg 2007; Smith et al. 2000; Wells and Bradfield 1998; Wells and Bradfield 1999; Wells et al. 2003; see meta-analysis by Douglass and Steblay 2006”).

⁴² *Id.* at 12 (“[A]s with view and attention, we know that confirmatory suggestive remarks from the lineup administrator consistently inflate eyewitness certainty for eyewitnesses who are in fact mistaken (Bradfield et al. 2002; Dixon and Memon 2005; Douglass and McQuiston-Surrett 2006; Hafstad et al. 2004; Neuschatz et al. 2005; Semmler and Brewer 2006; Semmler et al. 2004; Skagerberg 2007; Wells and Bradfield 1998; Wells and Bradfield 1999; Wells et al. 2003; see meta-analysis by Douglass and Steblay 2006.”).

⁴³ Eyewitnesses first made the identification and then a select few witnesses were briefed on how to respond to cross-examination at trial; those who were briefed reported increased confidence in their identification, without regard to the accuracy of their selection. Michael R. Leippe and Donna Eisenstadt, *Eyewitness Confidence and the Confidence-Accuracy Relationship in Memory for People*, in 2 THE HANDBOOK OF EYEWITNESS PSYCHOLOGY, 377, 407 (Rod C. L. Lindsay et al. eds., 2007) (hereinafter Leippe) (emphasis added).

⁴⁴ Test subjects made identifications, and then were told that a co-witness had also made an identification of the culprit: when the co-witness selected the same target, the test subject's confidence in her choice increased by 2 points on a 10 point scale, yet decreased by 2 points if the co-witness picked someone else. *Id.* at 408.

⁴⁵ Researchers Leippe and Eisenstadt report that where investigators gave “confirming” feedback to witnesses post-identification, not only was the confidence of the witness inflated, but also, quite disturbingly, the feedback influenced the witnesses' “retrospective reports on the formation and quality of their memories.” *Id.* at 409 (emphasis added).

unintended but deeply disturbing result: the improper use of a suggestive procedure tends to make it *more* likely that courts and juries will find the identification reliable – a truly perverse outcome! The *Manson* Court, of course, assumed that the opposite was true, and that juries would realize that suggestive procedures “vitiates the weight of the [identification] evidence” and, accordingly, “discount” such evidence.⁴⁶

(b) The *Manson* Test as Applied Treats the Five Non-Exhaustive Factors as Exclusive, Preventing the Jury from Hearing About Important, Scientifically Valid Phenomena that Affect Reliability.

It is clear that the Supreme Court believed it had promulgated in *Manson* a flexible “totality of the circumstances” approach that stressed “reliability” and forced trial courts to make detailed, pre-trial assessments of evidence, which, through its two-part balancing test, would improve the “administration of justice” and produce more accurate verdicts.⁴⁷ *Manson* identified a list of “non-exhaustive” reliability factors and contemplated that the state courts would act as laboratories, supplementing the constitutional baseline as scientific knowledge advanced.⁴⁸ Unfortunately, Pennsylvania, like many other states, has instead treated *Manson*’s reliability factors as an immutable list that remains unchanged despite more than thirty years of scientific research that has challenged the very validity of some factors (e.g., certainty, witness description) and identified the need to add factors found to affect witnesses’ reliability and accuracy.

Of particular note are the many factors that researchers have identified that have a direct effect on the reliability of eyewitness identification but are not accounted for by the

⁴⁶ *Manson*, 432 U.S. at 112 n. 12. *Accord* Special Master’s Report, Ex. A, at 77-79.

⁴⁷ *Id.* at 112-13.

⁴⁸ *See id.* at 117.

traditional *Manson* analysis. These factors have been divided into two categories: (1) estimator variables – those characteristics of the witness or perpetrator of the crime or the conditions in which a crime occurred; and (2) system variables – those aspects of the criminal justice system over which the state can or should have control. Estimator variables include the respective races of the victim and perpetrator (“own race bias”), whether a weapon was present during the crime (“weapons focus”), the degree of stress associated with the crime, and the like. The majority of estimator variables are not accounted for by the current legal framework. Some, like lighting conditions and duration of exposure, may be accounted for by *Manson*’s “opportunity to view” factor.

System variables include factors such as the type of identification procedure used; the composition of a lineup or photo array; whether witnesses are given cautionary instructions prior to viewing the identification procedure; whether suspects are shown together or sequentially; whether witnesses receive post-event feedback; whether multiple witnesses are permitted to speak to each other; and the like. While researchers universally accept that these variables can have a significant effect on both the suggestibility and reliability prongs of the *Manson* test, without the admissibility of scientific research through expert testimony, factfinders will likely be unaware of the existence and/or effect of these factors on an eyewitness identification’s reliability. In theory, these factors ought to be considered in the suggestibility prong of the *Manson* balancing test; under existing Pennsylvania law, such consideration occurs without the benefit of scientific research.

The danger of a legal framework that does not accommodate evolving scientific knowledge can be seen through example. The example of own race bias – entirely unaccounted for by the current legal framework – is instructive. Researchers agree that cross-racial

identifications are far more likely to be inaccurate than same-race identification.⁴⁹ A survey of studies on cross-racial identification suggests that an innocent African American is *more than 50% more likely to be misidentified* by a European American than by an African American eyewitness, not as a result of racial animus or prejudice, but, as one researcher puts it, as a result of “cognitive expertise.”⁵⁰ Similarly, eyewitness experiments “have consistently shown that the presence of a weapon, *e.g.*, a gun or knife in the hand of the culprit, leads to a reduced ability to recognize the face of the culprit later (*see* Steblay 1992, for a meta-analysis of these studies).”⁵¹ Yet no court in Pennsylvania has ever been permitted to consider, as part of the *Manson* reliability analysis, whether an identification was cross-racial, or affected by the weapons focus effect, or by any of the other “estimator variables” that have been repeatedly shown by science to dramatically affect the reliability of an identification. Likewise, in examining the suggestibility of a particular identification procedure, Pennsylvania courts applying the traditional *Manson* analysis may consider some “system variables” but do not do so in a way that makes use of the extensive body of scientific research that directly addresses the ways in which “system variables” affect the reliability of eyewitness identifications.

(c) Expert Testimony on Eyewitness Identification is Necessary to Ensure That Factfinders Have Complete and Correct Information About Eyewitness Identification and Memory.

Research shows that laypersons are generally unaware of the existence and effects of the factors that affect the reliability of eyewitness identification and are not schooled in how

⁴⁹ Deanna D. Caputo & David Dunning, *Distinguishing Accurate Eyewitness Identifications from Erroneous Ones: Post-dictive Indicators of Eyewitness Accuracy*, in 2 THE HANDBOOK OF EYEWITNESS PSYCHOLOGY 427, 439 (Rod C. L. Lindsay et al. eds., 2007) (hereinafter Caputo).

⁵⁰ *Id.* at 440.

⁵¹ Wells & Quinlivan, *Suggestive Procedures*, at 11.

the mind works in the context of eyewitness identification. Decades of scientific research demonstrates that jurors have fundamental misconceptions about eyewitness memory⁵² and lack valid information about system and estimator variables.⁵³ Judges also have been shown to have similar misconceptions. In *Henderson*, Judge Gaulkin summarized the scientific research⁵⁴ concerning factfinder knowledge and intuitions concerning eyewitness identifications:

Studies examining whether and to what extent jurors (or potential jurors) know or correctly intuit the findings reported in the eyewitness identification literature report that laypersons are

⁵² See, e.g., Melissa Boyce et al., *Belief of Eyewitness Identification Evidence*, in 2 THE HANDBOOK OF EYEWITNESS PSYCHOLOGY: MEMORY FOR PEOPLE 501 (R.C.L. Lindsay et al. eds. 2007); Elizabeth F. Loftus et al., EYEWITNESS TESTIMONY: CIVIL AND CRIMINAL (4th ed. 2007); John C. Brigham & Robert K. Bothwell, *The Ability of Prospective Jurors to Estimate the Accuracy of Eyewitness Identifications*, 7 LAW & HUM. BEHAV. 19 (1983); Tanja Rapus Benton et al., *Has Eyewitness Testimony Research Penetrated the American Legal System? A Synthesis of Case History, Juror Knowledge, and Expert Testimony*, in 2 THE HANDBOOK OF EYEWITNESS PSYCHOLOGY: MEMORY FOR PEOPLE 453 (R.C.L. Lindsay et al. eds., 2007); John S. Shaw, III et al., *A Lay Perspective on the Accuracy of Eyewitness Testimony*, 29 J. APPLIED SOC. PSYCHOL. 52 (1999); Joanna D. Pozzulo & R.C.L. Lindsay, *Identification Accuracy of Children Versus Adults: A Meta-Analysis*, 22 LAW & HUM. BEHAV. 549 (1998); Brian L. Cutler, Hedy Red Dexter & Steven Penrod, *Juror Sensitivity to Eyewitness Identification Evidence*, 14 LAW & HUM. BEHAV. 185-191 (1990); Richard S. Schmechel, et al., BEYOND THE KEN? TESTING JURORS' UNDERSTANDING OF EYEWITNESS RELIABILITY EVIDENCE (2006); Tanja Rapus Benton, *Eyewitness Memory is Still Not Common Sense: Comparing Jurors, Judges and Law Enforcement to Eyewitness Experts*, 20 APPLIED COGNITIVE PSYCHOL. 115 (2006).

⁵³ A meta-analytic review of 30 years of surveys assessing lay knowledge of eyewitness factors concluded that survey respondents “demonstrated lesser knowledge regarding factors that are not under the control of the criminal justice system . . . (i.e., estimator variables) compared to factors that are under the control of the criminal justice system (i.e., system variables),” and certain topics like the lack of accuracy-confidence correlation, cross-race bias, hypnotic suggestibility of witnesses, influence of presentation format on identifications, and weapons focus were consistently beyond the ken of the survey respondents. Sarah L. Desmarais & J. Don Read, *After 30 Years, What Do We Know about What Jurors Know? A Meta-Analytic Review of Lay Knowledge Regarding Eyewitness Factors*, 35 LAW HUM. BEHAV. 200 (forthcoming summer 2011).

⁵⁴ Some of the studies in this area have been subjected to limited criticism concerning their structural soundness. See, e.g., *United States v. Libby*, 461 F. Supp.2d 3, 16-18 (2006) (in a non-eyewitness identification case, excluding expert testimony concerning the fallibility of memory generally). It remains, however, uncontested that jurors generally lack full and correct understanding of the many factors that affect eyewitness identifications. *Id.* at 12 (“Under the former category [eyewitness identification], there can be little doubt that the average juror is not regularly, if at all, presented with issues of eyewitness identification of an alleged perpetrator of a criminal offense. Thus, it is highly probable that the average juror would be less familiar with concepts that may impact a witness’s identification such as weapons focus, mug-shot-induced bias, or lineup format. See, e.g., *A Survey of Judges’ Knowledge at 12*. However, on a daily basis the average juror is personally faced with innumerable questions of memory and cognition, as everyone in their daily lives is called upon to store, encode, and retrieve information he or she has been subjected to. Although the average juror may not understand the scientific basis and labels attached to causes for memory errors, jurors inevitably encounter the frailties of memory as a commonplace matter of course.”)

largely unfamiliar with those findings and often hold beliefs to the contrary.

One such study, published by Benton et al. in 2006,⁵⁵ drew on the 2001 Kassin survey⁵⁶ [] which reported the level of expert acceptance of the research findings concerning system and estimator variables. The 2006 study, comparing juror acceptance of the same research findings, found that jurors were substantially less receptive to such concepts as cross-race bias (90% acceptance by experts, 47% by jurors), weapons focus (87% by experts, 39% by jurors), and memory decay (83% by experts, 33% by jurors). The Benton study also compared the acceptance rates of a small group of volunteer judges, with comparable but less dramatic results.

Similar findings of juror beliefs have been reported in other surveys. In a 2007 article, Benton et al.⁵⁷ described the literature as showing that jurors underestimate the importance of proven indicators of accuracy (e.g., lineup instructions, memory retention interval, lighting conditions, cross-race identification, weapon presence), tend to rely heavily on factors that the research finds are not good indicators of accuracy (e.g., witness confidence), and tend to overestimate witness accuracy rates. . . .⁵⁸

Earlier, the United States Court of Appeals for the Third Circuit in *United States v. Brownlee*, recognized the problem of juror misunderstanding and ignorance about important aspects of eyewitness identification and memory and concluded that expert testimony was necessary to remedy the problem. Because the trial court had excluded the expert testimony, the court reversed the defendant's conviction and remanded for a new trial in these words:

⁵⁵ Tanja Rapus Benton, et al., *Eyewitness Memory is Still Not Common Sense: Comparing Jurors, Judges and Law Enforcement to Eyewitness Experts*, 20 APPLIED COGNITIVE PSYCHOLOGY 115-129 (2006).

⁵⁶ Saul Kassin, et. al., *On the "General Acceptance of Eyewitness Testimony Research: A New Survey of Experts*, 56 AM. PSYCHOLOGIST 405, 405-16 (May 2001).

⁵⁷ Tanja Rapus Benton et al., *Has Eyewitness Testimony Research Penetrated the American Legal System? A Synthesis of Case History, Juror Knowledge, and Expert Testimony*, in 2 THE HANDBOOK OF EYEWITNESS PSYCHOLOGY: MEMORY FOR PEOPLE 453 (R.C.L. Lindsay et al. eds., 2007).

⁵⁸ Special Master's Report, Ex. A, at 48-49 (internal citations and parentheticals omitted).

Even more problematic [than the unreliability of eyewitness identification], “jurors seldom enter a courtroom with the knowledge that eyewitness identifications are unreliable.” Rudolf Koch, Note, *Process v. Outcome: The Proper Role of Corroborative Evidence in Due Process Analysis of Eyewitness Identification Testimony*, 88 Cornell L.Rev. 1097, 1099 n. 7 (2003). Thus, while science has firmly established the “inherent unreliability of human perception and memory,” *id.* at 1102 (internal quotations omitted), this reality is outside “the jury’s common knowledge,” and often contradicts jurors’ “commonsense” understandings, *id.* at 1105 n. 48 (internal quotations omitted). To a jury, “there 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!’” *Watkins v. Sowders*, 449 U.S. 341, 352, 101 S.Ct. 654, 66 L.Ed.2d 549 (1981) (Brennan, J., dissenting) (emphasis in original).

...

Given that “witnesses oft times profess considerable confidence in erroneous identifications,” expert testimony was the only method of imparting the knowledge concerning confidence-accuracy correlation to the jury. Due to the nature of the Government’s evidence and Brownlee’s defense (mistaken identity), the primary issue before the jury was the reliability of the Government’s four eyewitnesses. “[I]t would seem anomalous to hold that the probative value of expert opinion offered to show the unreliability of eyewitness testimony so wastes time or confuses the issue that it cannot be considered even when the putative effect is to vitiate the [primary] evidence offered by the government.” *Downing*, 753 F.2d at 1243.⁵⁹

In addition, courts increasingly recognize that juror misinformation about eyewitness identification and memory requires the admission of expert testimony to assist the trier of fact.⁶⁰

⁵⁹ 454 F.3d 131, 141-45 (3d Cir. 2006) (footnotes omitted).

⁶⁰ See, e.g., *United States v. Smithers*, 212 F.3d 306, 315-16 (6th Cir. 2000) (“because many of the factors affecting eyewitness impressions are counter-intuitive, many jurors’ assumptions about how memories are created are actively wrong”); *United States v. Downing*, 753 F.2d 1224, 1231 (3d Cir. 1985) (“under certain circumstances expert testimony on the reliability of eyewitness identifications can assist the jury in reaching a correct decision and therefore may meet the helpfulness requirement of Rule 702”); *United States v. Smith*, 736 F.2d 1103, 1106 (6th Cir. 1984) (concluding that the proffered testimony “not only might have *assisted* the jury, but might have refuted their
(continued...)

B. Admitting Expert Testimony Regarding Factors Affecting the Ability of Eyewitnesses to Perceive, Remember and Recall the Perpetrator of a Crime Will Further the Truth-Finding Process and Promote Justice.

Our justice system relies on the adversarial process to ensure that all relevant facts are presented, within the framework of the rules of evidence, so that the trier of fact can ascertain the truth.⁶¹ Expert testimony serves as both a source of factual information and as an aid in understanding factual evidence introduced by others.

Justice Bazelon's concurring opinion in *United States v. Brown* speaks persuasively to the utility of expert testimony in helping jurors evaluate in-court identifications:

We need more information about the reliability of the identification process and about the jury's ability to cope with its responsibility. For it should be obvious that we cannot strike a reasonable and intelligent balance if we take pains to remain in ignorance of the pitfalls of the identification process. The empirical data now available indicates that the problem is far from

(continued...)

otherwise common assumptions about the reliability of eyewitness identification") (emphasis in original); *People v. Lee*, 750 N.E.2d 63, 66 (N.Y. 2001) ("[I]t cannot be said that psychological studies regarding the accuracy of an identification are within the ken of the typical juror."); *State v. Copeland*, 226 S.W.3d 287, 299 (Tenn. 2007) (abuse of discretion to exclude expert testimony regarding cross-racial identifications and confirming feedback, observing that "scientifically tested studies, subject to peer review, have identified legitimate areas of concern" with respect to juror sensitivity to these issues); *State v. Clopten*, 223 P.3d 1103, 1112 (Utah 2009) (expert testimony regarding factors shown to contribute to inaccurate eyewitness identifications should be admitted whenever it meets the evidence rules requirements governing expert admissibility); *State v. Long*, 721 P.2d 483, 490 (Utah 1986) ("People simply do not accurately understand the deleterious effects that certain variables can have on the accuracy of the memory processes of an honest eyewitness."); *State v. Chapple*, 660 P.2d 1208, 1219-23 (Ariz. 1983) (holding that expert was erroneously excluded and noting that certain "variables" about which the expert would have testified went beyond what an average juror might know as a matter of common knowledge, and some of them directly contradicted common "wisdom").

⁶¹ See, e.g., *United States v. Nixon*, 418 U.S. 683, 709 (1974). In requiring the President to turn over tape recordings and documents that had been subpoenaed by the Watergate prosecutor, the Supreme Court declared ringingly that the integrity of the judicial system depends on a full airing of the facts:

We have elected to employ an adversary system of criminal justice in which the parties contest all issues before a court of law. The need to develop all relevant facts in the adversary system is both fundamental and comprehensive. The ends of criminal justice would be defeated if judgments were to be founded on a partial or speculative presentation of the facts. The very integrity of the judicial system and public confidence in the system depend on full disclosure of all the facts, within the framework of the rules of evidence.

fanciful. But for a variety of reasons we have been unwilling to face up to the doubts to which this data gives rise. . . . We have developed a reluctance that is almost a taboo against even acknowledging the question, much less providing the jury with all of the available information. . . . More information is needed to assist the jury's resolution of identification issues, [and] our doubts will not disappear merely because we run away from the problem.⁶²

Expert witnesses are the necessary conduit for providing this vital information to the trier of fact.

1. Expert Eyewitness Identification Testimony Should Be Permitted at Every Stage of a Criminal Matter in Which Eyewitness Identification Testimony is Offered.

In the past, this Court has ruled that expert eyewitness identification testimony is inadmissible because the subject of the testimony is not sufficiently specialized as to be beyond the knowledge possessed by a layperson, and because the expert's testimony would improperly encroach on the province of the jury to assess witness credibility.⁶³ Given developments over the past 20 years in cognitive science that bear directly on our understanding of the pitfalls associated with eyewitness identifications, and given the scope and nature of the expert testimony proposed by *Amici* for admission into evidence, both justifications merit reconsideration.

As to the first, the significant body of scientific research described above makes plain that the subject of expert testimony in this area consists of "scientific, technical or other specialized knowledge beyond that possessed by a layperson." Moreover, such testimony can

⁶² *United States v. Brown*, 461 F.2d 134, 146, n.1 (D.C. Cir. 1972) (Bazelon, J., concurring).

⁶³ *Commonwealth v. Miner*, 562 Pa. 46, 55, 753 A.2d 225, 230 (2000) (citations omitted) ("Expert testimony generally is admissible to aid the jury when the subject matter is distinctly related to a science, skill or occupation which is beyond the knowledge or experience of an average lay person. Conversely, expert testimony is not admissible where the issue involves a matter of common knowledge. In assessing the credibility of a witness, jurors must rely on their ordinary experiences of life, common knowledge of the tendencies of human behavior, and observations of the witness' character and demeanor. Because the truthfulness of a witness is solely within the province of the jury, expert testimony cannot be used to bolster the credibility of witnesses.").

make the accuracy and/or reliability of an eyewitness identification – a fact at issue – more or less probable than it would be absent the evidence.⁶⁴ Expert testimony regarding the ability of eyewitnesses to perceive, remember, and recall the appearance of the perpetrator of a crime can present relevant facts that further the ability of the fact-finder to reach the truth.

As to the second justification, when holding that expert testimony regarding eyewitness identification improperly comments on “credibility,” the Court’s valid concern has been to prevent the determination of witness veracity from being unduly influenced by the opinion of an expert cloaked with authority.⁶⁵ In fact, expert testimony regarding eyewitness identifications does not relate to the witness’s veracity, in the sense of honesty or truthfulness, but rather to the science behind memory and recall and the factors that could cause an eyewitness to testify honestly but inaccurately. In excluding categorically all expert testimony relating to eyewitness identification as improperly opining on witness credibility, the Court has deprived the trier of fact of empirical data going to the *accuracy* of a witness’s testimony, as opposed to its veracity. Recognizing this distinction will allow trial courts to focus attention on whether an expert’s testimony meets the *Frye* requirements, whether it is relevant, and whether it will be helpful to the jury.

Expert testimony can also assist a judge in evaluating the reliability of an identification in the context of applying the *Manson* test on a motion to suppress, and in formulating appropriate jury instructions.⁶⁶ As an initial matter, one of the two justifications for

⁶⁴ Pa. R. E. 401-402.

⁶⁵ See, e.g., *Commonwealth v. Seese*, 512 Pa. 439, 517 A.2d 920 (1985).

⁶⁶ 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. 115-129 (2006) (finding that, while judges know more than jurors, both judges and law enforcement personnel lacked knowledge of factors affecting eyewitness identification reliability).

excluding expert eyewitness identification testimony – that it would infringe on the jury’s province to make credibility determinations – is inapplicable. With respect to the other justification, scientific studies have shown that judges’ knowledge about eyewitness identification issues is not significantly greater than that of jurors.⁶⁷ In any event, the Court has recognized, in the analogous context of deciding if a child witness’s testimony has been tainted by suggestive interview techniques, that expert testimony touching witness credibility that would be inadmissible under the existing regime, may nevertheless be considered by the trial court outside the present of the jury.⁶⁸

Accordingly, the Court should permit the introduction of expert testimony relating to eyewitness identification and memory at every stage of a criminal matter in which eyewitness identification evidence is offered. It is difficult to find fault with Judge Gaulkin’s conclusion in *Henderson* that:

[t]here is no sound reason or policy why the judicial branch should disregard the scientific evidence, continue to focus exclusively on police suggestiveness, ignore other factors bearing on witness reliability, and seek no innovative means to inform judges and juries about the vagaries of eyewitness memory and identification.⁶⁹

2. Forty-Seven States Now Permit Eyewitness Identification Expert Testimony as Do The Federal Courts; Pennsylvania Should Join These Jurisdictions in Recognizing the Significant Benefits in Allowing Appropriate Expert Testimony.

Pennsylvania, Louisiana, and Oregon stand alone as the jurisdictions that explicitly prohibit courts from exercising discretion as to whether to admit expert testimony

⁶⁷ See *supra* note 54.

⁶⁸ *Commonwealth v. Delbridge*, 578 Pa. 641, 855 A.2d 27 (2003).

⁶⁹ Special Master’s Report, Ex. A, at 76, 82.

regarding eyewitness memory. The 47 other states permit trial judges to exercise their discretion to admit eyewitness testimony in any given case.⁷⁰ Even Tennessee, which as recently as 2007 had a blanket exclusion on such eyewitness testimony, has now reversed course, noting that research indicates, “that neither cross-examination nor jury instructions on the issue are sufficient to educate the jury on the problems with eyewitness identification . . . ‘Considered as a whole, the studies of juror knowledge and decision making indicate that expert psychological testimony can serve as a safeguard against mistaken identification.’”⁷¹

Nor do the Federal courts prohibit judges from exercising their discretion to admit expert testimony on eyewitness memory.⁷² The United States Court of Appeals for the Third Circuit has held that the exclusion of expert testimony regarding the reliability of eyewitness testimony constitutes reversible error.⁷³ Pennsylvania should join the vast majority of jurisdictions and recognize that expert eyewitness identification testimony can promote accuracy and justice in criminal cases involving eyewitness identifications.

The 273 DNA exonerations obtained in the United States through the work of *Amici* speak to the inadequacy of traditional trial tools such as cross-examination to protect against wrongful convictions. While “[t]he effectiveness of traditional safeguards designed to

⁷⁰ The table attached as Exhibit B reflects the decisions of the state courts regarding the admissibility of such testimony.

⁷¹ *State v. Copeland*, 226 S.W.3d 287, 300 (Tenn. 2007) (citations omitted).

⁷² The table attached as Exhibit C summarizes the decisions of the Federal Circuits regarding the admissibility of such testimony.

⁷³ *United States v. Brownlee*, 454 F.3d 131, 141-45 (3d Cir. 2006) (holding that the trial court erroneously excluded expert testimony regarding several factors affecting the reliability of eyewitness testimony and remanding for a new trial).

protect the defendant from mistaken identification remains in question,”⁷⁴ and is certainly an area for further study, it is clear that, at least until judges, jurors and attorneys achieve greater common understanding of the many factors that affect eyewitness identification and memory, expert testimony concerning these factors can only help to ensure reliability in criminal trial processes and outcomes.⁷⁵

Any concern that allowing expert testimony on eyewitness identifications will result in jury confusion, waste time, or burden trials with “junk science,” is best met by reference to the existing tools regulating the admission of expert testimony generally. The traditional safeguards against irrelevant or otherwise inadmissible expert testimony would continue to apply. As expressed by the United States Court of Appeals for the Sixth Circuit in responding to such a concern:

The same argument can be made for the admission of expert testimony: cross-examination and jury instructions can be used to question the qualifications of the proffered expert, undermine the basis of the expert’s theories, explain the limits of social science’s validation studies and pick apart research methods. The only reason given by the Dissent for why cross-examination and jury instructions can serve these goals for eyewitness testimony, but not for expert testimony, is that the jury may take the expert’s testimony as “scientifically irrefutable truth.” The Dissent’s selective faith in the collective intelligence, common sense and decision-making ability of the jury is disheartening, and is also inconsistent with the Dissent’s deference to the jury on other matters, including judging the credibility of eyewitness identifications.⁷⁶

⁷⁴ B. Cutler, S. Penrod, & H. Dexter, *Juror Sensitivity to Eyewitness Identification Evidence*, 14 L. & HUMAN BEHAVIOR, 190 (1990) (citing Christopher Walters, Comment, *Admission of Expert Testimony on Eyewitness Identification*, 73 Cal. L. Rev. 1402 (1985)).

⁷⁵ *Id.*

⁷⁶ *United States v. Smithers*, 212 F.3d 306, 316 (6th Cir. 2000).

Thus, the same filters used to screen expert testimony generally are available as checks against the admission of expert eyewitness identification testimony that fails the tests of relevance, general acceptance, or the requirements of Rule 702 of the Pennsylvania Rules of Evidence. The risk that jurors will accord undue weight to the expert's testimony is counteracted by the opposing party's opportunity to cross-examine the expert and introduce its own expert to correct any misrepresentation or omission regarding the scientific record.

III. THE ADMISSIBILITY IN A CRIMINAL PROCEEDING OF EXPERT SCIENTIFIC EVIDENCE ON HOW THE MIND WORKS SHOULD BE DETERMINED ON A CASE-BY-CASE BASIS UNDER THE SAME STANDARDS AS APPLY TO ALL OTHER EXPERT TESTIMONY, REGARDLESS OF WHETHER THE EXPERT IS OFFERED BY THE PROSECUTION OR DEFENSE. THAT IS, IF IT IS RELEVANT, GENUINELY SCIENTIFIC, OFFERED BY A QUALIFIED EXPERT, IMPARTS KNOWLEDGE BEYOND THAT POSSESSED BY LAYPERSONS, WILL HELP THE TRIER OF FACT DETERMINE A FACT IN ISSUE, AND, IF BASED ON A NOVEL METHODOLOGY, IS GENERALLY ACCEPTED WITHIN THE SCIENTIFIC DISCIPLINE, THE EVIDENCE SHOULD BE ADMITTED, OTHERWISE NOT.

The now well-documented risk of mistaken convictions based on honest but inaccurate eyewitness identifications, coupled with the robustness of the experimental science in the field of eyewitness identification, makes an enormously powerful case for the admission of expert behavioral science testimony on the factors that can produce misidentifications. Does it follow that all expert testimony that purports to explain how the mind works or how human beings tend to behave in response to certain stimuli is likewise worthy of being granted entry into the courtroom? The convergent purposes of the criminal justice system and the Pennsylvania Rules of Evidence to do justice by ascertaining the truth supply the point of departure and touchstone for answering the question. Rule 102 of the Pennsylvania Rules of Evidence commands that the rules of evidence are to be construed "to the end that the truth may be determined and proceedings justly determined." "Scientific evidence of how the mind works" is

too broad a category to admit of a simple or single answer to the question of admissibility, except this one: a per se rule of exclusion that would deny the fact-finder the benefit of genuine scientific evidence to cure ignorance or correct popular misconceptions about matters in dispute would be perverse in a system dedicated to ascertaining the truth, and is without warrant in the Pennsylvania Rules of Evidence.

Pennsylvania's existing rules of evidence and decisional law governing the admissibility of scientific expert testimony are calculated to foster the ascertainment of truth. The form of scientific evidence involved in this case and implicated by Question No. 2—experimental studies of how groups of people react to a particular stimulus under a defined set of circumstances—has its distinctive aspects. Often referred to as “social framework” evidence, it lies in the realm of social or behavioral science as opposed to physical science. In its pure form, the expert testifying to the research findings gives the trier of fact general information about human behavior derived from scientific—typically experimental—studies without drawing case-specific inferences from that information, a function left to the fact-finder. For the purpose of deciding its admissibility in evidence in criminal proceedings, however, social framework evidence is no different in principle than any other putative scientific expert testimony. It should therefore be admitted or excluded according to whether it satisfies the requirements that apply to all expert testimony in Pennsylvania, without regard to whether it is offered by the prosecution or defense, but always with an eye towards the ultimate end of ascertaining the truth in an arena where error guarantees profoundly dreadful human and social consequences.

In what follows, we examine the application of the ordinary criteria for admitting expert testimony to social framework or behavioral science evidence relating to matters other than eyewitness identification. The object of the examination is not to make a case for or against

the admission of any particular category of social science expert testimony beyond eyewitness identification evidence, but rather to describe the framework that should be used in making the case-by-case determination and to clear out some underbrush that stands in the way of reasoned decision-making.

A. Pennsylvania Law permits the Admission of Evidence on “How the Mind Works.”

There is no longer any issue that scientific expert testimony will be received in Pennsylvania regarding a criminal defendant’s state of mind when that state of mind has been placed in issue by the charges or an affirmative defense. Thus, expert testimony is admissible if not required on the issue of a defendant’s competency to stand trial, where insanity is pled as a defense,⁷⁷ to negate the specific intent required to convict for the offense charged,⁷⁸ and in the penalty phase of a capital case in which the convicted defendant points to a history of mental or emotional abuse or imbalance in mitigation of the offense.⁷⁹ Compliance with federal constitutional requirements may also require the admission of psychological expert testimony to determine if the defendant is mentally retarded and not subject to the death penalty.⁸⁰

⁷⁷ *Commonwealth v. Morley*, 442 Pa. Super. 177, 184, 658 A.2d 1357, 1361 (1995) (permitting expert psychiatric testimony regarding a person’s mental status when he asserts an insanity plea).

⁷⁸ *Commonwealth v. Light*, 458 Pa. 328, 332-34, 326 A.2d 288, 291-92 (1974) (counsel should introduce expert psychiatric testimony regarding a defendant’s subjective view to negate specific intent in a murder case); *Commonwealth v. McCusker*, 448 Pa. 382, 292 A.2d 286 (1972) (psychiatric evidence is admissible in a murder prosecution to support defendant’s claim that the killing was committed in the heat of passion).

⁷⁹ *Commonwealth v. Williams*, 597 Pa. 109, 127, 950 A.2d 294, 305 (2008) (counsel must investigate and present mitigating mental health evidence during the penalty phase of a capital case).

⁸⁰ *Commonwealth v. Miller*, 585 Pa. 144, 888 A.2d 624 (2005) (noting that the United States Supreme Court relied on both the American Association of Mental Retardation and American Psychiatric Association definitions, and allowing a capital defendant to submit expert testimony as to mental retardation under either classification system).

In short, scientific expert testimony is admissible in Pennsylvania in numerous situations which require a determination of human psychology or the operation of the mind. Nor has the field of expert testimony on state of mind issues been restricted to the physical sciences. This Court has approved testimony going to state of mind from experts in the fields of medicine, such as psychiatrists; the physical sciences, such as pharmacologists or toxicologists; and the social sciences, such as psychologists.

In granting allocatur on Question No. 2, the Court is understood to have focused attention on the kind of scientific expert testimony offered in this case. Sometimes referred to as “social framework evidence,”⁸¹ “behavioral science evidence,”⁸² or pattern of human behavior evidence, the evidence is in the nature of “findings of researchers which provide insight into the likelihood that certain events or behavior will occur under certain conditions.”⁸³ Unlike expert testimony that is based on studies, analyses, or examinations of the facts of the case or individuals involved in the case, an expert testifying to social framework evidence provides the trier of fact with knowledge derived from behavioral studies of groups conducted independently of the litigation. And, unlike expert testimony generally, an expert presenting social framework evidence does not necessarily or even typically utter an opinion on an issue in the case, such as whether a defect in A’s product caused B’s injuries, or what amount B would have earned over

⁸¹ Laurens Walker and John Monahan, *Social Frameworks: A New Use of Social Science in Law*, 73 U. VA. L. REV. 559 (1987) (“Walker & Monahan”).

⁸² *State v. Copeland*, 226 S.W.3d 287, 299 (Tenn. 2007) (explaining behavioral science evidence in the context of deciding admissibility of expert testimony on the factors affecting the accuracy of eyewitness identifications).

⁸³ *State v. Alger*, 764 P. 2d 119, 127 (Ida. Ct. App. 1988).

his lifetime but for A's injurious acts.⁸⁴ The role of social framework evidence is more limited and more humble. It is to provide "a frame of reference or background context for deciding factual issues crucial to the resolution of the case."⁸⁵ Instead of telling the factfinder the answer to the question as the expert would have it, the evidence is meant to serve as context for the factfinder's interpretation of the case facts. No expert can presume to know or predict with certainty, for example, whether a particular consumer will be confused as to the origin of a product which is designed and packaged to resemble a similar trademarked product, but the expert can testify to empirical survey data showing that, among a large group of consumers, 85% did confuse the defendant's product with the trademarked version.

Besides the accuracy of eyewitness identifications, issues on which behavioral science evidence has been offered have included the possible relationship between interrogation techniques and false confessions and the existence of various victim trauma syndromes, such as child abuse syndrome and battered spouse syndrome. Such syndromes are said to manifest themselves in patterns of behavior that explain the behavior of a particular victim that may be perplexing to a layperson; sometimes, the pattern of behavior is offered to prove the

⁸⁴ The economist's projection of future lost earnings is actually an example of social framework evidence with a case-specific opinion attached. By consulting information compiled by actuaries and labor economists in the form of life tables and earnings tables by industry or occupation, the economist can say that a male of A's age at the time of his injury could be expected to live for another 40 years, to have a work-life of 35 years, and to earn as a millwright so much income over those 35 years. The economist is making a prediction based on information about the performance of a class of persons of which A is a member. See, e.g., *Kaczkowski v. Bolubasz*, 491 Pa. 561, 574, n.17, 421 A.2d 1027, 1034, n.17 (1980). The more information about A that is taken into account in defining the class, the more accurate the projection about an uncertain future event is likely to be. Predictions of a convicted defendant's future dangerousness based on recidivism rates of defendants with similar characteristics can provide useful information for sentencing purposes in much the same way. See *State v. Davis*, 477 A.2d 308 (N.J. 1984) (holding that it was error to exclude at sentencing the testimony of a sociologist concerning published studies and government statistics showing the low rate of recidivism among murderers and the unlikelihood of the defendant posing a threat to society if, instead of being executed, he were imprisoned for 30 years and then released). *Davis* endorsed the use of social science research that "may, in effect" encapsulate ordinary human experience and provide an appropriate frame of reference for a jury's consideration." *Id.* at 311.

⁸⁵ Walker & Monahan, at 559.

victimization at issue. Because the nature, purpose, and quality of the evidence has varied from case to case, so, too, have the rulings on admissibility.

Studies concerning the phenomenon of false confessions provide an example of the nature and potential usefulness of social framework evidence. Researchers interested in learning whether the use of particular interrogation techniques can induce individuals to admit to crimes they had not committed have conducted experiments in which groups are subjected to the interrogation techniques of interest, and the frequency of false admissions or confessions is measured. The experimental findings may displace commonly held misconceptions about confessions, such as “no innocent person could be induced by tactics short of physical torture to confess to murder.” In a murder prosecution in which there is evidence that those interrogation techniques were used in police questioning that led to a confession that the defendant now contends was false, the experimental findings are likely to be instructive. If they showed, for example, that a majority of research subjects, in repeated experiments, “confessed” falsely, a juror required to decide if the defendant’s confession should be credited would have the benefit of scientific research showing that false confessions do occur and are associated with the interrogation techniques alleged to have been used in the case – new information of a sounder cast than the juror’s naïve, uninformed assumptions about human behavior. By the same reasoning, if the research showed that the interrogation techniques seldom if ever prompted false confessions, that, too, would be valuable information for a just adjudication of the facts.

Because our hypothetical false confession experiment did not examine the actual facts or circumstances of the confession at issue in our hypothetical murder case, the research would have no direct bearing on whether the particular defendant’s confession was true or false, and the expert presenting the findings could not reasonably opine on the accuracy of the

defendant's confession, at least not without having also performed case-specific research. The limited scope of the expert testimony is an asset, not a liability. Testimony about what has been learned through scientific investigation about the relationship between interrogation techniques and the psychology of an innocent person undergoing custodial interrogation will, to the extent it is credited, help the trier of fact interpret the evidence in the case more intelligently than would be possible without the evidence. At the same time, by not venturing an opinion on whether the defendant's confession was accurate – a determination that implicates all of the evidence in the case – the expert does not overbear the jury's judgment. Testimony confined to the background facts will contribute to a surer-footed determination, based on all of the evidence in the case, of the crucial question of the accuracy of the confession, and it will perform that function without confusing or misleading the jury with the expert's own speculative opinion about the confession's accuracy.

That social framework evidence can contribute to the ascertainment of the truth by substituting knowledge for ignorance, myth, or misconception does not mean that all such evidence, let alone all evidence rooted in the social sciences, will meet the requirements for the admission of expert testimony. When it satisfies those requirements, it should be admitted ungrudgingly, leaving it to the trier of fact to assign it such weight as it seems to deserve based on the quality of the research and the strength of the findings.⁸⁶ When the evidence fails the test for admission, it should be excluded to keep the truth-finding process from being corrupted by

⁸⁶ Such considerations would include those that affect the scientific validity of the study and the power of the findings: the size of the study group; the use of a control group; the frequency of false confessions observed in the study; the quality of the design of the study; the study's acceptance for publication in a peer-reviewed journal; and the outcomes observed when the experiment was repeated by the same or other researchers.

putative expert testimony that is either not genuinely scientific, not generally accepted, or not relevant to a material fact in dispute.

B. The proper use of social science evidence in court: A proposed Framework for Admitting Expert Scientific Testimony on “How the Mind Works.”

The framework we propose for the judicial screening of behavioral science expert testimony offers several advantages: it will clarify for trial courts the circumstances under which behavioral science expert testimony may be received; it will lead to more accurate determinations of guilt by endowing the trier of fact with knowledge about human behavior derived from well-designed, replicable studies; it respects the jury’s exclusive fact-finding responsibility, including the responsibility to decide if witnesses are telling the truth; and it will accomplish these objectives within the framework of existing Pennsylvania evidence law.

1. Summary of the Standards Governing the Admissibility of Expert Testimony and Their Application to Social Framework Evidence.

A court’s decision to admit expert testimony concerning social science findings should be governed by Pennsylvania’s established criteria for the admission of scientific expert testimony in the physical sciences and other technical fields. That is, to be admissible, the offered testimony must be relevant, it must satisfy Rule 702 of the Pennsylvania Rules of Evidence and, if the expert’s methodology is novel, it must comply with the *Frye* standard.

The proponent of the expert testimony bears the burden of satisfying each of these criteria, including showing that the knowledge to be imparted by the expert is beyond that possessed by laypersons. In the context of behavioral science testimony, that means that the party offering the testimony must show that the scientific findings contradict the assumptions possessed by laypersons, or that laypersons do not have an understanding, or any opinion, on the subject.

There is one additional criterion that applies to social framework evidence, much as it does to expert testimony on the issue of general causation in toxic tort cases.⁸⁷ That is, the expert's testimony should be confined to providing the trier of fact with background information that will help the jury determine a fact in dispute, as opposed to stating the expert's opinion as to the fact in dispute, be it the credibility of a witness or otherwise. That limitation follows from the fact that drawing an inference from general research to case-specific facts is not, itself, a scientific process but a subjective one. And jurors are qualified to draw from the general scientific evidence whatever inferences they see fit — assuming they accept the evidence at all.

Conversely, purported scientific expert testimony that is not derived from a scientific methodology, generally accepted or otherwise, or that draws a case-specific opinion from general social science research, should be excluded as such testimony has the potential to confuse or mislead the jury and thereby increase the risk of inaccurate determinations of guilt.

2. The Research to Which the Expert Will Testify Must be Relevant to an Issue in the Case.

To be admissible under Rules 401 and 402, Pa. R. E., social science evidence must be relevant. Evidence is relevant when it tends “to make the existence of any fact that is of consequence to the determination of the action more probable or less probable than it would be without the evidence.”⁸⁸ Appropriate behavioral science research — that is, research based on studies of groups and providing the tools by which fact-finders can interpret a witness's behavior — is relevant when the research findings bear on a factual issue that the jury needs in deciding to convict or acquit.

⁸⁷ An expert testifying to general causation can say only whether an agent is capable of causing a particular effect, not whether it caused the effect complained of by the plaintiff in the case. An opinion on specific causation requires an assessment of facts specific to the plaintiff.

⁸⁸ Pa. R. E. 401-402.

*Commonwealth v. Stonehouse*⁸⁹ is illustrative of the relevance of behavioral science evidence to assist the jury in determining a defendant’s state of mind at the time of the killing charged and to counteract prosecution arguments exploiting “erroneous myths” about a particular group — in *Stonehouse*, battered women — to which the defendant belongs. At issue at defendant’s trial for murder was whether she had justifiably believed herself to be in danger of death or serious bodily harm and had acted in self-defense when she fatally shot the man who, the evidence showed, had been physically abusing her for years. The jury rejected the defense, convicted defendant of murder of the third degree, and the Superior Court affirmed. On direct appeal to this Court, the Court reversed and ordered a new trial. Three of the justices joined in a plurality opinion that concluded that trial counsel had been constitutionally ineffective for failing to present expert testimony “regarding the characteristics of the victims of psychological and physical abuse.”⁹⁰ As explained and developed in the plurality opinion, evidence of the “battered woman syndrome” would have been relevant in two respects: “as the basis for proving justification in the use of deadly force where the defendant has been shown to be a victim of psychological and physical abuse;”⁹¹ and to shatter the myths, exploited by the prosecutor, that “battered women are . . . masochists who derive pleasure from being abused.”⁹²

In contrast to *Stonehouse*, this Court reversed a conviction in *Commonwealth v. Dunkle* on the ground, among others, that prosecution expert testimony (by a witness who was neither a psychiatrist or psychologist) to the effect that victims of child sexual abuse exhibit

⁸⁹ 521 Pa. 41, 555 A.2d 772 (1989).

⁹⁰ *Id.* at 61, 555 A.2d at 782.

⁹¹ *Id.* at 61, 555 A.2d at 783.

⁹² *Id.* at 62, 555 A.2d at 783.

characteristic behavior patterns was without probative value.⁹³ As the literature showed that the behavior patterns in question were not unique to sexually abused children, the evidence “[did] not render the desired inference more probable than not...Rather, it merely attempt[ed] — in contravention of the rules of evidence — to suggest that the victim was, in fact, exhibiting symptoms of sexual abuse. That is unacceptable.”⁹⁴ The teaching to be derived from a comparison of *Stonehouse* and *Dunkle* is that behavioral science testimony is not per se inadmissible. For its admission to be justified, the court must be convinced that, if believed, the evidence will rationally make the defendant’s guilt more probable or less probable. When social framework evidence will contribute to an informed determination of whether a witness’s reconstruction of events on trial is accurate, it meets the requirement of relevance. For “while social frameworks can never in themselves establish with certainty the existence of any fact that is of consequence to an issue at trial, they are surely capable of providing information regarding the probability that something did or did not occur.”⁹⁵

When social framework evidence has been excluded in Pennsylvania, it has usually been for the reason that the evidence was offered to bolster or attack the veracity of a witness and, as such, transgressed the traditional rule that “[c]redibility is always a question of fact for a jury rather than the subject of proper testimony of an expert witness.”⁹⁶ As we discuss

⁹³ 529 Pa. 168, 602 A.2d 830 (1992).

⁹⁴ *Id.* at 167, 602 A.2d at 834.

⁹⁵ Walker & Monahan, at 575. In this connection, the authors draw attention to the fact that there is no rational difference between a prediction about how an individual will act in the future that is based on collective data about the behavior of other people with similar characteristics, and an inference about an individual’s past behavior that is based on the same data. Whether an event has occurred or will occur is, in both instances, a matter of probability established by the empirical data. The richer the data, the more accurate the inference is likely to be, regardless of whether it takes the form of a finding about will occur in the future or about what has occurred in the past. *Id.* at 573-75.

⁹⁶ *Commonwealth v. Rounds*, 518 Pa. 204, 207 n.4, 542 A.2d 997, 998 n.4 (1984).

below, the ban on credibility expert testimony has appropriately been applied to expert testimony as to the *veracity* of a witness, that is, to expert pronouncements that the witness is telling the truth or lying. It is quite another matter, however, to exclude expert testimony that bears on the *accuracy* of a witness's testimony. When social framework expert testimony will make it more or less probable that an eyewitness has correctly identified the accused, that a confession entered into evidence by the prosecution is an accurate accounting of the crime, that a rape victim's delayed outcry is nevertheless valid, or that a child witness's accusation is the product of a memory distorted by suggestive interview techniques, the testimony meets Rule 401's definition of "relevant evidence": in each instance the testimony goes to a fact in dispute that "is of consequence to the determination of the action."⁹⁷

Because the accuracy of fact testimony is often, if not invariably, consequential to the determination of criminal proceedings, expert testimony that sheds light on witness accuracy is routinely admitted into evidence. Indeed, to exclude it on the ground that it affects credibility would seem at war with the fundamental precept enshrined in Pa. R. E. 104(e) that just because evidence has been determined to be admissible, "this does not preclude a party from offering evidence relevant to the weight or credibility of that evidence." Credibility of evidence, in the sense of its accuracy, is always in play and is neither immune from attack by way of conflicting evidence, nor denied the benefit of bolstering by way of corroborating or explanatory evidence. The Court's decisions manifest the distinction between accuracy and veracity even when

⁹⁷ The Court has defined relevant evidence even more broadly. According to *Commonwealth v. Spiewak*: "Evidence is relevant if it tends to logically establish a material fact in the case, tends to make a fact at issue more or less probable, or supports a reasonable inference or presumption regarding the existence of a material fact." 533 Pa. 1, 8, 617 A.2d 696, 699 (1992).

maintaining the distinction is sometimes lost in written fidelity to the principle that “credibility is for the jury alone.”

In *Commonwealth v. Miner*,⁹⁸ a prosecution of a father for molesting his pre-teen daughters, the victims first complained of the sexual abuse five years after it had ended. In its case-in-chief, the Commonwealth called an obstetrician/gynecologist who testified on the basis of her examination of the girls to the absence of evidence of physical trauma in the genital area. The expert then went on to say that the absence of signs of physical trauma did not prove that the abuse had never occurred. On appeal from conviction, defendant contended that the expert’s testimony was improperly admitted to bolster the victims’ credibility and was therefore irrelevant and improperly admitted into evidence.

Rejecting Miner’s argument and affirming the conviction, the Court began by affirming the principle that as “the *truthfulness* of a witness is solely within the province of the jury, expert testimony cannot be used to bolster the credibility of witnesses.”⁹⁹ In the next breath, the Court acknowledged that “[*the expert’s*] testimony was probative of the veracity of the children,” a fact which did not render her testimony inadmissible because “[the expert] was neither asked for, nor did she express, any opinion as to whether the children were telling the truth about being sexually abused. Her testimony only explained the significance of the results of the physical examination... Thus, we do not agree that the expert impermissibly bolstered the children’s credibility.”¹⁰⁰

⁹⁸ 562 Pa. 46, 753 A.2d 225 (2000).

⁹⁹ *Id.* at 55, 753 A.2d at 230 (emphasis added).

¹⁰⁰ *Id.* (emphasis added).

Nor was the testimony irrelevant because it did no more than anticipate and attempt to dispel an inference that uninformed jurors might be expected to draw from the absence of evidence of physical trauma that no sexual abuse had occurred. In a passage that parallels the discussion in *Stonehouse* about the need and justification for expert testimony to dispel popularly held myths, the Court explained in *Minerd* that without the explanation provided by the expert as to why the absence of physical trauma was not significant, “jurors may improperly draw a negative inference against the Commonwealth, based upon a layperson’s untutored assumptions, and rely upon that inference in rendering a verdict.”¹⁰¹ In other words, expert testimony is relevant if it assists the trier of fact in judging credibility by interpreting evidence, the significance of which either lies outside common knowledge or contradicts erroneous common knowledge.

Conversely, expert testimony will be deemed irrelevant if it does no more than comment, directly or indirectly, on the honesty of a witness. That was the vice of the testimony, for example, in *Commonwealth v. Davis*.¹⁰² There the Commonwealth sought to bolster the credibility of a child alleged to have been sexually abused with the expert testimony of a clinical child psychologist who, without having examined the complaining witness, testified that in his experience, children who report sexual experiences have not fantasized or fabricated them. Putting aside the apparent absence of a scientific foundation for the expert’s assertion—a shortcoming not addressed by the Court — the Court decided understandably that the testimony was improper as it amounted to an “expert assessment of the truthfulness of the class of people

¹⁰¹ *Id.* at 14, 753 A.2d at 231.

¹⁰² 518 Pa. 77, 541 A.2d 315 (1988).

of which the particular witness is a member.”¹⁰³ Nor did the record contain any evidence (so far as this Court’s opinion discloses) suggesting that laypersons assume that children who complain of sexual abuse are liars, as might justify corrective expert testimony. Because defense counsel had failed, without any reasonable strategic basis, to object to the expert’s “truthfulness of the class” testimony, the Court sustained defendant’s ineffective assistance of counsel claim and granted a new trial.

The distinction between expert testimony that interprets the significance of evidence that has a bearing on the credibility of a witness and that which is an outright expert endorsement or condemnation of a witness’s veracity is plainly enough drawn in *Davis* as it was earlier in *Commonwealth v. Seese*,¹⁰⁴ which *Davis* followed. In *Seese*, which involved testimony quite similar to that presented in *Davis*, the Court saw no occasion for expert testimony directed to the truthfulness of a witness as “[t]he phenomenon of lying, and situations in which prevarications might be expected to occur, have traditionally been regarded as within the ordinary facility of jurors to assess.”¹⁰⁵ Experts, in other words, have no more ability than a layperson to distinguish liars from truth tellers, a conclusion that could have been expressed in terms of relevance.¹⁰⁶

¹⁰³ *Id.* at 82, 541 A.2d at 317 (quoting *Commonwealth v. Seese*, 512 Pa. 439, 443-44, 517 A.2d 920, 922 (1986)).

¹⁰⁴ 512 Pa. 439, 517 A.2d 920 (1986).

¹⁰⁵ *Id.* at 443, 517 A.2d at 922.

¹⁰⁶ The Court’s obvious skepticism about the scientific validity of testimony characterizing the veracity of a class of people was lightly cloaked in a “slippery slope” rationale for rejecting the evidence: “if testimony as to the veracity of various classes of people on particular subjects were to be permitted as evidence, one could imagine ‘experts’ testifying as to the veracity of the elderly, of various ethnic groups, of members of different religious faiths, of persons employed in various trades and professions, etc....In addition, such testimony would imbue the opinions of ‘experts’ with an unwarranted appearance of reliability upon a subject, veracity, which is not beyond the facility of the ordinary juror to assess.” *Id.* at 444, 517 A.2d at 922.

That is not to say that behavioral science has nothing to contribute to a determination of the accuracy of child complaints of sexual abuse. This Court has recognized in *Commonwealth v. Delbridge* the scientific consensus that a child's memory is susceptible to being distorted by the interview techniques of social workers, police investigators, or other adults to the point where the child may be incompetent to testify.¹⁰⁷ Where the issue is adequately raised, a competency hearing is the proper procedural vehicle for determining if the child witness's memory has been tainted by suggestive interview techniques to a degree that renders the witness incompetent to testify in a criminal proceeding.¹⁰⁸ Provided the evidence demonstrates that the child was subjected to improperly suggestive interview tactics, expert testimony may have a role to play in the determination of competency,¹⁰⁹ but the issue remains an open one.¹¹⁰

Whether the expert should be heard to opine on the competence of the particular child should depend on whether the expert has examined the child and studied other case-specific information. To extrapolate from general research in the field of "taint" to a case-specific opinion would be more subjective than scientific. If the child should be found competent to testify, expert testimony informing the factfinder of the behavioral science findings regarding the susceptibility of child witnesses to memory distortion would be relevant to a determination of the

¹⁰⁷ *Commonwealth v. Delbridge*, 578 Pa. 641, 658, 855 A.2d 27, 36-37 (2003) (Delbridge I).

¹⁰⁸ *Id.* at 664, 855 A.2d at 40.

¹⁰⁹ *Id.* at 668-69, 855 A.2d at 42-43.

¹¹⁰ *Commonwealth v. Delbridge*, 580 Pa. 68, 77, 859 A.2d 1254, 1260 (2004) (Delbridge II).

accuracy of the child's testimony,¹¹¹ provided, of course, there is evidence in the case that the child was subjected to suggestive interview techniques. It would be for the fact-finder to decide, based on all of the evidence in the case, if the interviewer induced a false accusation or elicited a valid one.

To revert to the *Seese* line of cases, notwithstanding the broad statements in those cases suggesting that expert testimony is never admissible to bolster or attack the credibility of a witness,¹¹² the holdings in the cases are narrower. What the Court has appropriately proscribed is expert opinion that a particular witness has testified truthfully or has lied, based on the witness's membership in a group, *i.e.*, victim syndrome testimony.¹¹³ The opinions do not require the exclusion of expert testimony that will help the jury assess the accuracy of a witness's testimony based on factors other than membership in a class of victims. As the Court itself said in *Seese*, in a statement effectively codified in Rule 104(e), "Although opinion evidence is not to be permitted on the issue of a witness' (sic) credibility, there remain, of course, all of the traditional methods for developing, or attacking, a witness' credibility."¹¹⁴ The permitted

¹¹¹ See Jacqueline McMurtrie, *The Role of Social Sciences in Preventing Wrongful Convictions*, 42 AM. CRIM. L. REV. 1271, 1283-86 (2005) (discussing the "complex dynamic that exists when a child is interviewed," and listing eight suggestive influences on a child interviewee).

¹¹² *E.g.*, "It is an encroachment upon the province of the jury to permit admission of expert testimony on the issue of a witness' credibility." *Seese*, 512 Pa. at 443, 517 A.2d at 922.

¹¹³ *Commonwealth v. Spence*, 534 Pa. 233, 245, 627 A.2d 1176, 1182 (1993), arguably conflicts with the proposition stated in the text in that *Spence* relied on *Seese* in upholding the exclusion of expert testimony—the impact of a stressful event on perception—that is more akin to social framework evidence than to victim syndrome evidence. But the sketchiness of the Court's discussion of the issue in *Spence* makes it difficult to discern the precise ground for the decision. The ruling that it was not error to exclude the defendant's expert's testimony that the victim's ability to perceive the defendant was impaired by the clubbing and stabbing that he had just undergone is easily justified on two grounds consistent with the framework advocated by *Amici*: the witness proposed to give his subjective, non-scientific opinion as to the accuracy of the victim's identification based on general research about the effects of stress; and jurors do not need to be told that one who has been clubbed and stabbed repeatedly while his companion is being stabbed to death may not see clearly.

¹¹⁴ *Seese* at 445, 517 A.d at 922.

methods necessarily include those approved, if not required, for competent representation by *Minerd* and *Stonehouse*: expert testimony explaining the significance of evidence in the case that bears on the credibility of a particular witness and that is needed to neutralize the risk of a credibility determination made on the basis of jury ignorance or misconception. In *Delbridge I*, the Court drew the distinction itself, holding that victim abuse syndrome evidence that goes to whether a witness is telling the truth improperly usurps the function of the jury, while behavioral science expert testimony that does not go to “whether the child is telling the truth, but rather [to] whether the child’s memory has so infected by the implantation of distorted memories so as to make it difficult for the child to distinguish fact from fantasy,” stands on a different footing.¹¹⁵ It is the footing, in fact, of *Stonehouse* and *Minerd*— expert testimony helpful to interpreting the evidence in the case is admissible.

Of course, for such framework evidence to be relevant, it must be linked to evidence in the case. Proof, for example, of the rate of error in cross-racial identifications is only relevant in a case in which the eyewitness and the accused are of different races.

3. The Testimony Must Satisfy Rule 702 of the Pennsylvania Rules of Evidence and the *Frye* Standard.

In addition to establishing that the expert’s testimony is relevant, the proponent of expert behavioral science testimony must satisfy the requirements of Pa. R. E. 702.¹¹⁶ That is, the witness must be qualified as an expert in the subject matter of the testimony, and the testimony must impart knowledge that is (1) scientific in character, (2) beyond that possessed by

¹¹⁵ *Delbridge I*, 578 Pa. at 667, 855 A.2d at 42.

¹¹⁶ “If scientific, technical or other specialized knowledge beyond that possessed by a layperson will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training or education may testify thereto in the form of an opinion or otherwise.” Pa. R. E. 702.

laypersons, and (3) of assistance to the trier of fact. The testimony may assist the trier of fact in either of two ways: (1) in understanding the evidence; or (2) in determining a fact in issue.

Under Rule 702, the expert may testify to an opinion, but an opinion is not required. Because the general acceptance standard of *Frye v. United States*¹¹⁷ is “part of Rule 702,” for “novel” scientific knowledge to be admissible, it must enjoy “general acceptance in the relevant scientific community.”¹¹⁸ Of these criteria, two tend to provoke most controversy — and reasonably so — in any consideration of the admissibility of behavioral science or social framework evidence: Is the evidence scientific and based on a generally accepted methodology, and is the knowledge to which the expert will testify beyond that possessed by laypersons?

4. If the Expert’s Methodology is Novel, the Proponent Must Show That the Methodology Satisfies *Frye*.

While there is debate as to the appropriate scope and intensity of the trial court’s gatekeeper function in relation to the admission of scientific expert testimony, it is undebatable that the object of the exercise is to screen out testimony that is unscientific or lacks the earmarks of reliability. Adherence to the *Frye* standard was commended precisely because it provided “the better way of ensuring that only reliable expert scientific evidence is admitted at trial.”¹¹⁹ In other words, knowledge acquired by means other than the application of a scientific methodology is presumptively inadmissible. Hence an opinion offered in the fields of, say, astrology, alchemy, or faith healing will not qualify for admission under Rule 702 regardless of

¹¹⁷ 293 F. 1013, 1014 (D.C. Cir. 1923) (declaring that in deciding when a scientific principle or discovery crosses the border between “the experimental and demonstrable stages, . . . the thing from which the deduction is made must be sufficiently established to have gained general acceptance in the particular field in which it belongs,” and upholding on that basis the exclusion of the testimony of defendant’s expert attesting to defendant’s veracity based on the results of a blood pressure deception test).

¹¹⁸ *Grady v. Frito-Lay, Inc.*, 576 Pa. 546, 558, 839 A.2d 1038, 1045 (2003).

¹¹⁹ *Id.* at 557, 839 A.2d at 1045.

whether it was arrived at by the application of a methodology generally accepted within those non-scientific fields.

A detailed exposition of what constitutes a scientific methodology is beyond the scope of this brief, but the lineaments of the methodology have been addressed in opinions of justices of this Court. Concurring in *Frito-Lay*, Justice Lamb, for example, identified as the “essential traits of the scientific method” “objectivity, operationalism, verifiability, and replicability.”¹²⁰

With few exceptions, this Court has declined opportunities to determine the scientific character of expert testimony going to how the mind works; the cases in which the issue has been raised have mostly been resolved without reaching the issue.¹²¹ One of the exceptions is *Commonwealth v. Dunkle*. In addition to deciding that the Commonwealth’s child sexual abuse syndrome evidence had no probative value, the Court reviewed the pertinent literature concerning child sexual abuse to reach the conclusion that the “testimony about the uniformity of behaviors exhibited by sexually abused children is not ‘sufficiently established to have gained general acceptance in the particular field in which it belongs.’”¹²²

¹²⁰ *Id.* at 573, 839 A.2d at 1054 (Lamb, J., concurring).

¹²¹ *See, e.g., Commonwealth v. Gallagher*, 519 Pa. 291, 297 n.3, 547 A.2d 355, 358 n.3 (1988) (“We do not reach the appellant’s argument that [Rape Trauma Syndrome] is not sufficiently reliable to be admissible as it has not been widely enough accepted by the scientific community, nor the additional argument that RTS has developed as a therapeutic tool for the treatment of stress-related symptoms, not as a forensic tool to ascertain facts which might be useful to a jury.”).

¹²² *Dunkle*, 529 Pa. at 177, 602 A. 2d at 834 (quoting *Commonwealth v. Nazarovitch*, 496 Pa. 97, 101, 436 A.2d 170, 172 (1981)). In disqualifying the evidence under *Frye*, the Court did not address whether it was the methodology or conclusions that failed the test of general acceptance. But the problem with the research that the Court identified is that it did not yield any method for distinguishing sexually abused children from children who were otherwise maltreated. As mistreated or abused children generally exhibit similar traits, one cannot use the evidence of the traits for either diagnostic or forensic purposes.

The *Frye* standard had less bite in *Commonwealth v. Smith*, which involved the question whether trial counsel was ineffective for neglecting to object to the testimony of a Commonwealth toxicologist.¹²³ The expert, Dr. Cohn, was called to dispute defendant's psychiatric expert testimony that defendant was experiencing cocaine psychosis at the time of the killing on trial which prevented him from forming a specific intent to kill. Based on the literature of cocaine psychosis and defendant's description of the events, Dr. Cohn concluded that defendant was not suffering from cocaine psychosis. At the PCRA hearing, it was demonstrated that the literature on which Cohn had relied actually contradicted his assertion at trial that defendant had not taken a sufficient dose of cocaine to induce psychosis since he was a chronic user and chronic users develop a tolerance to the drug.

While acknowledging the weaknesses in the prosecution expert's testimony, the Court concluded that the methodology on which it rested, namely, reliance on the generally accepted text in the field of pharmacology and the defendant's recollection of events, was generally accepted. And this was so notwithstanding that a premise of Dr. Cohn's opinion was rebutted by the authority on which he purported to rely.

Behavioral science studies have a long history, including a long forensic history, and courts have entertained their findings at least as far back as *Brown v. Board of Education*.¹²⁴ Such studies have been important if not crucial to numerous United States Supreme Court decisions in recent years including those invalidating the death penalty for mentally retarded¹²⁵

¹²³ 606 Pa. 127, 995 A.2d 1143 (2010).

¹²⁴ 347 U.S. 483, 494, n. 11 (1954).

¹²⁵ *Atkins v. Virginia*, 536 U.S. 304 (2002).

and juvenile offenders¹²⁶ as cruel and unusual punishment, and prohibiting life sentences without possibility of parole for non-homicide crimes committed as a juvenile.¹²⁷ In the juvenile death penalty cases, social and neuroscience evidence informed the Court's judgment that juveniles have a "lack of maturity and an underdeveloped sense of responsibility," they "are more vulnerable or susceptible to negative influences and outside pressures, including peer pressure," and their characters are "not as well formed," all characteristics that lessen their moral culpability as compared to adults.¹²⁸

Social science evidence that the mentally retarded are susceptible to making false confessions was among the considerations cited by the Supreme Court in reaching the judgment that the Constitution forbids the execution of the mentally retarded as a punishment for crime. And the Court specifically drew the link between false confessions and wrongful convictions when it observed that "in recent years a disturbing number of inmates on death row have been exonerated [and that]... these exonerations include mentally retarded persons who unwittingly confessed to crimes that they did not commit."¹²⁹ The fact that the mentally retarded are uniquely subject to the risk of wrongful convictions because of their susceptibility to confess falsely and because of their relative inability to defend themselves in court makes it, said the Court, especially unjust to condemn them to death.¹³⁰ If social science evidence research on false confessions is worthy enough and weighty enough to inform constitutional decision making

¹²⁶ *Roper v. Simmons*, 543 U.S. 551 (2005).

¹²⁷ *Graham v. Florida*, 130 S. Ct. 2011, 2027 (2010).

¹²⁸ *Roper*, 543 U.S. at 569-70.

¹²⁹ *Atkins*, 436 U.S. at 321 n.25.

¹³⁰ *Id.*

affecting a class of defendants, it is at least as likely to be helpful to a factfinder in determining the accuracy of a single defendant's confession that the defendant has repudiated. And the reliance placed on the evidence by the United States Supreme Court at least betokens its general acceptance in the scientific community.

In the view of *Amici*, the proponent of any expert testimony that is brought to court under the banner of science, physical or social, needs to satisfy the court, as a condition of admission, that the methodology underlying the testimony is scientific. That burden in most cases will be discharged by proving that the methodology enjoys general acceptance within the relevant field, but such a showing will not always suffice. There are pseudo-sciences and testing methodologies that have never been validated by empirical testing. Their practitioners may swear to the reliability of their findings in all good faith, and the findings can be said truthfully to enjoy general acceptance within the particular community of pseudo-scientists, but without scientific validation, the evidence can scarcely be said to help the trier of fact accurately determine a fact in dispute; to the contrary, it creates the risk of misleading the factfinder and corrupting the determination of guilt.¹³¹

Social framework expert testimony may be based on experimental research, observational studies, or the expert's personal experience. Experimental research is unquestionably a scientific methodology; observational studies and personal experience may or may not qualify for that category. It is beyond the scope of the question posed by the grant of allocator to delve deeply into what constitutes "scientific" expert testimony. But from a procedural standpoint, when expert testimony is offered, the opposing party should have the

¹³¹ See THE NATIONAL RESEARCH COUNCIL OF THE NATIONAL ACADEMIES OF SCIENCE, STRENGTHENING FORENSIC SCIENCE IN THE UNITED STATES: A PATH FORWARD (2009), available on-line at http://www.nap.edu/catalog.php?record_id=12589#toc.

opportunity to evaluate, with its own expert if necessary, whether there is a good faith basis for disputing the scientific reliability or general acceptance of the methodology that underlies the testimony. If there is no dispute, the trial court can move on to the other conditions for admissibility. If reliability or general acceptance is disputed, then the proponent of the testimony will need to convince the court that the evidence has those characteristics, and a Rule 104 hearing outside the presence of the jury may be necessary for the purpose if required by the interests of justice or requested by the accused.¹³²

It is safe to say that the methodological rigor demanded by a court in any case will vary with the issue that the testimony addresses and with the nature and scope of the testimony. The criteria for judging the methodology employed in conducting a social psychological experiment are well-established and can be presented and applied by experts in the field: was the study conducted by blinded investigators and subjects, was there a control group, were there enough subjects to produce findings not attributable to chance, is the study capable of being replicated by other investigators, and the like. Experimental research conducted along these lines is likely to pass *Frye* muster.¹³³ The eyewitness and false confession studies belong to the realm of experimental research and should be judged for admissibility against the criteria applicable to such research. It should not be sufficient for admissibility purposes for the proponent to simply declare that the research was conducted in accordance with a scientific

¹³² Pa. R. E. 104(c).

¹³³ Whether the conclusions drawn by the expert from the research findings are also to be screened by the court for reliability as a means of warding off “junk science” in the form of arbitrary conclusions is a separate and important question. It was raised in the dissenting opinions of Justices Baer and Saylor in *Commonwealth v. Smith*, 606 Pa. 127, 995 A.2d 1143 (2010). For his part, Justice Saylor would not “permit speculative or manufactured conclusions to be merely couched within established scientific methodologies, and, thus, ...elude judicial screening.” *Id.* at 1177 (Saylor, J., dissenting). Requiring trial judges to satisfy themselves of the reasonableness of the expert’s conclusion in relation to the data on which it rests, regardless of whether the court agrees with the conclusion, would not disturb the existing framework or displace *Frye*. An expert’s arbitrary conclusions and irrational will not assist the trier of fact to understand the evidence or to determine a fact in issue.

methodology, experimental or otherwise; the proponent must prove the methodology that was followed and satisfy the court of its reliability by proving its general acceptance and overcoming any challenge to its reliability based on alleged methodological flaws.

Different questions need to be asked when expert is being called to give opinions or background information based on observational studies or on the expert's personal experience. Proposed expert testimony that the accused exhibits behavioral traits that in the expert's own clinical experience are uniquely associated with persons who have committed sexual abuse raises serious problems about the scientific character of the methodology by which the opinion has been reached. What the expert does and observes as a clinician may be suitable for diagnostic and treatment purposes but of negligible power as a tool of forensic science. Given a choice between a medication that has undergone clinical trials under well-designed and government-regulated protocols, and a medication that a single physician speculates from experience would be efficacious without harmful side effects, most patients would opt for the clinically tested medication.

The decisions that a jury is called upon to make in a criminal case are hardly less fraught than the patient's, and courts should be wary about admitting into evidence expert testimony that rests on an empirically rickety foundation, regardless of whether the methodology has a long history and the expert a glittering pedigree within his or her field. Just as Judge Hand cautioned long ago that an entire industry may be at fault for observing an outmoded standard of care and that courts must not defer uncritically to an industry's own, self-serving tests,¹³⁴ so, too,

¹³⁴ *The T. J. Hooper*, 60 F.2d 737 (2d Cir. 1932) (“in most cases reasonable prudence is in fact common prudence; but strictly it is never its measure; a whole calling may have unduly lagged in the adoption of new and available devices. It never may set its own tests, however persuasive be its usages. Courts must in the end say what is required; there are precautions so imperative that even their universal disregard will not excuse their omission.”) (Hand, L. J.).

courts would be failing in their Rule 702 responsibility if they accepted that a particular methodology was scientific or reliable on the word of its practitioners or the evidence of long usage. It is the antithesis of science that any methodology would be “grandfathered” out of respect for its venerability or for any other reason.

5. Behavioral Science Testimony Will Continue to be Excluded When the Expert Offers Case-Specific Conclusions Based on General Research or on No Science at All.

Courts should admit relevant, reliable expert behavioral science testimony to provide a framework in which juries can decide issues in any given case, but they should not routinely permit the expert to also testify to case-specific conclusions drawn from the research findings. When experts extrapolate case-specific conclusions from general behavioral research findings, they are performing an operation that is not itself scientific and that does poach on the jury’s preserve. Once the expert has equipped the jury with background information about how the group to which the witness or the accused belongs behaved in response to a particular stimulus, e.g., ‘in 80% of the DNA exonerations in which the defendant had given a signed confession, the accused had been threatened by the interrogator with the death penalty unless he cooperated,’ the expert’s job is done. Having enlightened the jury that threatening a suspect with the death penalty may induce a false confession, no special expertise or scientific methodology is required to draw or reject the inference that the accused in the particular case made a false confession. Allowing the expert to utter a case-specific opinion would create a danger of unfair prejudice to the party against whom the opinion was being introduced since the opinion comes cloaked in the mantle of scientific authority (though how much authority is questionable).

The Court's decisions have enforced this limitation on social science expert testimony, typically under the rubric of "credibility is for the jury."¹³⁵ The evidence could as easily be excluded on the alternative grounds that the expert's inference is not scientific; its probative value, if any, is outweighed by the danger of unfair prejudice; or it will not assist the trier of fact in any way. And, as observed above, the cases all involved expert comment on a particular aspect of credibility, namely, truthfulness, which experts are not more competent to determine than laypersons. A shift away from the precept that credibility is for the jury alone to the suggested alternative decisional framework would also eliminate the tension that was created with the adoption of Pa. R. E. 704 in 1998. Under Rule 704, expert testimony is no longer objectionable on the ground that "it embraces an ultimate issue of fact to be decided by the trier of fact."

6. In Cases in Which There is a Legitimate Issue as to Whether Particular Social Scientific Knowledge is Beyond That Possessed by a Layperson, the Proponent of the Expert Testimony Has the Burden of Proving That the Social Science Findings are Not Matters of Common Knowledge.

Rule 702 codified the common law rule that expert testimony will be disallowed when the issue it addresses is a matter of common knowledge.¹³⁶ The rule is linked closely to

¹³⁵ See, e.g., *Commonwealth v. Gallagher*, 519 Pa. 291, 294, 547 A.2d 355, 357 (1988); *Kozak v. Struth*, 515 Pa. 554, 531 A.2d 420 (1987) (prohibiting expert testimony on causation and due care because issues of ultimate fact, especially those of credibility, are for the jury, not an expert). The viability of the rationale employed in these cases is called into question by Pa. R. E. 704, which was adopted in 1998 and which provides: "Testimony in the form of an opinion or inference otherwise admissible is not objectionable because it embraces an ultimate fact to be decided by the trier of fact."

¹³⁶ *Commonwealth v. Dunkle*, 529 Pa. 168, 181, 602 A.2d 830, 836 (1992) (holding that expert testimony explaining why a sexually abused child would delay reporting the abuse to family member, would omit details of the incident, and be unable to recall the date and time of the incident was improperly admitted as the reasons why a child victim would react as the complaining witness reacted "are easily understood by lay people and do not require expert analysis"); *Commonwealth v. O'Searo*, 466 Pa. 224, 352 A.2d 30 (1976) (holding that expert testimony that did not touch upon the psychological likelihood of particular behavior in response to a particular stimulus but was offered merely to buttress the defendant's credibility was properly excluded).

other mechanisms controlling the admission of expert testimony and is often just another way of saying that to permit expert testimony on matters that “do not require expert analysis”¹³⁷ would be a waste of time and carry a risk of unfair prejudice, regardless of its probative value, and would not assist the trier of fact to understand the evidence or determine a fact in issue. Expert testimony that does no more than tell the jury that a witness is telling the truth or lying trips over nearly every hurdle to the admission of expert testimony. When juries are as equipped as the expert to judge if a person is telling the truth or engaging in deception, the expert has nothing scientific to offer and receiving the testimony would be a waste of time, unhelpful to the jury, and, worse than unhelpful, unfairly prejudicial owing to the risk that jurors will attach undue weight an opinion coming from an anointed expert.

Commonwealth v. Dunkle illustrates that the “common knowledge” filter will be applied to screen out expert testimony that strays beyond the boundaries of its competence into the realm of speculation upon witness truthfulness. In that case, there were aspects of the testimony of the alleged victim of child sexual abuse that raised issues as to the child’s truthfulness. The prosecutor called an expert (who was neither a psychologist or psychiatrist) to tell the jury why the child should be believed, notwithstanding the troubling aspects of her testimony, including the three-year delay in reporting the sexual assault to authorities. In holding that it was reversible error to admit the expert’s testimony, the Court found warrant in its own decisions for concluding that “the reasonable explanations for why children do not come forward are well within the range of common experience; reasons that are understood by the jury.”¹³⁸

The *Dunkle* opinion gives no indication that the prosecutor introduced evidence to show that the

¹³⁷ *Dunkle*, 529 Pa. 168, 602 A.2d 830; *O’Searo*, 466 Pa. 224, 352 A.2d 30.

¹³⁸ *Dunkle*, 529 at 182, 602 A.2d at 837.

issue lay beyond common knowledge or that the expert's explanations would have helped the jury interpret the witness's behavior. Hence there was no foundation for a finding at odds with the Court's assumption that the reasons for a victimized child's behavior are "within the range of common experience."¹³⁹ Because the *Dunkle* opinion does not disclose the basis for the expert's explanation of the witness's behavior or even whether it stood on a scientific methodology, it is entirely possible that the expert was opining from personal or common experience and nothing more. Insofar as that is true, it reinforces the point that when the expert has no scientific knowledge to bring to bear on the accuracy of a witness's reconstruction of events, the testimony should be excluded.

The risk, of course, is that a court's assumptions about what is commonly known is mistaken, or that the common knowledge is itself wrong. In *Dunkle*, the Court looked to its own decisions for guidance. It does not denigrate the learning to be derived from judicial opinions to say that behavioral science is at least as reliable a source of information as judicial decisions about the assumptions that laypersons actually have regarding how the mind works. Are there truly universal or widely shared understandings, for example, as to how a child would behave as a result of being sexually abused? Should not a court look to the parties to furnish evidence from social science that shows that there are, or are not, common understandings about the behavior of children in response to sexual assaults? And if there are such common understandings, do they comport or conflict with the findings of behavioral science research? There is no good reason for a court to rely on its own assumptions about what is common knowledge when objective evidence is available. Especially is this so when the not-insignificant cost of an incorrect judicial assumption or incorrect common knowledge is to deprive the

¹³⁹ *Id.*

factfinder of scientific knowledge that would help in understanding the evidence or determining an issue in dispute.

In this context, it is striking that when the Court first considered in *Commonwealth v. Delbridge* whether a competency hearing is appropriate to determine if a young child's memory has been distorted by suggestions implanted by the interview techniques of law enforcement officers or social workers, the Court did not simply fall back on common experience or common knowledge to decide how the minds of children work under the influence of interviewer suggestion. Instead, the Court looked to whether the phenomenon is generally accepted in the social science community as well as to its acceptance by law enforcement and sister courts.¹⁴⁰ The perils of trusting to common knowledge at the expense of scientific learning were front and center in *Commonwealth v. Stonehouse*, where the plurality recognized that “the commonly held beliefs about battered women are subject to myths that ultimately place the blame for battering on the battered victim.”¹⁴¹ For decades it was common knowledge, stoked by an interested industry, that cigarette smoke did not cause cancer.

The point of these observations is that courts' assumptions about the existence of a body of common knowledge as to how the mind works are no less subject to error and correction than the common knowledge itself when it exists. Proponents of social framework expert testimony should therefore be afforded the opportunity of demonstrating either that (1) people have no understanding or preconception about the issue of concern, e.g., whether an innocent person would ever confess to a crime as a result of particular interrogation techniques; (2) the understandings that people have on the subject diverge widely; or (3) the understandings

¹⁴⁰ 578 Pa. 641, 855 A.2d 27 (2003).

¹⁴¹ 521 Pa. 41, 62, 555 A.2d 772, 783 (1989).

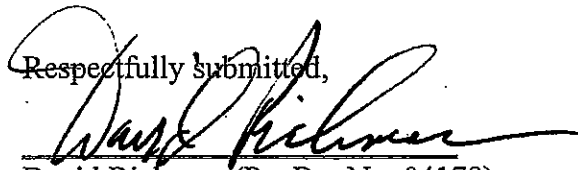
that lay people do have conflict with the findings of social science. Whenever the court is satisfied by the sufficiency of the showing, the expert should be permitted to testify to the research findings for the jury's edification "to the end that the truth may be ascertained and proceedings justly determined."

CONCLUSION

WHEREFORE, for the reasons set forth herein, *Amici* request this Court to hold that expert testimony on eyewitness evidence is admissible through all stages of a criminal prosecution, as the use of such testimony will dispel preconceived ideas about human memory that are contradicted by decades of solid scientific research. In addition, the Court should adopt a framework for trial courts to use to evaluate the admissibility of expert testimony regarding "how the mind works," and other human behavioral issues, where there is proof of scientific reliability and general acceptance of such principles, the testimony is relevant, it is helpful to the trier of fact, and it does not comment upon case specific facts or the veracity of a particular witness or class of witnesses.

Dated: August 1, 2011

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CERTIFICATE OF SERVICE

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Exhibit A

SUPREME COURT OF NEW JERSEY
A-8-08 September Term 2008

STATE OF NEW JERSEY,

Plaintiff- Appellant

v.

LARRY R. HENDERSON,

Defendant-Respondent

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REPORT OF THE SPECIAL MASTER

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Format of the Hearing and the Record

In its remand orders of February 26 and May 4, 2009, the Supreme Court declared that the trial court record in this matter is inadequate to "test the current validity of our state

law standards on the admissibility of eyewitness identification” and directed that a plenary hearing be held

to consider and decide whether the assumptions and other factors reflected in the two-part Manson/Madison test, as well as the five factors outlined in those cases to determine reliability, remain valid and appropriate in light of recent scientific and other evidence.

As the Court ordered, the State, the defendant and amici Innocence Project and Association of Criminal Defense Lawyers of New Jersey (ACDL) participated in the remand proceedings. Given the nature of the inquiry, the proceedings were conducted more as a seminar than an adversarial litigation. At an initial conference, it was agreed that all participants would submit and exchange whatever published scientific materials they chose and would also disclose the names and areas of proposed testimony of all expert witnesses. More than 200 published scientific studies, articles and books were ultimately made part of the record. At the evidentiary hearings, which extended over ten days, seven expert witnesses testified:

Gary L. Wells, Distinguished Professor of Liberal Arts and Sciences, Department of Psychology, Iowa State University, called by the Innocence Project. IP2.

James M. Doyle, Director, Center for Modern Forensic Practice, John Jay College of Criminal Justice, CUNY, called by the Innocence Project. IP50.

John Monahan, John S. Shannon Distinguished Professor of Law, University of Virginia School of Law, called by the Innocence Project. IP86.

Steven Penrod, Distinguished Professor of Psychology, John Jay College of Criminal Justice, CUNY, called by defendant. D2.

Jules Epstein, Associate Professor of Law, Widener University School of Law, called by defendant. D100.

Roy Malpass, Professor of Psychology, University of Texas, El Paso, called by the State. S28.

James M. Gannon, former Deputy Chief of Investigations, Office of the Morris County Prosecutor, called by the State. S34.

At the conclusion of the hearings, the parties prepared extensive proposed findings of fact and conclusions of law, which were thoroughly argued on the record. The tentative findings and conclusions of the Special Master were later distributed to counsel and discussed in final on-the-record conferences. The findings and conclusions set forth below are those of the Special Master alone.

Because of the nature and size of the record thus developed, it is presented, with the approval of the Supreme Court Clerk, on a single DVD. A guide to the record and the manner in which it can be accessed is attached at the end of this Report.

The Manson/Madison Test and Related New Jersey Caselaw

In State v. Madison, 109 N.J. 223 (1988), this Court addressed the question of "whether the out-of-court photographic identification procedures used by the police were 'so impermissibly suggestive as to give rise to a very substantial likelihood of irreparable misidentification.'" Id. at 225. Reciting that "[w]e have consistently followed the [United States] Supreme Court's analysis on whether out-of-court and in-court identifications are admissible," the Court adopted the "two-prong" admissibility test set forth in Manson v. Brathwaite, 432 U.S. 98, 97 S. Ct. 2243, 53 L. Ed. 2d. 140 (1977). Id. at 233. Justice Garibaldi described that test as follows:

[A] court must first decide whether the procedure in question was in fact impermissibly suggestive. If the court does find the procedure impermissibly suggestive, it must then decide whether the objectionable procedure resulted in a "very substantial likelihood of irreparable misidentification." [Citations omitted.] In carrying out the second part of the analysis, the court will focus on the reliability of the identification. If the court finds that the identification is reliable despite the impermissibly suggestive nature of the procedure, the identification may be admitted into evidence. "Reliability is the linchpin in determining the admissibility of identification testimony." [Citations omitted.]

* * * * *

The United States Supreme Court has established that the reliability determination is

to be made from the totality of the circumstances in the particular case. This involves considering the facts of each case and weighing the corruptive influence of the suggestive identification against the "opportunity of the witness to view the criminal at the time of the crime, the witness's degree of attention, the accuracy of his prior description of the criminal, the level of certainty demonstrated at the time of the confrontation and the time between the crime and the confrontation." [Citations omitted.]

[109 N.J. at 232-33, 239-40.]

In applying that rule, the defendant bears the burden of proving by a preponderance of the evidence that a pretrial identification procedure was so suggestive as to result in a substantial likelihood of misidentification; in the absence of such a showing, no evidentiary hearing as to reliability is required. State v. Hurd, 86 N.J. 525, 548 (1981), abrogated on other grounds by State v. Moore, 188 N.J. 182 (2006); State v. Ortiz, 203 N.J. Super. 518, 522 (App. Div. 1985). If the defendant makes a sufficient showing of undue suggestiveness, the State has the burden of proving by clear and convincing evidence that the identification has a source independent of the police-conducted identification procedures. Madison, 109 N.J. at 245.

That remains the core New Jersey test of admissibility of an eyewitness identification. See, e.g., State v. Adams, 194 N.J. 186 (2008); State v. Herrera, 187 N.J. 493 (2006). However,

this Court and the Appellate Division have ruled on several related matters concerning the procedural handling and substantive assessment of eyewitness testimony:

State v. Delgado, 188 N.J. 48 (2006), ordered that, as a condition to the admissibility of out-of-court identifications, the police preserve a record, to the extent feasible, of all dialogue between witnesses and police during any identification procedure.

State v. Herrera, supra, 187 N.J. at 509, recommended that, in appropriate cases, the trial court consider, in addition to the five Manson reliability factors, "the nature of the event being observed and the likelihood that the witness would perceive, remember and relate it correctly."

State v. Robinson, 165 N.J. 32 (2000), reaffirmed the obligation of the trial court under State v. Green, 86 N.J. 281 (1981), to explain the Manson/Madison identification factors to the jury in the context of the facts of the case.

State v. Cromedy, 158 N.J. 112 (1999), reviewing the scientific and legal findings that eyewitnesses suffer "cross-racial impairment" when identifying members of another race, ordered that, in certain circumstances, a jury be specially instructed as to the unreliability of cross-racial identifications.

State v. Romero, 191 N.J. 59 (2007), declined to require a special jury instruction with respect to "cross-ethnic" identifications, but ordered the drafting of a model jury charge cautioning that a witness's level of confidence, standing alone, may not be an indication of reliability of the identification.

State v. Michaels, 136 N.J. 299 (1994), finding that the State's conduct in interrogating alleged victims of child sexual abuse undermined

the reliability of the children's recollections of the alleged crimes, ordered that an evidentiary hearing be held to determine whether their testimony was sufficiently reliable to warrant admission at trial, and instructed that expert testimony be allowed regarding the capacity of the interrogations to skew the children's memories.

State v. Earle, 60 N.J. 550 (1972), directed that law enforcement agencies retain the photo array employed in every photo identification procedure; State v. Janowski, 375 N.J. Super. 1 (App. Div. 2005), held that Earle does not require recording or preserving all photographs in mug-shot books used to develop a suspect.

State v. Chen, 402 N.J. Super. 62 (App. Div. 2008), certif. granted 197 N.J. 477 (2009) (argued September 29, 2009), held that although Manson provides no constitutional basis for exclusion of identification evidence influenced by suggestive procedures in which the government played no part, the Manson/Madison test should nevertheless be applied to determine the admissibility of identifications impacted by the conduct of private actors.

State v. Gunter, 231 N.J. Super. 34 (App. Div. 1989), held that inquiry into the reliability of an eyewitness identification can encompass all factors that affect perception and memory, not just suggestive police procedures, and that expert testimony is appropriate as to all such matters.

Foundations and Methodologies of the Scientific Studies

While it has long been recognized, both in New Jersey and elsewhere, that eyewitness identifications are inherently suspect and criminal convictions are all too frequently based on misidentifications (see, e.g., Romero, 191 N.J. at 72-75; Delgado, 188 N.J. at 61; Herrera, 187 N.J. at 501), intensive

research into the causes and extent of misidentification did not commence until the 1970s, just before the United States Supreme Court decided Manson. 16T 59; D4. The volume of that research has been remarkable: over two thousand studies on eyewitness memory have been published in a variety of professional journals over the past 30 years. 14T 40-41; 16T 60; 22T 44-45; IP6 at 581-82. Indeed, Monahan testified that of "all the substantive uses social science in law . . . nowhere is there a larger body of research than in the area of eyewitness identification." 29T 39-40. Even more remarkable is the high degree of consensus that the researchers report in their findings.

The study of eyewitness identification relies in the first instance on precepts drawn from the broader studies of human memory. Those studies, pioneered by Dr. Elizabeth Loftus, demonstrate that eyewitness performance depends on many variables. 18T 10-11; IP52 at 93. See generally IP114; IP115; IP117; IP135; IP141. The central precept is that memory does not function like a videotape, accurately and thoroughly capturing and reproducing a person, scene or event. 15T 5-6; 26T 14-18; IP143 at 171. Memory is, rather, a constructive, dynamic and selective process. 15T 7; 26T 14-15.

Memory is comprised of three successive mental processes: encoding, which occurs when the witness perceives the event; storage, which is the period between the event and the witness's

attempt to recall it; and retrieval, which is the process through which the witness attempts to reconstruct the event. IP51 at 13; IP141 at 21. At each of those stages, the information ultimately offered as "memory" can be distorted, contaminated and even falsely imagined. 20T 52; 26T 15-18; IP141 at 21-22. The witness does not perceive all that a videotape would disclose, but rather "get[s] the gist of things" and constructs a "memory" on "bits of information ... and what seems plausible." 15T 7-8. The witness does not encode all the information that a videotape does (26T 14-15; 28T 21, 50; IP141 at 22); memory rapidly and continuously decays (15T 13; 17T 45-46; 26T 17; D4 at 102-04; IP91; D48); retained memory can be unknowingly contaminated by post-event information (IP141 at 22; D65 at 134; see also IP114; IP115; IP117; IP135); the witness's retrieval of stored "memory" can be impaired and distorted by a variety of factors, including suggestive interviewing and identification procedures conducted by law enforcement personnel. 22T 9-10; 23T 92; IP91 at 5; S6b at 230-31; IP93/D50.

Because the reliability of any reported "memory" is subject to so many influences, the researchers commonly recommend that eyewitness identifications be regarded as a form of trace evidence: a fragment collected at the scene of a crime, like a fingerprint or blood smear, whose integrity and reliability need

to be monitored and assessed from the point of its recovery to its ultimate presentation at trial. 15T 3-4; 18T 31-32, 51; 20T 51-52; 26T 16-17; IP23 at 2; IP51 at 243; IP146 at 622-23; IP52 at 98-99; IP154 at 726-28. Professor Hugo Munsterberg stated the reasoning as far back as 1907:

[W]hile the court makes the fullest use of all the modern scientific methods when . . . a drop of dried blood is to be examined . . . , the same court is completely satisfied with the most unscientific and haphazard methods . . . when . . . the memory report of a witness[] is to be examined. No jurymen would be expected to follow his general impressions . . . as to whether the blood on the murderer's shirt is human or animal. But he is expected to make up his mind as to whether . . . [witness] memor[ies] . . . are objective reproductions of earlier experience or are mixed up with associations and suggestions.

[IP124 at 36-37.]

Although suggestive police procedures are not the only contributors to misidentifications, they have been the principal object of the research studies, largely for pragmatic reasons: "real-life" mistaken identifications are difficult to verify or analyze (in the absence of exculpatory DNA evidence), but the incidence of mistaken identifications can be reduced before they occur by implementing improved police procedures. 14T 44-48; 22T 20. The researchers thus distinguish between "system variables" and "estimator variables," the former being variables that affect eyewitness identification accuracy over which the justice system has control (e.g., lineup procedures) and the

latter being those that inhere in the witness, the perpetrator and the witnessed event and are beyond control of the justice system (e.g., the witness's eyesight, the perpetrator's brandishing of a gun, the lighting conditions). 14T 46-47, 60-61; 17T 21-22, 52; IP5/D109. The researchers agree, however, that both system and estimator variables must be considered in assessing the reliability of any identification. 14T 60-61; 17T 74; 23T 88.

The published scientific literature identifying and analyzing those variables is of three kinds. First, archival studies, which are relatively few in number, examine police and court records of past investigations and prosecutions. Second, field experiments and studies, also relatively few, are based on direct observation of "real life" events as they occur. Third, and the vast majority (14T 61-62), are "laboratory" studies that report controlled experiments designed and conducted by academic researchers to isolate and manipulate particular variables for study. See 16T 22-66; 28T 60-62; IP161 at 27-35. An important and much cited subset of the literature is comprised of meta-analyses, which evaluate the methodologies and findings of multiple published reports of experiments in a given area of inquiry. 14T 27-28; 16T 61; 21T 120-23; IP111 at 15-16; IP161 at 35-36; D31 at 535-51. The strength of meta-analyses is dependent, of course, on the strength of the underlying studies,

but because of their breadth, meta-analyses are generally regarded as offering the most reliable statements of the scientific findings. 14T 26-27; 16T 61-62; 21T 120-23; D31 at 535-56; S3 at 200; S4 at 2; S6a; IP111 at 15-16; IP161 at 35-36; see also IP223 (listing meta-analytic studies included in the present record).

The primary utility of the experimental research is that it permits the researcher to draw cause-and-effect conclusions: "[A] well-conducted experiment can tell us that using a specific identification procedure will cause an improvement [or reduction] in identification accuracy." 16T 24-26; IP51 at 4. The basic method used in laboratory experiments over the past 30 years is to stage and videotape an event, which is shown to large numbers of persons who do not then know that they are about to be "witnesses" to a criminal event. 14T 38-40; IP161 at 28. The "perpetrator" is a stranger to the witnesses; system and estimator variables will have little impact on a witness with a prior "deep" memory of the suspect. 21T 113; 28T 21, 51. Each witness is separately shown a photo lineup, composed of five or more "fillers" (known innocents) and either the perpetrator (target-present array) or a known innocent suspect (target-absent array). The researcher, having staged the event, knows the identity of the perpetrator and thus knows whether a witness's identification is accurate or inaccurate. 14T 38-39.

The researcher accordingly can manipulate and control individual variables to determine their impact on eyewitness accuracy: witness characteristics, instructions given before viewing a lineup, blind or non-blind lineup administration, simultaneous or sequential lineup, nature of the witnessed event, presence of a weapon and the like. 14T 38-40; 16T 24-26; IP22 at 4-6.

While the remand record does not include all of the published literature, it does contain all that the parties have proffered as important, reliable and persuasive. The literature demonstrates a broad consensus as to the variables that can affect the reliability of eyewitness identifications. But it is also uniformly recognized that the studies show only that the variables have the capacity or tendency to affect the reliability of identifications. Other than in the DNA exculpation cases, science cannot say whether any identification in any real-life case is accurate or inaccurate; nor can science know how strongly a given variable may have influenced a particular witness in an actual case or what variable or variables may have caused or contributed to any real-life misidentification. 21T 113; 25T 58-59; 28T 10-21; 29T 50; S5 at 25; S6a. Those realities play a large role in the parties' disagreements as to whether and how the Manson/Madison rule should be revised.

The Incidence of Misidentification

The published studies offer some data as to the frequency with which misidentifications occur in various settings. Their findings are not comprehensive but are fairly consistent. 14T 65-67; 16T 70-71; 28T 48; D23 at 16; D31; D89; IP22 at 69-70. Archival studies conducted in the United Kingdom, using fragmentary data, showed that 39% of some 3100 line-up witnesses identified the person suspected by the police, while 21% identified fillers; since only 60% of the witnesses made an identification, the misidentifications represent at least 35% of the positive identifications. 16T 27-35; D4 at 23-24; IP64/D12; IP66/D13; IP65/D14; D15; D17; IP22 at 69-70. Other compilations of the archival studies similarly indicate that, in real cases, at a minimum almost one-third of witnesses who make identifications are wrong. See 16T 32; IP22 at 69-70 (citing IP 62/D18; IP63/D19; IP64/D12; IP65/D14; IP66/D13; IP19).

Comparable error rates have been shown in field experiments. Examining a group of four field experiments involving over 500 unwitting store clerk and bank teller witnesses who observed staged events, Penrod found that in target-present lineups 42% identified the suspect, 41% identified a foil and 17% made no identification; almost half of the positive identifications thus were mistaken. In target-

absent line-ups, 36% picked a foil. 16T 66-67; D4 at 42; D26; D27; D28; D29.

The laboratory experiments, which report witness errors resulting from the particular variable under investigation, also show similar results. For example, a 2001 meta-analysis of 30 studies involving a total of 4145 witnesses designed to compare error rates arising from simultaneous and sequential photo arrays shows foil identifications of 24% and 19% in target-present arrays, 51% and 28% in target-absent arrays, and no choices ranging from 26% to 72%. 16T 62-65; IP61/D25; D4 at 40. The error rate derived from any given experiment depends, however, on the particular variable under study (14T 68-69) and the literature commonly does not offer any quantification of the probability of identification error resulting from any given variable in actual cases. As Monahan testified, the science supports judgments about the direction and size of contaminating influences, but does not permit a conclusion, for example, that "because this identification was cross-racial, therefore, the witness has a 73% greater chance of being erroneous." 29T 57, 71.

Finally, the compilation of DNA exculpation cases made by the Innocence Project shows that as of May 13, 2010, 254 wrongfully convicted persons had been exculpated by DNA evidence; 75% of those convictions involved erroneous eyewitness

identifications. See Innocence Project, Facts on Post-Conviction DNA Exonerations, www.innocenceproject.org/Content/Facts_on_PostConviction_DNA_Exonerations.php (last visited June 7, 2010). An analysis of the first 239 DNA exonerations found that over 250 witnesses misidentified innocent suspects; in 38% of the misidentification cases, multiple eyewitnesses identified the same innocent person; and in 50% of the misidentification cases, the eyewitness testimony was uncorroborated by confessions, forensic science or informants. See www.innocenceproject.org/Content/2080.php (last visited June 6, 2010); D7; D8; IP157; IP158; IP84/D6; IP153; IP229; Barry Scheck et al., Actual Innocence (2003) (available on request). No overall rate of misidentification can be drawn from DNA exculpation figures, for DNA evidence is recovered, preserved and tested in only a minority of criminal investigations. 16T 24-26.

While the literature does not dispute the data reported by such studies, questions have been raised as to whether the witness error rates reported in the experimental studies may be higher than those in real cases with real witnesses, perpetrators and suspects. The experiments are commonly conducted with college or graduate students who are paid for their participation as "witnesses" and know that the exercise has no real-life consequences to anyone in the line-ups; the suggestion is that students are not good or representative

witnesses, that the greater stress and intensity of feeling of real witnesses leave stronger memory traces, and that real witnesses are likely to be more cautious in making their identifications. See 14T 63; IP22 at 15-17.

Despite those questions, the consensus view appears to be that "perception and memory processes do not work in one way under one [testing setting] and in quite another way [under] ... a different [testing setting]." IP111 at 13. Meta-analyses indicate, in fact, that the impact of system and estimator variables on eyewitness performance is more profound in real-life circumstances than in the laboratory setting. 16T 72-74; D4 at 49; D31 at 550-51. College students are regarded as among the best eyewitnesses; their general health, visual acuity, memory abilities and alertness are exceptional. 14T 63. Studies indicate no significant differences in identification accuracy between witnesses who knew the "crime" and lineup procedure were staged and those who believed otherwise. 14T 64-65; 16T 67-68; D30 at 8-9. The archival studies and the DNA exoneration cases, 75% of which involved at least one mistaken identification, evidence the fact that real-life witnesses are not predictably cautious. 14T 65-69. And memory studies show that stress and intense feelings in fact have a negative impact on memory. See infra, p. 43.

The Scientific Findings

System Variables

Lineup administration. The scientific literature and expert testimony show a broad consensus that the reliability of eyewitness testimony is highly dependent on the police procedures used in conducting lineups. 14T 47.

The lineup - live or photographic - appears to be the most commonly used police identification procedure. A lineup is essentially a memory experiment. 14T 49-60; IP21. Police conducting lineups have been likened to scientists in that they test a hypothesis (the suspect is the perpetrator) by conducting an experiment (placing the suspect among a group of fillers) in which the group is presented to one or more persons (eyewitnesses) in order to gather data to test the validity of their hypothesis. 14T 50-52; IP21; IP22 at 12-13.

Scientific experiments commonly call for double-blind (sometimes called blind) test procedures, a "staple of science." 15T 54-55. Wells characterized double-blind lineup administration as "the single most important characteristic that should apply to eyewitness identification." 15T 74. Double-blind testing requires that the neither the test administrator nor the subject know the "correct" or "desired" answer; the best known example is the testing of new drugs, in which neither the medical administrator nor the patient knows whether the patient

received the experimental drug or a placebo. 15T 55-56, 74; IP30. The purpose of blind testing is to prevent unintentional verbal and non-verbal influence on the test subject; studies have shown that, in the absence of blind testing, the experimenter's expectations tend to influence the outcome of the experiment. 15T 55-56, 69-70; 20T 42. Indeed, a 1978 meta-analysis analyzing 345 studies concluded that there is less than one chance in a million that a non-blind test administrator has no influence on the behavior of the subject. 15T 55-56, 69-70; IP22 at 36; IP30. The studies also report that while the effect of administrator influence is quite strong, neither the administrator nor the witness is ordinarily aware of either the unintentional suggestions or their impact; accordingly, neither is in position to report or dissipate the taint. 15T 55-56, 67-68; 17T 68-72; D4 at 134; IP14; IP22 at 39; IP8/D63/S13; D62.

The means by which a lineup administrator's expectations can be unwittingly communicated are many and diverse: words, gestures, hesitations, smiles and the like can be and are picked up by witnesses as suggesting what the administrator wants or expects to hear. 15T 57-60, 63-66; IP14; IP15; IP16; IP17; IP18/D63/S13. A number of studies demonstrate the influence of lineup administrators on witness choices. See 15T 62-73; 17T 68-72; IP8/D63/S13; IP9; IP14; IP15; IP16a/b; IP22 at 39; D4 at 133. Wells testified that the diagnosticity, or probative

value, of identifications produced by a blind procedure - i.e., the ratio of accurate to inaccurate identifications - is twice that of those produced by a non-blind procedure. 15T 66; IP22 at 39. The studies are relatively few, for further study of double-blind experimentation "would be like beating a dead horse." 20T 43.

Wells also noted that, if "blind" police personnel are not available for a needed identification procedure, administrator influence can be minimized by the use of a "blinded" administrator, that is, one who knows who the suspect is but presents to the witness what is, to the administrator, a random and unobserved, i.e., "blind", shuffle of photographs. 15T 53-54; 20T 28-29; D115 at 17-19.

Instructions to the witness. Equally uncontroversial in the literature and testimony is the proposition that the witness should be instructed that the perpetrator may or may not be present in the lineup and that the witness should not feel compelled to make an identification. 15T 20; 17T 55; 22T 25-26; 23T 16; 26T 46-49; D54; IP54; IP225; S22 at 196; S33. The experts also advise that the witness be instructed that the lineup administrator is blind, i.e., does not know who in the array, if anyone, might be a suspect; that instruction is designed to inform the witness not to look for or intuit hints,

suggestions or confirmations in any of the administrator's words or conduct. 15T 60; 28T 27.

Research has shown that the failure to give such a pre-lineup instruction substantially increases the risk of misidentification. 17T 60-61; 22T 25-26; D4 at 118; D54. A study published by Malpass in 1981 reported that, in the absence of such an instruction, 78% of witnesses viewing a target-absent lineup mistakenly identified fillers, while fillers were identified by only 33% of witnesses who had been instructed. 26T 44; S33.

The studies identify two related dangers that such witness instructions mitigate. First, witnesses understandably infer that police would not conduct a lineup without a suspect, that the suspect is in the array, and that it is their job to pick the right person.. 25T 24-25. Second is what the scientists call the relative judgment process: that eyewitnesses tend to select the person who looks most like the perpetrator relative to the other members of the lineup. 15T 15-19; IP29; IP57. Some member of the lineup will always look more like the perpetrator than the other members of the lineup do, even when the actual perpetrator is not in the lineup. 15T 14-21; 16T 17; IP22 at 22-29; IP29.

In illustration of the relative judgment process, Wells described a study in which he videotaped a staged crime that he

showed to 200 "witnesses." To 100 of those witnesses, he showed a photo lineup including the perpetrator; to the other 100, he showed a lineup absent the perpetrator. In the perpetrator-present lineup, 54% of the witnesses correctly identified the perpetrator, 25% incorrectly identified a filler, and 21% made no identification at all. In the perpetrator-absent lineup, while one might expect that some 75% (i.e., 54% and 21%) would have made no identification, only 32% did so; 68% identified a filler, including 38% who identified a filler resembling the absent perpetrator who had been identified by only 13% of the witnesses shown the perpetrator-present lineup. 15T 16-19; IP22 at 23-28; IP57. The conclusion to be drawn, Wells proffered, is that the increase in incorrect identifications evidenced the witnesses' resort to relative judgment to inculcate an innocent person. 15T 16-19.

Witness instructions are regarded as one of the most useful techniques for enhancing the reliability of identifications. 26T 49. Meta-analyses confirm that the recommended instructions are effective in deterring the impact of the relative judgment process by directing witnesses to focus not on the "closest resemblance" but on their memory of the perpetrator. 22T 25-26; 26T 44-45; 28T 35-37; D54; IP225. Witness instructions do result in fewer correct identifications as well as misidentifications, which some experts attribute to fewer "lucky

guesses," but the effect is far greater in reducing false identifications. 25T 26; D54. A 1997 meta-analysis showed that in target-present arrays correct identification rates were constant with or without witness instructions, but in target-absent lineups the absence of instructions significantly increased the frequency of misidentifications. 17T 60-61; D4 at 118; D54; IP225.

Construction of the lineup array. The scientific literature supports and explains the common-sense understanding that biased lineups reduce the reliability of eyewitness identifications. 26T 50-51; D92 at 604; IP189. The central finding is that mistaken identifications are more likely to occur when the suspect stands out from other members of a live or photo lineup. 16T 83; 22T 8-9; 26T 50-51; IP129 at 155-56. Lineups can be biased irrespective of the intent of the person constructing the lineup. The most common means by which a suspect can be made to stand out include placing more than a single suspect in the lineup, using an insufficient number of fillers, and using fillers who do not fit the witness's description of the perpetrator. 14T 54-56; 17T 62-63; D92 at 630-35; IP119 at 60-63; IP127 at 287; IP146 at 623. Studies indicate that bias toward the suspect is not unusual in real cases, occurring two to three times above chance levels. 17T 64-66; D56; D113; D58; D59; D4 at 127. A biased lineup not only

increases the likelihood that an innocent person will be identified, but also inflates the witness's confidence in his or her identification and memory. 22T 9-10; 26T 30; D92 at 608.

Embedding only a single suspect among known innocent fillers is essential to a scientifically sound test: if multiple suspects are in the lineup, the reliability of a positive identification is difficult to assess, for the possibility of "lucky" guesses is magnified. 22T 6-8. The ordinary and accepted practice among law enforcement agencies is to present an array embedding the suspect among at least five fillers. 22T 7; S20; IP23 at 29. However, "mock witness" experiments conducted by a variety of researchers demonstrate that the "functional" or "effective" size of the array may be substantially smaller than its numerical size. 22T 12-17; 17T 62-65; IP22 at 33; IP109; IP118 at S1-S3; IP129 at 157-58; IP130; IP151; D4 at 120-25; D17; D56; D57; D58. In those experiments, "mock witnesses" are provided only with the verbal description of the perpetrator given by the real eyewitness; they are then shown photos of the lineup that the real eyewitness had seen and are asked to report, based on the eyewitness description, which person they think is the suspect. 22T 12. If the lineup is entirely unbiased, the mock witness identifications will tend to be equally spread among all members of the lineup. 22T 13. But if, say, of 120 mock witnesses, 60

identify the suspect and the other 60 spread their choices among the five fillers, the researchers, dividing the number of mock witnesses by the number of suspect identifications, calculate the "functional size" of the array as reduced from 6 to 2.

Ibid. If mock witnesses correctly guess the suspect at a rate greater than chance on the basis of the description alone, the reliability of the lineup as a scientific test is impugned. See generally 22T 12-23; 26T 51-52; IP22 at 30-33; IP109; IP129 at 161; IP130; IP151; D17 at S65.

The calculation of "effective size," a somewhat different statistical construct later devised by Malpass, leads to similar conclusions. 22T 12-16; IP109; IP22 at 33. Both Wells and Malpass testified that, if photo or videotape records are preserved, the functional and effective sizes of a lineup can later be readily (and inexpensively) evaluated to assist the court and jury in assessing the fairness of the array. 22T 18-22; 26T 50-55.

Although little research has been done on the issue (S3 at 212), the consensus view appears to be that the fairness of a lineup, and the reliability of a resultant identification, are also diminished if the array is not composed of fillers who fit the description given by the witness prior to the lineup and are sufficiently similar to the suspect so that the suspect does not otherwise stand out. 22T 8; 26T 58-59; IP22 at 55; IP85; S3.

Selecting fillers who fit the witness's description lessens the likelihood that the suspect will more closely resemble the perpetrator than any of the fillers. 15T 20; IP22 at 29; D83 at 212. A witness is likely to disregard any filler who does not meet the witness's own description, thus effectively reducing the size and fairness of the array. 17T 55, 62-64. The experts also agree that if a significant feature of a suspect's appearance, e.g., a mustache, does not match the witness's description, bias in the array is reduced if the fillers match the suspect, not the description, in that respect. 22T 8.

The pre-lineup description is also needed in order to evaluate the reliability of an identification: does the description reasonably match the person identified? 22T 8-9; IP160 at 20-22; IP170. If the lineup is composed without first obtaining the witness's description, the post-lineup description will commonly begin to fit the person identified in the lineup rather than the one observed at the scene. 15T 10-12, 97-98.

Multiple identification procedures. The administration of multiple lineup procedures to a single witness also can undermine the reliability of any resulting identifications. See 17T 52-58; 22T 67-74; 26T 61-64; IP85 at 217-20; D51. The problem is that successive views of the same person create uncertainty as to whether an ultimate identification is based on memory of the original observation or memory from an earlier

identification procedure. 17T 52-56; 22T 41, 68-69; 26T 61-63; IP85 at 217-18. If, on a first lineup, the witness makes no identification and the police present the subject in a second lineup with a different set of fillers, the subject stands out as familiar to the witness and thus is more likely to be remembered as the perpetrator. 17T 52; 22T 67-68; 26T 61-63; IP85 at 218. The danger of misidentification is heightened if the suspect is the only person common in the procedures, for he will be the only person familiar to the witness. 22T 68.

Research has shown that innocent persons misidentified in an initial procedure are more likely to be misidentified in a later procedure. 17T 56-67; 22T 68-69; D4 at 114; D51. Among the empirical studies is a 2006 meta-analysis of 32 experiments, which reported that 15% of witnesses made mistaken identifications upon an initial photo viewing, but 37% made misidentifications if they had previously seen a mug shot of the innocent person. 17T 57-58; D51; D3 at 114. The psychological processes at play are known as "mug shot exposure" and "mug shot commitment." Mug shot exposure occurs when a witness initially reviews a collection of photographs without making an identification; the reliability of a positive identification made at a second procedure is undermined. 17T 57-58; 22T 67-72; D4 at 114; D96. Mug shot commitment occurs when the witness has made an identification from a photograph and that person or

photograph is included in a lineup procedure: the likelihood is enhanced that the witness will remain committed to that identification. Ibid.

Showup procedures. A showup is an identification procedure in which just a single suspect is presented to the witness. 15T 77. There appears to be no dispute within either the law enforcement or scientific communities that the showup is a useful -- and necessary -- technique when used in appropriate circumstances. But it does carry its own risks of misidentification.

The most obvious concern is that a one-person display is inevitably suggestive. See 17T 17; 22T 59-60. The research shows, in fact, that the risk of misidentification is not heightened if a showup is conducted immediately after the witnessed event, ideally within two hours: the benefits of a fresh memory seem to balance the risks of undue suggestion. 23T 39-40; IP67. The likelihood of misidentification of innocent persons substantially increases thereafter. Ibid. Data reported in a 1996 study shows that an immediate showup produced 18% misidentifications and an immediate lineup a comparable 16%, while a 24-hour delay produced misidentification rates of 53% for showups and 14% for lineups. 23T 39-40; IP22 at 74; IP67/D34. Some researchers accordingly recommend that, if a showup cannot be conducted within two hours but probable cause

to arrest exists, the suspect be arrested and a lineup thereupon be conducted. 23T 40-41; IP22 at 75; IP23; IP76.

A 2003 meta-analysis comparing lineups and showups across 3013 witnesses (without regard to the timing of the procedures) found that lineups produce half as many false identifications as showups. 16T 99; D4 at 65; D36. While both procedures produced comparable correct identification rates in target-present conditions (45% for lineups, 47% for showups), showups produced more false identifications of similar-looking innocent suspects (23%) than fair lineups (17%). 16T 99-100; D4 at 66; D36 at 532-33. A further factor noted but not assessable by the scientists is that their experiments cannot simulate real-life showup conditions -- the presence of police officers, squad cars, a handcuffed suspect, and the like -- that can make the showup peculiarly suggestive. 17T 12-13, 17; D36; D37 at 283; D4 at 66, 71-74. In showups there is also a particular danger that witnesses will base identifications more on similarity of the clothing worn by the perpetrator and the suspect than similarity of facial features. 17T 7; D4 at 68; IP145; IP67/D34; IP176.

Feedback to witnesses. An extensive body of studies demonstrates that the memories of witnesses for events and faces, and witnesses' confidence in their memories, are highly malleable and can readily be altered by information received by

witnesses both before and after an identification procedure.
See generally 15T 34-43; 17T 93; 18T 53; 26T 26; IP7; IP19;
IP35; IP36; IP37/D76; IP138; IP39; IP40; IP41; IP42; IP43; IP44;
IP45; IP46/D59; IP47; IP114; IP115; IP117; IP135; IP141; D4 at
151; S5 at 25.

(i) **Pre-identification feedback.** In one of a series of early experiments of memory malleability, Elizabeth Loftus showed students films of a simulated automobile accident on a country road. Half of the group was asked simply to estimate the speed of the car; the other half was asked the speed when the car passed "the barn." The film did not show any barn along the road, but almost 20% of the students who had been asked the false "barn" question reported that they had seen a barn. IP114 at 566. In another experiment involving a staged automobile accident, Loftus asked for speed estimates, but varied her language in questioning individual witnesses: what were the speeds when the cars "contacted," "bumped," "hit," "collided" or "smashed." The witnesses asked about the "smashed" cars estimated higher speeds than those who were given the other descriptors. IP115 at 586. Similarly, to the extent police thus ask leading or suggestive questions during an interview, there is a risk that eyewitness memories will be contaminated. IP211 at 54-55; IP212 at 740.

Following upon studies showing that "police make systematic, avoidable errors that limit the amount of information they elicit" (IP6 at 582) and "lead[] to ineffective communication and poor memory performance" (IP119 at 55), researchers have developed and tested a hypothesis that a witness's ability to recall encoded memory can be enhanced by so-called "cognitive interview" techniques. 21T 91-92; 28T 66-76; IP119 at 55; IP213. Designed for use before any identification procedure, those techniques consist of a relatively specific set of rules representing the best ways to interrogate persons about their memories, e.g., tell the witness the type and detail of information necessary for the investigation, ask no leading or suggestive questions, volunteer no information, ask open-ended questions, instruct the witness not to guess and to report any doubt or uncertainty, avoid interrupting the witness, reinstate the context of the witnessed event, develop rapport with the witness, have the witness recall in both forward and backward directions, and the like. 28T 76; IP6 at 582-84; IP119 at 55-57; IP211 at 58-63; IP214. Cognitive interview techniques are now widely used by law enforcement agencies. IP119 at 59; IP211 at 55-57.

Experimental and field studies generally show that cognitive interviews elicit significantly more correct detail with no increase in proportion of incorrect detail (IP211 at 65,

IP119 at 57; IP215 at 726; IP222 at 193-96), although some studies report some increase in incorrect recall. IP169 at 22. The studies also indicate that cognitive interview techniques enhance accurate recall of details of the event but not recognition of participants in the event. 28T 41-42; IP119; IP169; IP211; IP215. Enhanced recall of details through a cognitive interview is nevertheless important and useful: the witness's description of the perpetrator and his actions, the duration of the observation, the viewing conditions, the degree of attention paid and similar matters all aid a full evaluation of the reliability of any identification. 28T 79; IP23 at 13-16, 21-26; IP152 at 7-23, 53-54. A cognitive interview, moreover, may protect an eyewitness from potentially contaminating information acquired after the interview. IP211 at 69.

(ii) Post-identification feedback. A number of studies have demonstrated that witnesses' confidence in their identifications, and their memories of events and faces, are readily tainted by information that they receive after the identification procedure. See 26T 26-28; 15T 25-36; IP7; IP19; IP22 at 47-48; IP35; IP36; IP37/D76; IP38; IP39; IP40; IP41; IP42; IP 43; IP44; IP45; IP46/D59; IP47. Witness confidence is of concern because the research shows that the persuasiveness of an eyewitness identification is closely linked to the certainty

expressed by the witness in his or her identification. 15T 22-24; IP25; IP26; IP27. As Wells put it:

Mistaken identifications per se do not result in the conviction of innocent people. Convictions of the innocent occur when eyewitnesses are both mistaken and certain.

[IP22 at 42; see 15T 23-24.]

The Manson/Madison test explicitly adopts "the level of certainty demonstrated at the time of the confrontation" as one of the five factors determining whether an identification is reliable notwithstanding the use of suggestive police procedures. Madison, 109 N. J. at 239-40. (In his Manson dissent, Justice Marshall argued that "the witness's degree of certainty ... is worthless as an indicator that he is correct." 432 U.S. at 130, 97 S.Ct. at 2261, 53 L.Ed. 2d at 164.) A number of meta-analyses show, however, that witnesses' pre-identification confidence in their ability to make an identification has no correlation to the accuracy of the identifications they then make (17T 76-77; D4 at 140; D64) and that confidence expressed immediately after making an identification has only a low correlation to the accuracy of the identification. 17T 77; 20T 8; 25T 59-69; 26T 35-36; D4 at 141; D65; D66; D67; S7/D68. The studies do show that witnesses expressing post-identification high confidence (e.g., 90-100%) are in fact highly accurate (e.g., 90%), but only a small

fraction of witnesses report such levels of confidence and even 10% of them make incorrect identifications. 17T 81-90; 26T 36; D4 at 144; D73; D74; IP62/D18; D94. The studies conclude, in short, that a witness's self-report of confidence, whether given before or after the identification, is not a reliable indicator of accuracy. A more reliable indicator, experimental studies suggest, is the speed with which the witness makes an identification: Wells testified that true recognition is "an automatic, rapid process" and an identification made within 10 to 12 seconds is more likely reliable, but beyond that time the witness is "struggling" and perhaps resorting to relative judgment. 23T 70-72; see also IP81/D81; IP128.

The methodology and findings of the studies of confirming feedback are exemplified in a 1998 Wells and Bradfield report of one of the original laboratory experiments. 15T 27-34; IP7; IP22 at 44-47. Participant "witnesses" were shown a staged and videotaped criminal event and then were presented with a photo lineup that, unbeknownst to them, did not include the "perpetrator." 15T 27-28; IP7 at 363. All identifications made by the witnesses thus were mistaken. Ibid. The control group of witnesses who made identifications got no feedback from the lineup administrator, but the others were given some form of confirmatory feedback, e.g., "Good, you identified the suspect." 15T 28; IP22 at 44; IP7 at 363. The participants were then

individually asked not only about their certainty as to the accuracy of their identifications, but also about their view of the videotaped event and perpetrator, the attention they paid to the perpetrator, the details of the perpetrator's face, the ease or difficulty of their identification and the soundness of the basis they had for making an identification. 15T 29; IP22 at 45; IP7 at 366. Only 15% of the control group reported high confidence in their identifications while 43% of the witnesses receiving confirmatory feedback reported high confidence; the effect of the feedback was even more magnified in the witness self-reports concerning their viewing conditions and level of attention. 15T 29-32; IP22 at 46; IP7 at 374. Comparable findings concerning the creation and impact of false certainty are consistently reported in the literature. See 15T 11-12, 36; IP22 at 48.

The research also shows the effect of confirming feedback on witness memories of the observed event. Thus, in the 1998 Wells and Bradfield study, where the "witnesses" had intentionally been given a poor view of the perpetrator, over 25% of those who had been told they had correctly identified the suspect reported that they had a clear view, 20% said they were able to make out facial details, 35% said the identification was easy, and 33% said they had a strong basis for making their identification; the reports of the witnesses without feedback

were, respectively, 4%, 3%, 4% and 5%. 15T 31-33; IP7 at 374; IP22 at 46. A 2006 meta-analysis reported similar results. See 15T 18-41; IP19; IP37/D76; IP38; IP39; IP40; IP41; IP42; IP43; IP44; IP45; IP46/D59; IP47.

The studies offer a number of other significant findings concerning feedback. Neither witnesses nor lineup administrators are generally aware of either the occurrence or the effect of confirming feedback (15T 35-36, 55, 67; 22T 34; 19T 35; IP7 at 373; IP22 at 47); disconfirming feedback tends to lower witness self-reports of certainty and opportunity to view (15T 35); contaminating feedback can come from non-state actors (15T 32, 22T 34; 19T 35; 26T 32-33); information can be planted in a witness's memory by speaking with or in the presence of another witness (22T 43; 26T 74-75; IP 44; IP 92; IP93; IP94/D50; IP95; IP122; IP226; D4 at 149-50; D75); information about the evidence against, or the prior record of, the suspect is particularly influential on witness certainty (15T 27-34; 22T 33-34); a witness who knows another witness's identification is more likely to make the same identification (22T 43-47; IP44; IP92; IP94; IP 95; IP122); feedback can inflate confidence whether given immediately or days later and is a lasting effect (15T 31-35; IP41; IP47).

In light of all those findings, the scientists commonly recommend that, immediately upon the conclusion of the

identification procedure -- and whether or not the witness makes an identification, or identifies a known foil -- the law enforcement personnel make a full record, on tape or otherwise but in the witness's own words, of the witness's self-reports concerning confidence, ability to view, and degree of attention. Such a record would not only be uncontaminated by post-identification feedback but would also mitigate the effects of any later feedback, as well as provide court and counsel with information essential to test the reliability of any identification in a future prosecution. 15T 39-42; 17T 93-94; 22T 32-33; 26T 34-38; IP22 at 55; IP23 at 38; IP37/D76 at 865; IP96 at 69; IP46 at 631; D68/S7 at 324; D92 at 635. Blind administration of the lineup goes far to avoid the feedback problem, for the blind administrator does not have the information that could elicit unwitting feedback. 22T 30-31; 26T 30-32.

Use of composites. The research on composites has addressed both traditional hand-produced systems (PhotoFit) and computer-based systems (Identi-Kit, FACES) that present on a screen a great variety of foreheads, hairstyles, eyes, noses, chins, lips and the like, from which a technician, with input from the witness, undertakes to compose a likeness of the perpetrator. See IP98. The broad consensus within the scientific community is that composites produce poor results.

23T 22-47; 26T 68-70; IP22 at 77-84; IP98 at 7-8; IP209 at 894; IP227 at 64; D52 at 235-36, 244-45. The studies show that different witnesses create quite different, and often unrecognizable, pictures of the same person. Ibid. In one study, in which students prepared composites of their teachers and fellow students, only 3 of the 500 composites were correctly identified by other students of the same schools. D4 at 116; D52; 17T 50. The problem, the researchers suggest, is that people recognize others holistically, not feature-by-feature in the manner composites are constructed. 23T 51-52; 26T 69-70; IP98 at 9; IP99 at 194. In addition, a composite tends to contaminate the witness's memory: the memory becomes more like the composite, which sets the stage for a later misidentification. 23T 54-55; 26T 71; IP75a at 26; IP100. A few studies suggesting that preparing a composite can solidify a witness's memory are regarded as statistical outliers. 17T 58-59; IP100 at 148. The literature does show, however, that composites constructed by multiple witnesses can be "morphed" or averaged to produce a composite that is a better representation than any of the individual composites. 23T 44-54; IP22 at 85-88, IP98 at 8; IP99; IP209.

Simultaneous/sequential lineups. The traditional lineup presented all members of the array to the witness simultaneously. 22T 63-64; IP22 at 58; IP59. A substantial

amount of research has been, and continues to be, conducted to determine the impact on identification reliability, if any, of showing the members of the array individually and sequentially. See IP11; IP59/D95; IP61/D25; IP77; IP78; D23; D60; D61/S24; S4; S26. The research broadly confirms the research hypothesis that an innocent person is at greater risk of being misidentified in a simultaneous lineup than in a sequential lineup. 22T 77-78; 16T 65, 81; 23T 28; D4 at 40; IP22 at 65-66. The consensus explanation appears to be that sequential viewing of the lineup inhibits the witness's resort to relative judgment, i.e., choosing the person who looks most like the perpetrator. 16T 81-85; 22T 63-65; IP61/D25 at 459-60.

The studies show that a sequential procedure reduces both accurate and inaccurate identifications, but there is dispute as to the rate of reduction of accurate identifications as compared to the well-established rate of reduction in inaccurate identifications. 16T 83-85; 23T 28; 28T 3; D4 at 55. A 2001 meta-analysis reviewing 30 studies with a total of 4145 witnesses concluded that while accurate identifications fell from 50% in simultaneous lineups to 35% in sequential lineups, foil identifications in target-absent arrays fell to a greater extent, from 51% in simultaneous lineups to 28% in sequential lineups. 16T 62-65, 87; 22T 84-85; IP61/D25; IP22 at 65.

The scientists have also raised questions as to the effect of particular elements of a sequential procedure: Where does the suspect appear in the sequence? Does the witness know the number of persons available for viewing? Does the sequential showing terminate upon a positive identification, tentative or firm? Is the witnesses allowed to go back over the array? Questions have also been asked as to whether a reduction of correct identifications in sequential lineups can be attributed to fewer "lucky guesses" by witnesses properly applying more cautious standards for choosing. 16T 83-85; 21T 109-11; 22T 75-76; 25T 87-89; 28T 3; S17; D4 at 55.

The simultaneous/sequential debate intensified following the 2006 report of a field study conducted in Chicago, Joliet and Evanston, Illinois (the "Mecklenburg study"), which concluded that simultaneous (but not double-blind) procedures produced both more suspect picks and fewer filler picks than did sequential procedures. 23T 3-5; D22/S9; IP22 at 67. The methodology of that study, which was never published in a peer-reviewed professional journal, has been widely criticized and its conclusions have been given little credence by the scientists. See, e.g., 16T 41-45; 23T 3-28; IP22 at 68; IP48; IP49; D22/S9; S26. The simultaneous/sequential controversy continues (see, e.g., S3; S4; S5; S17), focusing on whether and to what extent accurate identifications might be sacrificed by

using the more conservative sequential procedure. 28T 3-4. A series of field studies concerning the issue are presently being conducted in Tucson AZ, San Diego CA and Austin TX by a consortium including the American Judicature Society, John Jay College of Criminal Justice, Cardozo School of Law, the Police Foundation and the Innocence Project. 23T 29-35.

In-court identifications. Wells testified, without contradiction, that an in-court identification will simply repeat any error that infected a pretrial identification procedure. 28T 63-64; S15 at 880. The social scientists find it a "schizophrenic kind of notion" and "bizarre" that an unfairly suggestive pretrial identification might be allowed to be replicated in an in-court confrontation: "The residual of that suggestion just simply carries over to the in-court identification." 28T 64.

Estimator variables

The literature defines estimator variables as factors that can undermine the accuracy of eyewitness identifications but derive from the particular characteristics of the events, witnesses and perpetrators and are beyond the control of law enforcement personnel and procedures. IP22 at 11; IP5/D109. Estimator variables are as significant as system variables in their effects on the reliability of an identification. 14T 46-47; 17T 74; 23T 64-65; D4 at 171.

Eyewitness stress level. The scientific literature reports that, while moderate levels of stress improve cognitive processing and might improve accuracy (IP161 at 40), an eyewitness under high stress is less likely to make a reliable identification of the perpetrator. 14T 69-71; 17T 22-27; 26T 89-92; D4 at 80; D38; D44; S15 at 878; IP60/D43. Stress and fear ensure that the witness will not forget the event, but they interfere with the ability to encode reliable details. 14T 70. A 2004 meta-analysis of 27 independent studies involving a total of 1727 participants showed that 59% of witnesses in low-stress settings made correct identifications while only 39% of high-stress witnesses did so. 17T 26-28; 26T 90-91; D38; D4 at 84.

The effect of stress is illustrated in a 2004 field study involving 500 active-duty military personnel in a survival-school program, who were subjected to 12 hours of confinement followed by two 40-minute interrogations, one under high stress with physical confrontation and the other under low stress, conducted by different interrogators. 17T 27-28; IP60/D43 at 267-69. When asked the following day to identify their interrogators, the participants correctly identified the high-stress interrogator at only half the rate they identified the low-stress interrogator; some, indeed, were even unable to identify the high-stress interrogator's gender. 14T 70-71; 17T 27-28; 26T 92; IP60/D43; S32.

Weapon focus effect. Similarly, the presence of a weapon at the observed event has been demonstrated to impair eyewitness memory and identification accuracy. 17T 22-25; 23T 81-83; 26T 83-84; IP69/D41. The studies find that the visible presence of a weapon diverts a witness's attention away from the face of the perpetrator and reduces the witness's ability to encode, describe and identify the face. 23T 82; 17T 22-24, 32; 26T 84; S15 at 878; D41; D42; D80; IP159. A 1992 meta-analysis reviewing 19 studies involving 2082 participants shows an average difference in accuracy of approximately 10%. 17T 24; IP69/D41. The effect is particularly strong during crimes of short duration (23T 83; IP69/D41 at 421) and when combined with the effects of stress. 26T 86-88; D38.

Duration of the witnessed event. The scientific studies demonstrate that the reliability of an identification is related to the duration of the witness's exposure to the perpetrator: while there is no minimum time required to make an accurate identification, a brief or fleeting contact is less likely to produce an accurate identification than a more prolonged exposure. 17T 22-23; 26T 104; 18T 39-40; 28T 49; D4 at 80; S15 at 877. In their self-reports, however, witnesses consistently tend to overestimate short durations, particularly where much was going on or the event was particularly stressful. 18T 39-40; 23T 57-58; 26T 105; IP79; IP80; IP97.

Distance and lighting. Vision researchers have long known that clarity of vision decreases with distance and poor lighting conditions. 23T 62; 26T 93-99; IP20 at 43; IP123; IP160 at 8; IP220; S33 at 485. More recent studies specifically addressing the ability to identify faces at particular distances have demonstrated that, even with 20/20 vision and excellent lighting conditions, face perception begins to diminish at 25 feet, nears zero at about 110 feet, and faces are essentially unrecognizable at 134 feet. 23T 61-66; 26T 96-99; IP4 at 9-10; IP20 at 63; IP22 at 88-94. Witness self-reports of distances are not highly reliable. 23T 57-58; 26T 93-94; IP22 at 88; IP81; IP123; IP131; IP132. Low levels of illumination also decrease recall and identification accuracy. IP220 at 354; IP60 at 8-9; IP166 at 368.

Memory decay. Researchers have long studied the process of memory decay and in recent years have examined the association of retention intervals and forgetting once-seen faces. A 2008 meta-analysis examining 53 of those studies shows that memory quality declines by 20% after two hours, by 30% within the first day and by 50% one month after the observation. 17T 45-46; D4 at 101-04; D49. Longer retention intervals are associated with fewer correct identifications. 15T 13; D40. As memory decays, the impact of suggestive procedures and other memory-

contaminating variables grows. 28T 22. Memory decay is irreversible: memory never improves. 15T 13; 22T 34.

Unconscious transference. A positive identification indicates that the person identified is familiar to the witness, but the familiar person may not be the culprit. As discussed above(p. 27), multiple identification procedures can produce a misleading familiarity with a face. 17T 53-56; 26T 61-62; D4 at 115; D38. That process, known as "unconscious transference," can also occur when a witness confuses a person seen at or near the crime scene with the actual perpetrator. 17T 53-58; D4 at 115; D51 at 289, 306. The familiar person is at greater risk of being identified as the perpetrator simply because of his or her presence at the scene. Ibid. This "bystander error" most commonly occurs when the observed event is complex, i.e., involving multiple persons and actions, but can also occur when the familiarity arises from an entirely unrelated exposure. 17T 52-58; D4 at 115; D51; D96.

Age. A witness's age also bears on the reliability of an identification. 17T 38-39; 28T 74; D4 at 94; D45; IP127 at 280; IP138; IP175. Studies show that witness accuracy is at its height at ages 18-19, that it declines consistently over time, that between ages 60 and 72 witness accuracy is only half of what it was at 18-19 (17T 37-38; 28T 74; D45; D4 at 94) and that memory for crime-related information is generally worse in

persons over 70. IP175 at 332. On the other hand, identifications made by witnesses below the age of 18 have been found to be less reliable than those made above 18; the younger the child, the less reliable the identification. 17T 8; 28T 74; D4 at 70; D34; IP138.

Alcohol. Studies of the effects of alcohol on identification accuracy show that high levels of alcohol promote false identifications; low alcohol intake produces fewer misidentifications than high alcohol intake. 17T 40-41; D46; D4 at 95; IP160; IP221.

Distinctive faces, disguises, facial changes. Experimental studies demonstrate that distinctive faces are more readily remembered and accurately identified. 17T 42; D57. Disguises (e.g., hats, sunglasses, masks) are confounding to witnesses and reduce the accuracy of identifications. 17T 42-43; 26T 100-01; D4 at 97-98; D47. Changes to perpetrators' facial appearance (e.g., appearance or disappearance of facial hair) between initial exposure and identification procedure also impair identification accuracy: one study found that correct identifications dropped by 50% (to almost the equivalence of chance) with such changes of facial appearance. IP207 at 410; 17T 42. Dissimilarity between a perpetrator's appearance in the event and in a later lineup reduces the positive effects of longer initial exposures during the event. IP207; IP208; D40.

Own-race bias. Several meta-analyses published over the past 20 years consistently show that other-race recognition is poorer than same-race recognition. IP68; IP120; IP133; IP134; IP216. One of those studies, reviewing 39 research articles involving 5000 witness/participants, found that a mistaken identification was 1.56 times more likely in other-race conditions, and participants were 2.2 times as likely to accurately identify own-race faces as other-race faces. IP68/D39 at 15. The reality and impact of own-race bias were recognized by this Court in State v. Cromedy, supra, 158 N.J. 112, which mandates that, in certain circumstances, a jury be specially instructed as to the unreliability of cross-racial identifications.

Lay Knowledge and Intuitions

Studies examining whether and to what extent jurors (or potential jurors) know or correctly intuit the findings reported in the eyewitness identification literature report that laypersons are largely unfamiliar with those findings and often hold beliefs to the contrary. 24T 13-14; IP10; IP51; IP112; IP136; IP137; IP138; IP155; D77; D85; D103; D104.

One such study, published by Benton et al. in 2006 (D104), drew on the 2001 Kassin survey (D78; see discussion below at pp. 50-51) which reported the level of expert acceptance of the research findings concerning system and estimator variables.

The 2006 study, comparing juror acceptance of the same research findings (24T 57-62), found that jurors were substantially less receptive to such concepts as cross-race bias (90% acceptance by experts, 47% by jurors), weapons focus (87% by experts, 39% by jurors), weak correlation between confidence and accuracy (87% by experts, 38% by jurors), and memory decay (83% by experts, 33% by jurors). 24T 57-58; D104 at 120-22. The Benton study also compared the acceptance rates of a small group of volunteer judges, with comparable but less dramatic results. Id.; 24T 77-78.

Similar findings of juror beliefs have been reported in other surveys. See, e.g., D102; D103. In a 2007 article Benton et al. described the literature as showing that jurors underestimate the importance of proven indicators of accuracy (e.g., lineup instructions, memory retention interval, lighting conditions, cross-race identification, weapon presence), tend to rely heavily on factors that the research finds are not good indicators of accuracy (e.g., witness confidence), and tend to overestimate witness accuracy rates. 24T 40-45; 26T 16-29; IP136 at 475-87; IP10. Penrod reported that his studies indicated that expert testimony tended to sensitize mock jurors to the variables that affect eyewitness reliability. 20T 23-30.

The scientists agree that jurors are not able to distinguish accurate eyewitnesses from inaccurate witnesses.

14T 44-45; 24T 69-75; D106; IP25; IP26; IP27. Indeed, Wells testified that neither he nor any other expert in the field can separate accurate from inaccurate witnesses simply by watching them testify: "[T]here's just no good markers for the error." 14T 45. That inability flows in part from the fact that mistaken eyewitnesses are not lying but are honestly reporting, often with great confidence, what they believe they saw. IP25; IP26; IP27. For that same reason, Epstein testified, cross-examination is of limited utility to either the jury or the defendant. 24T 10-23. What jurors primarily rely on in assessing identification accuracy is the confidence expressed by the witness in the identification, although, as previously discussed, the literature demonstrates that the confidence/accuracy correlation is weak at best and that confidence is highly malleable. See 15T 22-24; 20T 15-18; 26T 38-39; IP22 at 41; D4 at 158; D77; IP119 at 65; IP25, IP26, IP27.

Responses of Interested Communities to the Scientific Findings

A wide variety of interested communities and agencies have expressed themselves and taken action in response to the scientific findings reported by the researchers.

Expert witnesses. In 2001, Kassin et al. published a survey of 64 experts, mostly cognitive or social psychologists and university professors, who previously had been asked to

testify concerning eyewitness identification on a total of 3370 occasions and actually testified in 960 cases. 20T 32-33; D4 at 162-63; D78. With respect to the scope and content of their proposed and actual testimony, 90% or more reported that they found reliable the scientific findings concerning suggestive wording, lineup instruction bias, own-race bias, confidence malleability, alcohol intoxication, mugshot-induced bias and child suggestibility; 70% to 87% of the experts found reliable the scientific findings as to weapon focus, showups, biased lineups, memory decay, the accuracy/confidence correlation, child-witness accuracy, description-matched lineups and sequential presentation. 20T 33-35; D4 at 164-65; D78. Penrod reported similar findings resulting from an unpublished survey he conducted with two graduate students of 71 expert witnesses who had testified at least 2719 times. 20T 35-37; D4 at 166; D79.

Law enforcement and reform agencies. In recent years, a number of national, state and local entities have organized working groups and task forces to examine the accumulating scientific findings concerning eyewitness identifications and to devise ameliorative procedures. The reports issued by those groups vary in scope and detail, but all substantially accept the scientific studies as reliable.

United States Department of Justice

Nat'l Inst. of Justice, U.S. Dep't of Justice, Convicted by Juries, Exonerated by Science: Case Studies in the Use of DNA Evidence to Establish Innocence After Trial (1996). IP153.

In 1996 the National Institute of Justice (NIJ), a research and development arm of the Department of Justice, appointed a Technical Working Group on Eyewitness Evidence to establish national guidelines for law enforcement regarding the best ways to collect and preserve eyewitness identification evidence. The group included law enforcement officers from across the nation, prosecutors, defense attorneys (including James Doyle), and social scientists (including Gary Wells and Roy Malpass).

Nat'l Inst. of Justice, U.S. Dep't of Justice, Eyewitness Evidence: A Guide for Law Enforcement (1999); Nat'l Inst. of Justice, U.S. Dep't of Justice, Eyewitness Evidence: A Trainer's Manual for Law Enforcement (2003). IP23; IP152.

In 1999, based on the work of the Technical Working Group, the NIJ published its Guide of best practice recommendations for law enforcement, which was followed in 2003 by the Training Manual. Both Guide and Manual were distributed to law enforcement agencies nationwide. Wells co-chaired the Eyewitness Identification Police Training Manual Writing Committee.

American Bar Association

Am. Bar Ass'n, Adopted by the House of Delegates (2004); Ad Hoc Innocence Comm. to Ensure the Integrity of the Criminal Process, Am. Bar Ass'n, Achieving Justice: Freeing the Innocent, Convicting the Guilty (2006). IP12; IP167.

In 2004, the American Bar Association House of Delegates adopted a Statement of Best Practices for Promoting the Accuracy of Eyewitness Identification Procedures, which set forth guidelines for administering lineups and photo arrays. In a report of its Ad Hoc Innocence Committee, the ABA resolved that federal, state and local governments should be urged to adopt a series of principles consistent with those contained in its resolution, incorporating scientific advances in research.

New Jersey

Office of the Attorney Gen., N.J. Dep't of Law and Pub. Safety, Attorney General Guidelines for Preparing and Conducting Photo and Live Lineup Identification Procedures (2001). S20.

New Jersey was the first state to officially adopt the NIJ recommendations when the Attorney General promulgated the Guidelines for use by all law enforcement agencies statewide.

California

Cal. Comm'n on the Fair Admin. of Justice, Report and Recommendations Regarding Eyewitness Identification Procedures (2006). IP13.

The Commission, comprised of key criminal justice stakeholders from across California, offered numerous recommendations including double-blind and sequential identification procedures, videotaping or audiotaping lineup procedures and photo displays, providing cautionary instructions to witnesses, documenting witnesses' statements of certainty, and not providing confirming feedback to witnesses prior to obtaining witnesses' certainty assessments.

New York

Task Force on Wrongful Convictions, N.Y. State Bar Ass'n, Final Report of the New York State Bar Association's Task Force on Wrongful Convictions (2009). IP185.

The Task Force, comprised of judges, prosecutors, defense counsel, legal scholars and criminal justice experts, proposed the adoption of double-blind administration, cautioning witnesses that the perpetrator may or may not be present, choosing fillers who fit the witnesses' descriptions of the perpetrator, and recording witnesses' assessments of certainty.

Illinois

Governor's Comm'n on Capital Punishment, State of Ill., Report of the Governor's Commission on Capital Punishment (2002). IP165.

The Report recommended reforms including double-blind and sequential procedures, warnings to witnesses that the perpetrator might not be in the array and instructions that they should not feel compelled to make an identification. In 2003, the Death Penalty Reform Bill was enacted, requiring that witnesses be warned that the suspect may not be in the lineup. IP106.

North Carolina

N.C. Actual Innocence Comm'n, Recommendations for Eyewitness Identification (2003). IP74.

The Actual Innocence Commission, established by the North Carolina Chief Justice, recommended eyewitness identification procedures, including blind administration. The recommendations became statutory law in 2008. IP105.

Wisconsin

Office of the Attorney Gen., Wis. Dep't of Justice, Model Policy and Procedure for Eyewitness Identification (2005). IP75a.

In 2005, the Wisconsin Attorney General's Office followed New Jersey's lead and issued this similar set of policies for statewide use, which also mandated the "blind-sequential" reform package.

Santa Clara, CA

Police Chiefs' Ass'n of Santa Clara County, Line-up Protocol for Law Enforcement (2002). IP172.

The Police Chiefs' Association here amended its lineup procedures, calling for double-blind and sequential administration, warnings to witnesses prior to identification procedures, recording witnesses' certainty assessments in the witnesses' own words, and documenting any non-identifications.

Denver, CO

Denver Police Dep't, Operations Manual § 104.44 (2006); Denver Police Dep't, Photographic Lineup Admonition/Photo Identification Report (2009). IP108; IP186.

The Denver Police Department here issued lineup procedures calling for double-blind and sequential administration, warnings to witnesses prior to identification procedures and documentation of any non-identifications.

Boston, MA

District Attorney's Office, Suffolk County, Report of the Task Force on Eyewitness Evidence (2004). IP24.

The Boston Police Department and the Suffolk County District Attorney's Office formed the Task Force to reform the county's eyewitness identification procedures. The Task Force produced a set of guidelines -- now followed by the county, including Boston -- on how to obtain and preserve eyewitness identification evidence, which included double-blind and sequential administration and admonitions to witnesses prior to an identification procedure.

Boston Bar Assoc. Task Force, Boston Bar Assoc., Getting It Right: Improving the Accuracy and Reliability of the Criminal Justice System in Massachusetts (2009). IP181.

The Task Force, charged with identifying reforms to reduce the risk of convicting innocent people, recommended procedures in the areas of eyewitness identifications and suspect/witness interviews including double-blind lineups, witness warnings, sequential lineups and taking certainty statements following any identification procedure.

Northampton, MA

Ken Patenaude, Improving Eyewitness Identification, Law Enforcement Tech., Oct. 2003, at 178; Kenneth Patenaude, Police Identification Procedures: A Time for Change, 4 Cardozo Pub. L. Pol'y & Ethics J. 415 (2006). IP148; IP147.

Patenaude, Captain of the Northampton Police Department (now retired), was a member of the National Institute of Justice's Technical Working Group that authored Eyewitness Evidence: A Guide for Law Enforcement in 1999. See IP23. In 2005, the Northampton department adopted enhanced

identification procedures, requiring double-blind and sequential administration, warnings to witnesses prior to identification procedures, selecting fillers who match the witnesses' descriptions, recording witnesses' certainty assessments in the witnesses' own words, and documenting any non-identifications. Northampton Police Dep't, Administration & Operations Manual ch. O-408 (2005). IP107.

St. Paul and Minneapolis, MN

Amy Klobuchar & Hilary Lindell Caligiuri, Protecting the Innocent/Convicting the Guilty: Hennepin County's Pilot Project in Blind Sequential Eyewitness Identification, 32 Wm. Mitchell L. Rev. 1 (2005); Amy Klobuchar et al., Improving Eyewitness Identifications: Hennepin County's Blind Sequential Lineup Pilot Project, 4 Cardozo Pub. Pol'y & Ethics J. 381 (2006). IP78; IP77.

Under the directive of then County Attorney Klobuchar, the Hennepin County Attorney's Office adopted a new lineup protocol including double-blind and sequential presentation, warnings to witnesses that the perpetrator may or may not be in the lineup, the documentation of witness confidence statements, and improved lineup composition. Hennepin County then partnered with Dr. Nancy Steblay on a pilot project to assess the efficacy of the new protocol as compared with prior procedures. These two publications conclude that the new procedures "will help improve police investigations, strengthen prosecutions and better protect the rights of innocent people while convicting those who are guilty." IP78 at 14.

Susan Gaertner & John Harrington, Successful Eyewitness Identification Reform: Ramsey County's Blind Sequential Lineup Protocol, Police Chief, Apr. 2009, at 130. IP11.

After reviewing the social scientific research, as well as other "best practices" embraced throughout the country, Ramsey County adopted double-blind and sequential lineup procedures and participated in a pilot project comparing the procedures with the earlier non-blind and simultaneous formats. Susan Gaertner, Ramsey County Attorney, published this article endorsing the procedures.

Letter from Office of the Ramsey County Attorney to Conference Participants (October 26, 2009). IP180.

This conference, titled "Improving Eyewitness Identification Procedures: Bringing Together the Best in Science, Technology and Practice," was presented by the Office of the Ramsey County Attorney, the Minnesota Bureau of Criminal Apprehension, and the Minnesota County Attorneys for law enforcement professionals to provide practical, policy, and scientific perspectives on the existence and implementation of improved eyewitness identification procedures in Minnesota.

Dallas, TX

Dallas Police Dep't, Dallas Police Department General Order § 304.01 (2009); Dallas Police Acad., Roll Call Training Bulletin No. 2009-04, Blind Sequential Photographic Line-up (2009); Dallas Police Dep't, Photographic Line-up Admonition Form (n.d.); Dallas Police Acad., Roll Call Training Bulletin No. 2008-27, One Person Show-up (2008). IP182; IP183; IP184; IP76.

In 2009, the Dallas Police Department reformed its identification procedures to require double-blind and sequential administration, warnings to witnesses prior to identification procedures, selecting fillers who match the witnesses' descriptions, and recording witnesses' certainty assessments in the witnesses' own words. The Department also adopted new showup procedures in 2008, which included requiring warnings to the witness that the person shown may or may not be the perpetrator, prohibiting multiple showups in cases involving multiple witnesses after one witness makes an identification from a showup, requiring the police to obtain a detailed description from the witness prior to the identification procedures, ensuring that the suspect fit the witness's detailed description, and requiring law enforcement to avoid making suggestive statements to witnesses.

American Psychology-Law Society

Gary L. Wells et al., Eyewitness Identification Procedures: Recommendations for Lineups and Photospreads, 22 Law & Hum. Behav. 603 (1998). D92.

In 1996, the Executive Committee of the American Psychology-Law Society created a subcommittee to review contemporary scientific research on eyewitness identification and to make recommendations for improving the reliability of identification evidence. The

collaboration produced this first "white paper" ever published by the Society.

International Association of Chiefs of Police

Int'l Ass'n of Chiefs of Police, Training Key No. 600, Eyewitness Identification (2006). IP113.

The Training Key reports that "of all investigative procedures employed by police in criminal cases, probably none is less reliable than the eyewitness identification" (IP113 at 5) and endorses a number of key reforms, including blind administration, recording the procedure, instructing the witness and obtaining a confidence statement.

Police Executive Research Forum

James M. Cronin et al., Promoting Effective Homicide Investigations (2007). IP171.

The Police Executive Research Forum, a national membership organization of police executives from the largest city, county and state law enforcement agencies, here recommends double-blind and sequential lineup administration, warning witnesses that the perpetrator may or may not be present, selecting fillers who fit witnesses' descriptions of the perpetrator, documenting witnesses' statements of certainty, and recording with specificity the outcome of the identification procedure, including non-identifications and identifications of fillers.

Commission on the Accreditation of Law Enforcement Agencies

Stephen Saloom, Improving Eyewitness Identification Procedures, CALEA Update (Comm'n on Accreditation for Law Enforcement Agencies, Fairfax, Va.), Oct. 2009, at 26. IP168.

The Commission on the Accreditation of Law Enforcement Agencies, a credentialing authority created by national law enforcement membership associations, adopted eyewitness identification standards that require agencies seeking accreditation to create written eyewitness lineup and showup procedures addressing, among other issues, filler selection, lineup instructions to witnesses, complete recordation and documentation of the procedure, including witnesses' confidence statements, and avoiding giving confirming feedback to witnesses.

Legislation. Several states have enacted legislation implementing procedures recommended in the scientific studies.

Georgia

H.R. 352, 149th Gen. Assem., Reg. Sess. (Ga. 2007); Ga. Police Acad., Ga. Pub. Safety Training Ctr., Witness Identification Accuracy Enhancement Act: Participant Guide (2008). IP173; IP187.

Created a study committee to study best practices for eyewitness identification procedures and evidentiary standards for admissibility of eyewitness identifications. Though the committee failed to recommend further legislation, the Georgia Peace Officers Standards and Training Council instituted statewide training which includes blind administration.

Illinois

725 Ill. Comp. Stat. Ann. 5/107A-5 (West 2009) (enacted 2003). IP106.

Requires lineups to be photographed or otherwise recorded; that eyewitnesses sign a form acknowledging that the suspect may not be in the lineup, that they are not obligated to make an identification, and that they should not assume that the administrator knows which photograph is that of the suspect; and that suspects in the lineup not appear substantially different from fillers, based on the eyewitness' previous description of the perpetrator, or on other factors that would draw attention to the suspect.

Maryland

Md. Code Ann., Pub. Safety § 3-506 (LexisNexis 2009) (enacted 2007). IP104.

Requires each law enforcement agency in the state to adopt written policies related to eyewitness identification that "comply with the United States Department of Justice standards on obtaining accurate eyewitness identification."

North Carolina

N.C. Gen Stat. § 15A-284.50-.53 (2009). IP105.

Mandates blind administration, specific instructions to the witness, appropriate filler selection, obtaining confidence statements, sequential presentation, recording the procedure when practicable, and necessary training. The legislation also fixes legal remedies for law enforcement's noncompliance with the statute.

Ohio

S. Sub. S.B. No. 77, 128th Gen. Assembly (2010). D115.

Mandates blind or blinded lineup administration, sequential displays of the array, witness warnings, recording of all identification and nonidentification results and confidence statements made immediately upon an identification; requires trial courts to consider any failure to fulfill statutory mandates in adjudicating any suppression motion; requires that juries be instructed that they may consider noncompliance with mandated procedures in determining reliability of an identification.

Vermont

2007-60 Vt. Adv. Legis. Serv. (LexisNexis). IP174.

Established a committee to study best practices relating to eyewitness identification procedures and audio and audiovisual recording of custodial interrogations. Matters to be addressed include: federal and state models and developing best practices; whether other statewide policies on eyewitness procedures should be adopted in Vermont; current policies in local jurisdictions.

West Virginia

W. Va. Code § 62-1E-1 to -3 (2008) (enacted 2007). IP103.

Mandates several reforms, including providing lineup instructions to witnesses, obtaining confidence statements, and creating a written record of the entire procedure, and creates a task force to study and identify additional best practices for eyewitness identification.

Wisconsin

Wis. Stat. §175.50 (2007-08) (enacted 2005). IP75b.

Requires law enforcement agencies to adopt written policies for eyewitness identification. The Attorney General's office offers a series of best practices for agencies to follow, including blind administration, specific instructions to the witness, appropriate filler photo usage, obtaining a confidence statement from witnesses, and sequential presentation.

Courts. Those state and federal appellate courts that have taken note of the post-Manson scientific findings have commonly acknowledged their authority and have incorporated them in rulings as to police procedures, record-keeping, allowance of expert testimony, necessity and propriety of jury instructions and like matters.

United States v. Bartlett, 567 F.3d 901 (7th Cir. 2009), cert. denied, ___ U.S. ___, 130 S.Ct. 1137, ___ L.Ed.2d. ___ (2010).

In reviewing a trial court's rejection of proffered identification expert testimony, the Court of Appeals for the Seventh Circuit said:

"An important body of psychological research undermines the lay intuition that confident memories of salient experiences ... are accurate and do not fade with time unless a person's memory has some pathological impairment. ... The basic problem about testimony from memory is that most of our recollections are not verifiable. The only warrant for them is our certitude, and certitude is not a reliable test of certainty." Id. at 906.

The question that social science can address is how fallible, and thus how deeply any given identification should be discounted. That jurors have beliefs about this does not make expert evidence irrelevant; to the

contrary, it may make such evidence vital, for if jurors' beliefs are mistaken then they may reach incorrect conclusions. Expert evidence can help jurors evaluate whether their beliefs about the reliability of eyewitness testimony are correct. Many people believe that identifications expressed with certainty are more likely to be correct; evidence that there is no relation between certitude and accuracy may have a powerful effect." Ibid.

United States v. Brownlee, 454 F.3d 131 (3d Cir. 2006). IP56.

The Third Circuit Court of Appeals held that the district court erred in excluding expert testimony on confidence/accuracy, time delay, postevent suggestion, and showups.

"The recent availability of post-conviction DNA tests demonstrate that there have been an overwhelming number of false convictions stemming from uninformed reliance on eyewitness misidentifications. ... Even more problematic, 'jurors seldom enter a courtroom with the knowledge that eyewitness identifications are unreliable.' Thus, while science has firmly established the 'inherent unreliability of human perception and memory,' this reality is outside 'the jury's common knowledge,' and often contradicts jurors' 'commonsense' understandings." Id. at 141-42.

Newsome v. McCabe, 319 F.3d 301 (7th Cir. 2003), cert. denied, 539 U.S. 943, 123 S.Ct. 2621, 156 L.Ed.2d 630 (2003). IP31b

In sustaining the admission of expert testimony regarding eyewitness reliability, the Seventh Circuit Court of Appeals credited functional size tests conducted by Gary Wells on the lineup arrays used in the prosecution.

"[Wells's] testimony was based on sufficient data, [] his methods were reliable by the standards of the field, and [] he applied these methods reliably to the facts of Newsome's case. Experiments of the kind that Wells performed are the norm in this branch of science and have met the standard for scholarly publication and acceptance." Id. at 306.

United States v. Hall, 165 F.3d 1095 (7th Cir. 1999), cert. denied, 527 U.S. 1029, 119 S. Ct. 2381, 144 L.Ed.2d 784 (1999).

The Seventh Circuit Court of Appeals upheld the district court rejection of defendant's proffered expert testimony on reliability of eyewitness identifications. In a concurring opinion, Judge Easterbrook suggested that courts utilize social science research to draft instructions that inform jurors about social science findings and to prohibit prosecutors from arguing that witness certainty suggests witness accuracy.

"Jurors who *think* they understand how memory works may be mistaken, and if these mistakes influence their evaluation of testimony then they may convict innocent persons. A court should not dismiss scientific knowledge about everyday subjects. Science investigates the mundane as well as the exotic. That a subject is within daily experience does not mean that jurors know it *correctly*. A major conclusion of the social sciences is that many beliefs based on personal experience are mistaken. The lessons of social science thus may be especially valuable when jurors are sure that they understand something, for these beliefs may be hard for lawyers to overcome with mere argument and assertion." Id. at 1118.

"[A] judge, recognizing the main conclusions of the scholarly study of memory--that 'accuracy of recollection decreases at a geometric rather than arithmetic rate (so passage of time has a *highly* distorting effect on recollection); accuracy of recollection is *not* highly correlated with the recollector's confidence; and memory is highly suggestible --people are easily 'reminded' of events that never happened, and having been 'reminded' may thereafter hold the false recollection as tenaciously as they would a true one',--could block a lawyer from arguing that a given witness is *sure* of his recollection, and therefore is more likely to be right. The judge could inform jurors of the rapid decrease of accurate recollection, and the problem of suggestibility, without encountering the delay and pitfalls of expert testimony. Jurors are more likely to accept that information coming from a judge than from a scholar, whose skills do not lie in the ability to persuade lay jurors (and whose fidgeting on the stand, an unusual place for a genuine scholar, is

apt to be misunderstood). Altogether it is much better for judges to incorporate scientific knowledge about the trial process *into* that process, rather than to make the subject a debatable issue in every case. ... [T]he subject is vital to a judicial system that seeks to improve the accuracy of the trial process, and thus as time passes more of the findings of modern social science research should be incorporated into legal rules about proper trial tactics and arguments." Id. at 1120 (citation omitted)(Easterbrook, J., concurring).

State v. Chapple, 660 P.2d 1208 (Ariz. 1983). IP194.

The Arizona Supreme Court held that the trial court erred in barring expert testimony regarding the forgetting curve, the effects of stress upon perception, the phenomenon of unconscious transference, and the effects of exposure to inaccurate information on a witness's memory.

"[I]t is difficult to tell whether the ordinary juror shares the law's inherent caution of eyewitness identification. Experimental data indicates that many jurors 'may reach intuitive conclusions about the reliability of [such] testimony that psychological research would show are misguided.'" Id. at 1220.

People v. McDonald, 690 P.2d 709 (Cal. 1984), overruled on other grounds, 4 P.3d 23 (Cal. 2000). IP193.

Holding that the trial court abused its discretion in excluding expert testimony on psychological factors affecting the accuracy of eyewitness testimony, the California Supreme Court noted:

"[Ninth Circuit] Judge Hufstedler has declared that [the] premise [that eyewitness identification is generally reliable is] 'at best, highly dubious, given the extensive empirical evidence that eyewitness identifications are not reliable.' And with his characteristic vigor, [D.C. Circuit] Chief Judge Bazelon has called on the courts to face up to the reliability problems of eyewitness identification, to inform themselves of the results of scientific studies of those problems, and to allow juries access to that information in aid of their factfinding tasks." Id. at 717.

"In the dozen years since Judge Bazelon's appeal, empirical studies of the psychological factors affecting eyewitness identification have proliferated, and reports of their results have appeared at an ever-accelerating pace in the professional literature of the behavioral and social sciences. No less than five treaties on the topic have recently been published, citing and discussing literally scores of studies on the pitfalls of such identification. ... The consistency of the results of these studies is impressive, and the courts can no longer remain oblivious to their implications for the administration of justice." Id. at 718.

"It is doubtless true that from personal experience and intuition all jurors know that an eyewitness identification can be mistaken, and also know the more obvious factors that can affect its accuracy, such as lighting, distance, and duration. It appears from the professional literature, however, that other factors bearing on eyewitness identification may be known only to some jurors, or may be imperfectly understood by many, or may be contrary to the intuitive beliefs of most." Id. at 720.

State v. Marquez, 967 A. 2d 56 (Conn.), cert. denied, ___U.S.____, 130 S. Ct. 237, 175 L.Ed.2d 163 (2009). S19.

While declining to condition admissibility of eyewitness identifications on the use of particular police procedures, the Connecticut Supreme Court stated that "we believe that the scientific research and common sense suggest that the employment of double-blind procedures, whenever reasonably practicable" Id. at 85.

State v. Ledbetter, 881 A.2d 290 (Conn. 2005), cert. denied, 547 U.S. 1082, 126 S. Ct. 1798, 164 L. Ed. 2d 537 (2006). IP54.

Under its supervisory authority, the Supreme Court of Connecticut mandated that trial judges instruct juries on the risks of misidentification in cases where the administrator of an identification procedure fails to tell the witness that the suspect may or may not be included in the array or the line-up.

"There is good empirical evidence to indicate that eyewitnesses tend to identify the person from the lineup who, in the opinion of the eyewitness, looks most like the

culprit relative to the other members of the lineup. ...' G. Wells, M. Small & S. Penrod et al., supra, 22 Law & Hum. Behav. 613. ... There are numerous empirical observations that lead to the conclusion that the relative judgment process exerts a significant influence in eyewitness identifications. ...

Research suggests that the administrator of an identification procedure may be able to reinforce the tendency to engage in the relative judgment process. ... Research also suggests that the administrator of an identification procedure may be able to negate, at least to some degree, the tendency to engage in the relative judgment process by warning that the perpetrator might or might not be present in the identification procedure." Id. at 316.

Benn v. United States, 978 A.2d 1257 (D.C. 2009).

The District of Columbia Court of Appeals held that the trial court erred in excluding eyewitness identification expert testimony:

"[A] theory, initially untested, unrecognized, and unsupported by evidence, over time might receive widespread recognition and the support of experts in the respective field of social science research. Courts have taken cognizance of such developments in social science, which has led to changes in the law of evidence. The state of social science research with respect to the reliability of eyewitness testimony has developed in recent years to the point where it can credibly be argued by defense counsel that it has reached that critical juncture. Whereas once we could only speculate as to the inaccuracy of an eyewitness identification, now there is published scientific research that questions its accuracy when made under certain conditions and exonerations, based on DNA evidence, that confirm what previously were only suspicions." Id. at 1278-79.

Brodes v. State, 614 S.E.2d 766 (Ga. 2005). IP70.

The Georgia Supreme Court held that trial courts should not inform jurors that they may consider a witness's level of certainty when instructing them on the factors that may be considered in deciding the reliability of an identification.

"In light of the scientifically-documented lack of correlation between a witness's certainty in his or her identification of someone as the perpetrator of a crime and the accuracy of that identification, and the critical importance of accurate jury instructions as 'the lamp to guide the jury's feet in journeying through the testimony in search of a legal verdict,' we can no longer endorse an instruction authorizing jurors to consider the witness's certainty in his/her identification as a factor to be used in deciding the reliability of that identification." Id. at 771.

State v. Warren, 635 P.2d 1236 (Kan. 1981).

The Kansas Supreme Court concluded that an appropriate instruction on eyewitness identification should have been given in view of the factual circumstances:

"In spite of the great volume of articles on the subject of eyewitness testimony by legal writers and the great deal of scientific research by psychologists in recent years, the courts in this country have been slow to take the problem seriously and, until recently, have not taken effective steps to confront it. The trouble is that many judges have assumed that an 'eyeball' witness, who identifies the accused as the criminal, is the most reliable of witnesses, and, if there are any questions about the identification, the jurors, in their wisdom, are fully capable of determining the credibility of the witness without special instructions from the court. Yet cases of mistaken identification are not infrequent and the problem of misidentification has not been alleviated." Id. at 1241.

Bomas v. State, 987 A.2d 92 (Md. 2010).

The Maryland Court of Appeals held that expert testimony on eyewitness identification should be allowed if it would be of "real appreciable help" to the trier of fact. Id. at 101.

"We appreciate that scientific advances have revealed (and may continue to reveal) a novel or greater understanding of the mechanics of memory that may not be intuitive to a layperson. Thus, it is time to make clear that trial courts should recognize these scientific advances in exercising their discretion whether to admit such expert

testimony in a particular case. Nonetheless, some of the factors of eyewitness identification are not beyond the ken of jurors. For example, the effects of stress or time are generally known to exacerbate memory loss and, barring a specific set of facts, do not require expert testimony for the layperson to understand them in the context of eyewitness testimony. In recognition of this, we believe, consistent with our past holdings, that a flexible standard that can properly gauge the state of the scientific art in relation to the specific facts of the case is best." Id. at 112.

"Indeed, it might be an appropriate time for the Maryland Criminal Pattern Jury Instruction Committee to evaluate whether its current rule on witnesses (MPJICr 3:10) should be modified in light of the studies about eyewitness testimony, and the scientific advances in this area." Id. at 113.

Commonwealth v. Silva-Santiago, 906 N.E.2d 299 (Mass. 2009). S18.

Sustaining the admission of an identification, the Massachusetts Supreme Judicial Court stated that in the future it would "expect" police to employ a protocol "making clear to the eyewitness, at a minimum that: he will be asked to view a set of photographs; the alleged wrongdoer may or may not be in the photographs depicted in the array; it is just as important to clear a person from suspicion as to identify a person as the wrongdoer; individuals depicted in the photographs may not appear exactly as they did on the date of the incident because features such as weight, head, and facial hair are subject to change; regardless of whether an identification is made, the investigation will continue; and the procedure requires the administrator to ask the witness to state, in his or her own words, how certain he or she is of any identification." Id. at 312.

Commonwealth v. Santoli, 680 N.E.2d 1116 (Mass. 1997). IP125.

The Massachusetts Supreme Judicial Court held that jury instructions on eyewitness testimony may no longer include a statement that the jury may take into account the witness's report of certainty in determining accuracy.

"[T]he challenged instruction has merit in so far as it deals with the testimony of a witness who expressed doubt about the accuracy of her identification, whether that identification was made during her testimony, or at a 'showup' or lineup. Where, however, the witness has expressed great confidence in her identification of the defendant, the challenged instruction may pose a problem because ... there is significant doubt about whether there is any correlation between a witness's confidence in her identification and the accuracy of her recollection." Id. at 1121.

People v. LeGrand, 867 N.E.2d 374 (N.Y. 2007). IP71.

The New York Court of Appeals held that where the case turns on eyewitness identification and there is little or no corroborating evidence, it is an abuse of discretion to exclude expert testimony on (1) the lack of correlation between confidence and accuracy; (2) the effect of postevent information on accuracy; and (3) confidence malleability, as there was general acceptance of these phenomena. However, the court did not find general acceptance of the scientific findings concerning the effect of weapons focus.

"Although there may be risks associated with allowing an expert to apply research findings from experiments on the reliability of eyewitness identifications to real-life identifications, these findings -- produced through sound, generally accepted experimentation techniques and theories, published in scholarly journals and subjected to peer review -- have over the years gained acceptance within the scientific community." Id. at 377.

State v. Copeland, 226 S.W.3d 287 (Tenn. 2007). IP192.

The Tennessee Supreme Court discarded its per se exclusion of eyewitness identification expert testimony and held that it was an abuse of discretion to exclude testimony of an eyewitness identification expert concerning cross-racial identifications and confirming feedback.

"It is the educational training of the experts and empirical science behind the reliability of eyewitness testimony that persuades us to depart from the Coley rule

[of per se exclusion of expert testimony]. Times have changed. Today, many scholarly articles detail the extensive amount of behavioral science research in this area. There are literally hundreds of articles in scholarly, legal, and scientific journals on the subject of eyewitness testimony. ... Scientifically tested studies, subject to peer review, have identified legitimate areas of concern." Id. at 299 (citations omitted).

State v. Clopten, 223 P.3d 1103 (Utah 2009). IP195.

In holding that the trial court erred in excluding eyewitness expert testimony, the Utah Supreme Court found expert testimony more effective than jury instructions or cross-examination in conveying social science findings to jurors.

"The phenomena that eyewitness experts seek to explain have been reviewed and replicated many times in recent decades. In addition, this court recognized in State v. Rimmasch that it was appropriate to take judicial notice of 'general acceptance' of those principles in the community of researchers that specialize in the study of eyewitness identification." Id. at 1114.

"All of these factors were present here [stress, disguises, darkness, length of exposure, weapon focus, cross-racial identification, suggestive comments by the police during the identification procedure, witnesses filling in gaps in their memory with postevent information, and confidence inflation], and thorough testimony by a qualified expert as to their nature would have significantly assisted the jury in evaluating the accuracy of the State's most important witnesses." Id. at 1117.

State v. Long, 721 P.2d 483 (Utah 1986). IP126.

The Utah Supreme Court held that trial courts must give cautionary instructions on eyewitness identifications if requested by the defense.

"The literature is replete with empirical studies documenting the unreliability of eyewitness identification Yet despite judicial recognition of the documented unreliability of eyewitness identification, courts have been slow both to accord the problem the attention it deserves and to fashion ways of minimizing the potentially

unjust effects. The fault probably lies with the narrowness of the vision of most lawyers and judges. We tend to comfortably rely upon settled legal precedent and practice, especially when long-settled technical rules are concerned, and to largely ignore the teachings of other disciplines, especially when they contradict long-accepted legal notions." Id. at 491.

"Even though the United States Supreme Court has recognized the fundamental problem posed by eyewitness testimony, its much-quoted articulation of how one should approach the evaluation of the credibility and admissibility of eyewitness identification is a fair example of the lag between the assumptions embodied in the law and the findings of other disciplines. ... [S]everal of the criteria listed by the Court [in Manson] are based on assumptions that are flatly contradicted by well-respected and essentially unchallenged empirical studies [W]e conclude that in the area of eyewitness identification, the time has come for a more empirically sound approach." Id. at 491.

"[W]e do consider ourselves compelled by the overwhelming weight of the empirical research to take steps to alleviate the difficulties inherent in any use of eyewitness identification testimony" Id. at 492.

State v. Ramirez, 817 P.2d 774 (Utah 1991). IP198.

The Utah Supreme Court crafted its own criteria for assessing the reliability of suggestive identifications, finding "some of [the Manson] criteria to be scientifically unsound." Id. at 780.

The court excised from its reliability criteria the witness's level of certainty, and added the spontaneity and consistency of the identification, whether it was the product of suggestion, the nature of the event being observed and the likelihood that the witness would perceive, remember, and relate it correctly (including whether the event was ordinary in the mind of the observer and whether there was a cross-racial identification). Id. at 781. See also State v. Hunt, 69 P.3d 571 (Kan. 2003), where the Kansas Supreme Court adopted the reliability criteria announced by the Utah Supreme Court. IP203.

State v. Dubose, 699 N.W.2d 582 (Wis. 2005). D91.

The Wisconsin Supreme Court held that evidence from an out-of-court show-up is not admissible unless, based on the totality of circumstances, the procedure was necessary.

"Over the last decade, there have been extensive studies on the issue of identification evidence, research that is now impossible for us to ignore. ... In light of such evidence, we recognize that our current approach to eyewitness identification has significant flaws." Id. at 591-92

Findings and Conclusions

The scientific evidence. The scientific evidence accumulated since Manson was decided in 1977 is voluminous, comprehensive and consistent. It is described in great detail in the testimony of the expert witnesses and reported in the hundreds of peer-reviewed studies and meta-analyses discussed in the record. The soundness and reliability of that evidence are indisputable. As Professor Monahan put it:

Eyewitness identification is the gold standard in terms of the applicability of social science research to the law. 29T 49.

I think that of all the substantive uses of social science in law, none has been more subjected to scientific scrutiny, none has used more valid research methods, none is more directly generalizable, and nowhere is there a larger body of research than in the area of eyewitness identification. 29T 39-40.

The science abundantly demonstrates the many vagaries of memory encoding, storage and retrieval; the malleability of memory; the contaminating effects of extrinsic information; the

influence of police interview techniques and identification procedures; and the many other factors that bear on the reliability of eyewitness identifications. The expert witnesses all confirmed and endorsed those findings. The wide recognition of the science by the social scientists, forensic experts, law enforcement agencies, law reform groups, legislatures and courts powerfully confirms its soundness. See State v. J.Q., 130 N.J. 554, 572 (1993); State v. Kelly, 97 N.J. 178, 210 (1984). The scientific findings, in short, are reliable, definitive and unquestionably fit for use in the courtroom.

It is equally clear, however, that the impact of the system and estimator variables on eyewitness reliability is only probabilistic (except perhaps for the impact of viewing distance, which, as discussed above at p. 45, can sometimes be subject to scientific proof). Experimental studies can isolate and study particular variables and assess their influence. But in the absence of DNA exculpation, neither science nor scientists can say, at least at present, whether a real-life identification is accurate or not, much less whether or how any system or estimator variable - or combination of variables -- may have affected a real-life identification. Nor can science calculate the degree of enhanced risk of misidentification arising from any given variable. The science has simply identified variables that have an unquantifiable capacity or

tendency to impair or contaminate memory and thus bring into question the reliability of a real-life eyewitness identification.

The State suggests that, for those reasons, the science offers little useful guidance to the judicial system. According to the State, the science surrounding eyewitness identification is not "particularly complex or counterintuitive" (S40 at 69); the only guidance jurors need is provided by voir dire, cross-examination, jury charges and their "life experience." S40 at 71. And, the State says, jurors can adequately educate each other: "Even if only 50% of jurors were aware [e.g.] that a confident witness may be incorrect, that means that six jurors have this information and presumably will share it during deliberation." Ibid.

The science does not deserve to be so dismissed. As explained by Professor Monahan, social science research is widely and productively used in the courts to assist in the resolution of empirical disputes by informing judges and juries about matters they might not know or correcting misimpressions they might have. 29T 33-34; IP53; IP87; IP88. The studies show that distinguishing accurate from inaccurate eyewitnesses is uncertain at best and that laypersons often have little knowledge and mistaken intuitions about eyewitness accuracy. There is no reason to sweep aside the teachings of science

concerning the influences at play as worthless to those who must assess an eyewitness identification. Whether the science confirms commonsense views or dispels preconceived but not necessarily valid intuitions, it can properly and usefully be considered by both judges and jurors in making their assessments of eyewitness reliability. See, e.g., State v. P.H., 178 N.J. 378, 395-98 (2004); Cromedy, 158 N.J. at 133.

The State offers other cautions about judicial reliance on the scientific findings: experimental studies do not capture real-world experience, certain questions have not been asked, certain issues have not been studied adequately or at all. Those doubts, which perhaps could be raised against all social science findings, are not supported by any proofs in the record. Indeed, they were expressly rejected by the expert witnesses, including the State's witness Professor Malpass, all of whom testified that the experimental results were sound and generalizable. In any event, even if indulged, the doubts raised by the State would call for consideration by judge and jury, not wholesale disregard of the science.

The State also questions whether mistaken identifications and wrongful convictions are a significant problem in New Jersey. Although it does not challenge the archival and field studies documenting the frequency of misidentification or the DNA exculpations demonstrating convictions based on mistaken

identifications, the State asserts that recent New Jersey experience is to the contrary. It is undisputed, however, that of five DNA exculpations recorded in New Jersey, three - including Cromedy - are associated with mistaken identifications. While it may be true -- indeed, one would hope -- that the promulgation of the Attorney General Guidelines in 2001 has resulted in fewer wrongful convictions, nothing in the record suggests that New Jersey has thereby solved, or even substantially alleviated, the problem of mistaken identifications. See Romero, 191 N.J. at 72-75.

In sum, the scientific findings can and should be used to assist judges and juries in the difficult task of assessing the reliability of eyewitness identifications.

Inadequacies and flaws of Manson/Madison. The Manson/Madison test does not provide that needed assistance. Designed to make reliability the "linchpin" of judicial examination of eyewitness testimony, Manson/Madison falls well short of attaining that goal, for it neither recognizes nor systematically accommodates the full range of influences shown by science to bear on the reliability of such testimony. Only bits and pieces of the science have found their way into the New Jersey courtrooms. See, e.g., Cromedy, 158 N.J. at 132-33 (mandating, in limited circumstances, a jury instruction concerning cross-racial identifications); Romero, 191 N.J. at 76

(mandating a jury instruction that witness confidence may not indicate reliability). Judges and juries alike are commonly left to make their reliability judgments with insufficient and often incorrect information and intuitions.

The specific inadequacies and flaws of the Manson/Madison test are patent:

- The first prong of the test addresses only suggestive police procedures, i.e., system variables. The existence and impact of estimator variables are ignored unless the court finds "unnecessary suggestion" on the part of state actors.
- Manson/Madison allows a defendant to challenge an identification only upon making an initial showing of unduly suggestive police procedures. That protocol fails to assure that a defendant is able to discover and expose all of the facts and factors that bear on the reliability of an identification.
- Judges must decide whether suggestive police procedures created a "very substantial likelihood of irreparable misidentification" and juries must make their reliability determinations "from the totality of the circumstances," but both are

largely left to their own intuitions to decide what is suggestive, what the impact of any perceived suggestion might be or what "circumstances" are relevant to or probative of reliability. The New Jersey model jury charges are appropriately cautionary but similarly lacking in specifics.

- The sole remedy available under Manson/Madison for improper police procedures is suppression of the proffered eyewitness identification. The available evidence indicates that judges rarely impose that draconian remedy: research of court and counsel reveals only one New Jersey appellate decision (unreported) that applies Manson/Madison to suppress an eyewitness identification. See State v. Harrell, 2006 WL 1028768 (N.J. Super. Ct. App. Div. Apr. 20, 2006). Because the test allows (indeed, invites, see Madison, 109 N.J. at 244-45) a finding of reliability notwithstanding impermissible suggestiveness, it appears to be of little value in weeding out unreliable identifications.
- Manson/Madison sets forth five factors that may be found by a court or jury to demonstrate

reliability notwithstanding a unfairly suggestive procedure, including the "level of certainty demonstrated" by the witness at the identification and the witness's self-reports of his or her degree of attention and opportunity to view the perpetrator at the time of the crime. But the studies uniformly show, and the experts unanimously agree, that confidence is not closely correlated to accuracy, that confidence is easily enhanced by suggestive procedures and post-identification feedback, and that witness self-reports concerning degree of attention and opportunity to view are inflated in tandem with inflated confidence. Thus the science shows that three of the five "reliability" factors are themselves unreliable, for they are strengthened by the suggestive conduct against which they are to be weighed.

The short answer to the Court's question whether the Manson/Madison test and procedures are "valid and appropriate in light of recent scientific and other evidence" is that they are not.

Remedies. The position of the State is that, notwithstanding the scientific findings, "[a]mple reason exists

to believe that jurors, after voir dire, testimony of prosecution and defense witnesses on direct- and cross-examination, arguments of counsel and jury instructions, can and do assess the shortcomings of identification testimony." S40 at 79. The State suggests but one possible supplementation to existing practice: where an uncorroborated identification of a stranger resulted from a lineup procedure at which the administrator indicated to the witness that a suspect was present or failed to warn that the perpetrator may not be in the array, the State acknowledges that the jury should be charged - if the defendant so requests - that the probability of a misidentification may be increased. S40 at 93.

The Public Defender and amicus ACDL propose that an admissibility hearing be required in every identification case, at which the State would bear the burden of establishing the admissibility of the identification. They urge that law enforcement officers be required to comply with "the minimum affirmative guidelines" incorporated in the Attorney General Guidelines and that failure to so comply "should result in a finding of suggestiveness and require suppression of the identification at issue." D114 at 85. As counsel explained, "we're advocating in essence [that] the Guidelines be turned into rules." 32T 20. The Public Defender and ACDL also propose that showup identifications be inadmissible absent a showing of

exigent circumstances requiring an immediate identification procedure.

Amicus Innocence Project abjures any such bright-line rule of suppression and instead urges that, among other procedures, the State be required to produce evidence, in a pretrial hearing at which the eyewitness would "ordinarily" testify, as to the integrity of the eyewitness's memory "just as if it were trace evidence"; that all of the system and estimator variables be open for exploration at that hearing; that to suppress an identification the defendant be required to prove "a substantial probability of a misidentification"; that, in the absence of suppression, the trial court give "appropriate jury instructions" derived from the scientific findings, including "carefully tailored and strongly worded" instructions about any failure by law enforcement to follow the Attorney General's Guideline procedures. IP237 at 18-19. The Public Defender and ACDL endorse that regimen as a less-favored alternative to their preferred remedy of bright-line mandatory suppression rules.

The State's argument that Manson/Madison should remain essentially unchanged appears to be bottomed on a view that the scientific findings over the past thirty years, being only probabilistic in nature, have nothing useful to contribute to judicial decision-making. That view contrasts, of course, with the State's endorsement of the science in the Attorney General

Guidelines, which expressly "incorporate more than 20 years of scientific research on memory and interview techniques." S20 at 1. The science should similarly be harnessed to assist the judicial system. There is no sound reason or policy why the judicial branch should disregard the scientific evidence, continue to focus exclusively on police suggestiveness, ignore other factors bearing on witness reliability, and seek no innovative means to inform judges and juries about the vagaries of eyewitness memory and identification.

The Public Defender and ACDL offer two rationales in support of a mandatory rule of suppression upon a showing of police suggestiveness. First, since courts and juries cannot reliably distinguish between accurate and inaccurate identifications, bright-line rules are the only effective means to suppress false identifications and reduce the incidence of wrongful convictions. Second, they urge, mandatory suppression would have the prophylactic benefit of deterring police resort to suggestive procedures.

It is indeed reasonable to believe that fewer wrongful convictions would occur if improper police procedures mandated suppression of identifications. However, because the actual impact of improper procedures on a given witness in a real-life setting is unknowable, it is equally likely that such a rule would also suppress an unknown number of accurate

identifications, particularly if suppression were mandated, as argued here, for any and every violation of the Attorney General Guidelines. Those benefits and costs of a bright-line suppression rule are not quantifiable. (Professor Penrod's analysis (apparently neither peer-reviewed nor published) showing just a 6% loss of accurate identifications is interesting, but highly speculative. See 20T 55-72.) Bright-line suppression rules thus avoid, rather than enhance, individual assessments of eyewitness reliability. Manson cited those very concerns in rejecting a mandatory suppression rule. 432 U.S. at 112-13, 97 S. Ct. at 2252, 53 L.Ed.2d at 152-53. Mandatory suppression rules have accordingly been imposed only in a few jurisdictions. See Commonwealth v. Austin, 657 N.E.2d 458 (Mass. 1995); Commonwealth v. Johnson, 650 N.E.2d 1257 (Mass. 1995) (IP197); People v. Adams, 423 N.E.2d 379 (N.Y. 1981); State v. Dubose, 699 N.W.2d 52 (Wis. 2005) (D91).

As for deterrence of improper police conduct, that is a worthy goal, but it does not seem to necessitate the remedy of mandatory suppression. If judges and juries are allowed to learn and apply the science concerning improper police conduct in their assessments of eyewitness testimony, their findings could be equally effective in discouraging law enforcement agencies from using improper procedures.

The remedy proposed by the Innocence Project, entitled "The Renovation of Manson: A Dynamic New Legal Architecture For Assessing and Regulating Eyewitness Evidence", is wide-ranging, multifaceted and highly detailed (see IP237); evaluation of its many elements is beyond the call of the present Report. But its design is sound: to maintain the Manson/Madison principle that reliability is the linchpin of the inquiry, to expand that inquiry to include all the variables unaddressed by Manson/Madison and to assure that judges and jurors are informed of and use the scientific findings that bear on reliability. Two core elements of that design are of critical importance.

First, it would be both appropriate and useful for the courts to handle eyewitness identifications in the same manner they handle physical trace evidence and scientific evidence, by placing at least an initial burden on the prosecution to produce, at a pretrial hearing, evidence of the reliability of the evidence. Such a procedure would broaden the reliability inquiry beyond police misconduct to evaluate memory as fragile, difficult to verify and subject to contamination from initial encoding to ultimate reporting. That would effectively set at naught both the Manson/Madison rule that reliability is to be examined only upon a prior showing of impermissible suggestion on the part of state actors and the Ortiz rule, 203 N.J. Super. at 522, that requires the defendant to make, and the prosecution

to overcome, an initial showing of such suggestion. But New Jersey law has long placed on the proponent of physical trace evidence and scientific evidence at least the initial burden to produce evidence in support of its reliability. See, e.g., State v. Chun, 194 N.J. 54, 92_ (2008); State v. Harvey, 151 N.J. 117 (1997); State v. Morton, 155 N.J. 383, 446 (1998), cert. denied, 532 U.S. 931, 121 S.Ct. 1380, 149 L.Ed.2d 306 (2001); State v. Brunson, 132 N.J. 377, 393 (1993); State v. Brown, 99 N.J. Super. 22, 27 (App. Div.), certif. denied, 51 N.J. 468 (1968); N.J.R.E. 104 (a), (b). Application of those accepted evidentiary rules to eyewitness testimony would be scientifically proper and procedurally wise.

Second, it would be appropriate and useful for this Court to take all available steps to assure that judges and juries are informed of and guided by the scientific findings. New Jersey law is familiar and comfortable with what Professor Monahan calls "social framework" evidence: scientific research findings, accepted in the scientific community and generalizable to the question at issue, that judges and juries use to determine specific facts. See, e.g., Cromedy, 158 N.J. at 133 (requiring jury instruction concerning cross-racial identifications); Romero, 191 N.J. at 76 (requiring, in limited circumstances, jury instruction concerning confidence and accuracy of eyewitness identifications); cf. State v. J.Q., 130 N.J. 554,

581-82 (1993) (noting the "vital role" of expert testimony, in sexual abuse prosecution, concerning child sexual abuse accommodation syndrome); State v. Kelly, 97 N.J. 178, 210 (mandating admission of expert testimony concerning battered women's syndrome in domestic abuse prosecution). The judicial system should systematically and explicitly adopt and broadly use the scientific findings: in opinions setting standards and procedures for their use; in deciding admissibility issues; in promulgating jury instructions addressing specific variables; in broadening voir dire questioning; and in allowing appropriate expert testimony in all phases of the litigation.

Those two procedures - mandatory pretrial hearings to evaluate eyewitness identifications as trace evidence and judicial adoption and implementation of the scientific findings - would remedy the flaws and inadequacies of Manson/Madison and would appropriately expand and improve the assessment of eyewitness reliability by judges and jurors alike.

Respectfully submitted,

Geoffrey Gaulkin, P.J.A.D.
(retired and temporarily assigned
on recall), Special Master

Dated: June 18, 2010

GUIDE TO THE RECORD

The entire record of the remand proceedings is contained on a single DVD. The folders and subfolders on the DVD are as follows:

Report of the Special Master

Proposed findings submitted by parties.

Note that the Innocence Project's proposed findings are two separate documents, one for the science, one for the law.

Exhibits

Subfolder labeled "Exhibits (all parties by number)" contains all exhibits submitted by all parties, organized by party and exhibit number and, within each party's submissions, by exhibit number. Note that all "D" exhibits were submitted on behalf of both defendant and amicus Association of Criminal Defense Lawyers of New Jersey.

Each party's list of exhibits.

Subfolder labeled "Exhibits (by topic)" contains all of the scientific articles submitted by the Innocence Project and many but not all submitted by defendant/ACDLNJ and the State, organized by topic. Within this folder is IP Exhibit #224, a topical list of these exhibits. Innocence Project exhibits can be searched for specific words or phrases in the document.

A "Cross Listings of Exhibits" document, listing exhibits submitted by more than one party.

Transcripts

Subfolder containing all transcripts organized by date.

Subfolder containing the transcripts organized by witness.

Note that witnesses Wells, Penrod and Epstein used PowerPoint slides in testifying, which are marked as exhibits IP22a (Wells), D4 (Penrod) and D99 (Epstein).

A "Transcript List," a one-page reference sheet containing the transcript citations with its corresponding witness, date, and time. All transcripts can be searched for specific words or phrases.

Subfolder containing transcripts with clarifying "comments" for Innocence Project witnesses Wells and Doyle. These additional transcripts include clarifying comments regarding the specific PowerPoint slides and exhibits referenced in the testimony. These clarifications are in the form of small, lined yellow comment boxes that appear next to where the slide or exhibit is referred to in the transcript. To view the "comment," simply place the cursor over the comment and/or click on it.

Meta-Analytic Reviews

Subfolder containing all of the meta-analytic reviews.

Meta-analytic review list.

Courts' Responses to Social Science

Subfolder containing documents related to the Innocence Project memo on courts response to the social science research.

Innocence Project memo on courts' responses to the social science.

The State's fifty-state survey.

National Response to Social Science

Subfolder containing documents related to Innocence Project memo on the national response to social science research on eyewitness identification.

Innocence Project memo on the national response to the social science.

Exhibit B

EXHIBIT B

TABLE OF STATE COURT DECISIONS REGARDING THE ADMISSIBILITY OF EYEWITNESS EXPERT TESTIMONY

Alabama	<i>Ex parte Williams</i> , 594 So.2d 1225 (Ala. 1992)	Discretionary	Discretion not abused in refusing to admit. Expert not familiar with facts of case, had no personal contact with victim or knowledge of event.
Alaska	<i>Skamarocius v. State</i> , 731 P.2d 63 (Alaska App. 1987)	Discretionary	Discretion abused in refusing to admit. Testimony should have been admitted, because proposed testimony was within the mainstream of current psychological theory and would have been helpful to the jury.
Arizona	<i>State v. Nordstrom</i> , 25 P.3d 727 (Ariz. 2001)	Discretionary	Discretion not abused in limiting testimony. The expert was permitted to testify at length about a variety of eyewitness variables, but was not permitted to express any opinion about the accuracy of the defendant's eyewitness testimony or to address the specifics of this case.
Arkansas	<i>Parker v. State</i> , 968 S.W.2d 592 (Ark. 1998)	Discretionary	The trial court did not abuse its discretion in excluding testimony because it would not aid the trier of fact in understanding the evidence or in determining a fact in issue.
California	<i>People v. McDonald</i> ,	Discretionary	Discretion abused in

	690 P.2d 709 (Cal. 1984) (overruled on other grounds)		refusing to admit the expert testimony. The exclusion of the eyewitness expert was not harmless error. “When an eyewitness identification of the defendant is a key element of the prosecution's case but is not substantially corroborated by evidence giving it independent reliability, and the defendant offers qualified expert testimony on specific psychological factors shown by the record that could have affected the accuracy of the identification but are not likely to be fully known to or understood by the jury, it will ordinarily be error to exclude that testimony.”
Colorado	<i>Campbell v. People</i> , 814 P.2d 1 (Colo. 1991) <i>abrogated by People v. Shreck</i> , 22 P.3d 68 (Colo. 2001) <i>to the extent that it held out Frye as the appropriate standard for determining the admissibility of scientific evidence rather than C.R.E. 702.</i>	Discretionary	The trial court erred in excluding the proffered testimony. This error was not harmless, and the case was remanded to vacate judgment and reevaluate the admissibility of the expert's testimony.
Connecticut	<i>State v. Outing</i> , 3 A.3d 1 (Conn. 2010)	Discretionary	Discretion may have been abused in refusing to admit testimony at suppression hearing

			but was harmless error.
Delaware	<i>Garden v. State</i> , 815 A.2d 327 (Del. 2003), <i>superseded by statute on other grounds</i> , 11 Del. C. § 4209(d) (2003)	Discretionary	Discretion abused in refusing to admit but was harmless error. Partial testimony allowed. Expert testified on a variety of estimator variables but was not permitted to testify on the confidence/accuracy relationship. The exclusion was ruled an abuse of discretion but found to be harmless error.
District of Columbia	<i>Benn v. United States</i> , 978 A.2d 1257 (D.C. 2009)	Discretionary	Trial court erred in excluding testimony without considering the legal factors governing admissibility of expert testimony. “If expert testimony can assist the jury, it perforce does not usurp the jury's function. Rather, it enhances the jury's ability to perform its role as factfinder.”
Florida	<i>McMullen v. State</i> , 714 So. 2d 368 (Fla. 1998) <i>cited approvingly in Simmons v. State</i> , 934 So.2d 1100 (Fla. 2006)	Discretionary	The trial court acted within its discretion in refusing to allow the testimony. “[A]dmissibility of expert testimony regarding the reliability of eyewitness testimony is left to the sound discretion of the trial judge.” The judge must evaluate whether the evidence will assist the trier of fact in

			understanding the evidence or in determining a fact in issue.
Georgia	<i>Howard v. State</i> , 686 S.E.2d 764 (Ga. 2009)	Discretionary	Because the eyewitness identifications were substantially corroborated, the trial court did not abuse its discretion in excluding the expert testimony. The admission or exclusion of this evidence is within the sound discretion of the trial court, and the exercise of that discretion will not be disturbed on appeal absent clear abuse.
Hawaii	No cases.	Discretionary ¹	
Idaho	<i>State v. Wright</i> , 206 P.3d 856 (Idaho App. Ct. 2009)	Discretionary	Discretion not abused in refusing to admit, because there was “other substantial, corroborative evidence” of defendant’s identity as the shooter. In circumstances where the expert testimony will assist the trier of fact, it may be abuse of discretion to admit testimony.
Illinois	<i>People v. Allen</i> , 875 N.E.2d 1221 (Ill. App. Ct. 2007). <i>See also</i> <i>People v. Polk</i> , 942	Discretionary	Discretion abused, and case reversed and remanded where trial court did not admit such testimony. Court held that trial court

¹ In the experience of members of the Innocence Network, the practice in Hawaii is that the testimony is regularly admitted and rarely objected to. However, no reported cases could be found.

	N.E.2d 44 (Ill. App. Ct. 2010) ²		failed to carefully scrutinize the proffered testimony in order to determine its probative value as compared to the prejudicial effect (of possibly confusing the jury).
Indiana	<i>Cook v. State</i> , 734 N.E.2d 563 (Ind. 2000).	Discretionary	Discretion not abused in refusing to admit, because defendant failed to establish the factual predicate upon which his expert's testimony would have rested. But noting, “[w]e have acknowledged that the ‘weight of authority favors admitting expert testimony as to general hazards of identification evidence in certain circumstances.’”
Iowa	<i>State v. Schutz</i> , 579 N.W.2d 317 (Iowa 1998).	Discretionary	Reversing trial court for excluding testimony as per se inadmissible and overturning per se exclusionary rule. The exclusion of expert testimony is a matter committed to the sound discretion of the trial court.
Kansas	<i>State v. Gaines</i> , 926 P.2d 641 (Kan. 1996)	Discretionary	Trial court did not abuse its discretion in refusing to admit testimony. Reliability

(continued...)

² Citing *Allen*, as good law and distinguishing this case as one where the trial court did not abuse its discretion in excluding testimony.

			of eyewitness identification is within the realm of jurors' knowledge and experience. The court followed the previous line of cases and held that expert testimony regarding eyewitness identification should not be admitted.
Kentucky	<i>Commonwealth v. Christie</i> , 98 S.W.3d 485 (Ky. 2002)	Discretionary	Discretion abused in refusing to admit, and case remanded. To the extent that prior cases held testimony excluded per se, those cases are overturned.
Louisiana	<i>State v. Young</i> , 35 So.3d 1042 (La. 2010).	Categorically excluded -- inadmissible.	Abuse of discretion in allowing expert to testify on eyewitness identification issue. Prejudicial effect outweighs probative value and usurps jury's function.
Maine	<i>State v. Kelly</i> , 752 A.2d 188 (Me. 2000).	Discretionary	The trial court did not abuse its discretion in denying motion for funds for expert. Trial court's finding that the testimony would not be helpful to the jury was not clearly erroneous, and the court did instruct the jury.
Maryland	<i>Bomas v. Maryland</i> , 987 A.2d 98 (Md. 2010).	Discretionary	Exclusion of testimony not an abuse of discretion. "[T]he probative value of expert testimony on eyewitness identification and how much such testimony can actually help the

			jury in the case before it must be carefully weighed by the court on a case-by-case basis.”
Massachusetts	<i>Commonwealth v. Santoli</i> , 680 N.E.2d 1116 (Mass. 1997)	Discretionary	Discretion was not abused in refusing to admit expert testimony on eyewitness identification. No error in excluding the testimony where the physical evidence and other facts provided significant corroboration of the victim's identification.
Michigan	<i>People v. Carson</i> , 553 N.W.2d 1 (Mich. App. 1996) readopted in pertinent part by a special panel in <i>People v. Carson</i> , 560 N.W.2d 657, 664 (1996) <i>See also People v. Kurylczyk</i> , 505 N.W.2d 528, 531 (Mich. 1993) ³	Discretionary	The court did not abuse its discretion in refusing to appoint an expert in eyewitness identification.
Minnesota	<i>State v. Miles</i> , 585 N.W.2d 368 (Minn. 1998)	Discretionary	Discretion is not abused in refusing to admit. “While in some circumstances expert testimony relating to the accuracy of eyewitness identification may in fact be helpful to the jury, we fully agree with the trial court in this case that the jury would not be assisted

³ Noting without ruling on the fact that defendant presented expert testimony regarding the nature of eyewitness identifications and the likelihood of erroneous identification.

			by its admission and we conclude that the exclusion of such evidence was not an abuse of the trial court's broad discretion."
Mississippi	<i>White v. State</i> , 847 So.2d 886 (Miss. Ct. App. 2002)	Discretionary	Exclusion of testimony not an abuse of discretion. Court held that trial court had been shown nothing to suggest that the science about which the expert was to testify is generally accepted.
Missouri	<i>State v. Ware</i> , 326 S.W.3d 512 (Mo. App. Ct. 2010) (citing <i>State v. Whitmill</i> , 780 S.W.2d 45 (Mo. 1989))	Discretionary	Exclusion of testimony was not an abuse of discretion. The trial court did not believe the admission of the testimony would aid the jury.
Montana	<i>State v. DuBray</i> , 77 P.3d 247 (Mont. 2003)	Discretionary	It is an abuse of discretion for a district court to disallow expert testimony on eyewitness testimony when no substantial corroborating evidence exists. When there is more than one eyewitness, the district court has discretion in allowing expert testimony on eyewitnesses.
Nebraska	<i>State v. Trevino</i> , 432 N.W.2d 503 (Neb. 1988)	Discretionary	Exclusion of testimony was proper exercise of trial court's discretion.
Nevada	<i>White v. State</i> , 926 P.2d 291 (Nev. 1996)	Discretionary	Discretion is not abused in refusing to admit. "It is true, as

			stated in the dissent, that expert testimony may ‘assist the trier of fact’ in some cases; but the trial judge was in the best position to judge whether or not the jury was in need of this kind of assistance.”
New Hampshire	<i>State v. Hungerford</i> , 697 A.2d 916 (N.H. 1997)	Not directly decided	While addressing the science behind repressed sexual assault memories, the New Hampshire Supreme Court acknowledged the legitimacy and need for experts on the topic of eyewitness identification because “memory is imperfect.”
New Jersey	<i>State v. Gunter</i> , 554 A.2d 1356 (N.J. Super. Ct. 1989)	Discretionary	Case remanded to hold preliminary hearing to determine admissibility of expert's testimony. “Because there was no preliminary hearing here, we cannot say with any assurance whether the proffered testimony would have actually assisted the jury On the other hand, based on the absence of a record and considering the judicial literature favoring admissibility, we cannot foreclose the possibility that the requisite criteria for admissibility would be met”

New Mexico	No cases found.		
New York	<i>People v. LeGrand</i> , 8 N.Y.3d 449 (N.Y. 2007) <i>See also People v. Abney</i> , 918 N.E.2d 486 (N.Y. 2009) ⁴	Discretionary	Discretion abused in excluding testimony. “[W]here the case turns on the accuracy of eyewitness identifications and there is little or no corroborating evidence connecting the defendant to the crime, it is an abuse of discretion for a trial court to exclude expert testimony on the reliability of eyewitness identifications if that testimony is (1) relevant to the witness's identification of defendant, (2) based on principles that are generally accepted within the relevant scientific community, (3) proffered by a qualified expert and (4) on a topic beyond the ken of the average juror.”
North Carolina	<i>State v. Lee</i> , 572 S.E.2d 170 (N.C. 2002)	Discretionary	Discretion not abused in refusing to admit. The trial court was aware of corroborating evidence in addition to the identification testimony.
North Dakota	<i>State v. Fontaine</i> , 382 N.W.2d 374 (N.D. 1986)	Discretionary	Discretion not abused in permitting testimony but limiting scope of testimony. Expert testified on

⁴ Applying *LeGrand* to two cases and finding that the trial court’s decision to exclude testimony in one case was an abuse of discretion and the trial court’s decision to exclude testimony in the other was not.

			several estimator variables, but was not allowed to answer a hypothetical question concerning accuracy of identification.
Ohio	<i>State v. Buell</i> , 489 N.E. 2d 795 (Ohio 1986)	Discretionary	Discretion not abused in refusing to admit. Expert testimony regarding the credibility of a <i>typical</i> witness is admissible, but testimony regarding the credibility of a <i>particular</i> witness is not.
Oklahoma	<i>Torres v. State</i> , 962 P.2d 3 (Okla. Crim. App. 1998) <i>See also Bristol v. State</i> , 764 P.2d 887 (Okla. Cr. 1988) ⁵	Discretionary	Trial counsel not ineffective for failing to introduce testimony. “While it might be that expert testimony regarding eyewitness identification would have been admissible in this case,” defendant did not present any evidence to show what that expert testimony would have revealed or how the failure to present such expert evidence prejudiced him.
Oregon	<i>State v. Goldsby</i> , 650 P.2d 952 (Ore. App. 1982) <i>But see State v. Lawson</i> , 244 P.3d 860 (Or. App. 2010) ⁶	Categorically excluded -- inadmissible.	Although eyewitness identification evidence has a built-in potential for error, the law does not deal with that by allowing experts to debate the quality of evidence for the jury.

⁵ Noting without addressing the propriety of the testimony that the jury heard “extensive testimony from an expert witness concerning the unreliability of eyewitness identification.”

(Pennsylvania)	<i>Com. v. Simmons</i> 662 A.2d 621 (Pa. 1995) <i>See also Commonwealth v. Abdul-Salaam</i> , 678 A.2d 342 (Pa. 1996) ⁷	Categorically excluded -- inadmissible.	“[T]estimony would have given an unwarranted appearance of authority as to the subject of credibility, a subject which an ordinary juror can access.
Rhode Island	<i>State v. Werner</i> , 851 A.2d 1093 (R.I. 2004)	Discretionary	Exclusion of testimony was not an abuse of discretion. Defendant did not supply sufficient information regarding the proposed testimony of the expert, and unreliability of eyewitness testimony could be addressed through common sense, cross examination, and jury instructions.

(continued...)

⁶ Noting that the trial court admitted expert testimony regarding the accuracy of eyewitness identification.

⁷ Citing approvingly to *Simmons*.

<p>South Carolina</p>	<p><i>State v. Whaley</i>, 406 S.E.2d 369 (S.C. 1991)</p>	<p>Discretionary</p>	<p>Discretion abused in refusing to admit. Trial court ruling reversed and case remanded. It was an abuse of discretion to exclude the expert's testimony concerning eyewitness reliability because the main issue in this case was the identity of the assailant, the only evidence establishing the defendant as the assailant was the testimony of the two eyewitnesses, and other factors existed which could have affected the identification.</p>
<p>South Dakota</p>	<p><i>State v. McCord</i>, 505 N.W.2d 388 (S.D. 1993)</p>	<p>Discretionary</p>	<p>Discretion not abused in admitting. The Court ruled that the testimony was relevant and that jurors do not possess an expert's comprehensive training in assessing the reliability of identification.</p>
<p>Tennessee</p>	<p><i>State v. Copeland</i>, 226 S.W.3d 287 (Tenn. 2007)</p>	<p>Discretionary</p>	<p>Exclusion was harmful error requiring new trial. Overturning precedent and holding that courts have discretion to evaluate admissibility of expert</p>

			testimony regarding eyewitness identification.
Texas	<i>Weatherred v. State</i> , 15 S.W.3d 540 (Tex. Crim. App. 2000)	Discretionary	Exclusion of testimony not an abuse of discretion. Appellant failed to carry his burden of showing that the proffered testimony was scientifically reliable or relevant.
Utah	<i>State v. Clopten</i> , 223 P.3d 1103 (Utah 2009)	Discretionary	Abused discretion in refusing to admit. Trial court ruling reversed and remanded because the testimony of the expert was both reliable and accurate. Also, the expert's testimony would substantially assist jurors and could change the outcome of the case.
Vermont	<i>State v. Percy</i> , 595 A.2d 248 (Vt. 1990)	Discretionary	Can be admitted if the identification is a key element in the State's case and its accuracy is not adequately addressed by cross-examination, closing arguments, or otherwise corroborated by the evidence.
Virginia	<i>Currie v. Commonwealth</i> , 515 S.E.2d 335 (Va. Ct. App. 1999)	Discretionary	Discretion not abused in refusing to admit all testimony. It was not an error to limit expert witness's testimony concerning the correlation between eyewitness certainty and

			accuracy, and those other areas of witness's proffered testimony which were within the common knowledge of the jurors. However, testimony on memory processes and cross-racial identifications are beyond the ken of laypersons and appropriately admitted.
Washington	<i>State v. Cheatam</i> , 81 P.3d 830 (Wash. 2003)	Discretionary	Discretion not abused in refusing to admit. The courts must consider whether eyewitness identification is a key element of the State's case, whether the testimony of the expert is sufficiently reliable to assist jurors, and whether the information is relevant evidence.
West Virginia	<i>State v. Taylor</i> , 490 S.E.2d 748 (W. Va. 1997)	Discretionary	Discretion not abused in refusing to admit. The testimony would not have affected the overall outcome of the case due to corroborating evidence.
Wisconsin	<i>State v. Shomberg</i> , 709 N.W. 2d 370 (Wis. 2006)	Discretionary	Discretion not abused in refusing to admit. Trial court found that defendant did not establish that expert testimony was necessary to overall case. However, discretion to admit such evidence rests

			with trial court, under a flexible list of factors, to protect against unreliable identification.
Wyoming	<i>Engberg v. Meyer</i> , 820 P.2d 70 (Wyo. 1991)	Discretionary	Discretion not abused in refusing to admit. The court recognizes the modern trend more favorable to the admission of expert testimony relating to eyewitness identification, but holds that their consistent rule is that the admission of expert testimony is within the discretion of the trial court.

Exhibit C

EXHIBIT C

TABLE OF FEDERAL COURT DECISIONS REGARDING THE ADMISSIBILITY OF EYEWITNESS EXPERT TESTIMONY

First Circuit	<i>United States v. Rodriguez-Berrios</i> , 573 F.3d 55, 71 (1 st Cir. 2009), cert. denied, 130 S. Ct. 1300 (2010)	Discretion not abused in exclusion. The First Circuit sustained the district court’s ruling not to admit the testimony based on its consideration of several factors including the fact that the government did not solely rely on the eyewitness identification to prove its case and its determination that the subjects of the expert testimony (lighting, lack of attention, and post-event information) were particularly susceptible to cross-examination. “[W]e have consistently maintained that the admission of such testimony is a matter of case-by-case discretion and have refused to adopt such a blanket rule for its admission or exclusion.”
Second Circuit	<i>United States v. Lumpkin</i> , 192 F.3d 280, 289 (2d Cir. 1999)	Discretion not abused in exclusion. The Second Circuit upheld the district court’s ruling that the expert could not testify on the confidence-accuracy relationship. “Dr. Lieppe’s proposed testimony intrudes too much on the traditional province of the jury to assess witness credibility.”
Third Circuit	<i>United States v. Brownlee</i> , 454 F.3d 131 (3d Cir. 2006)	Discretion abused in exclusion. The Third Circuit reversed and remanded the district court’s decision to exclude certain categories of expert testimony regarding the reliability of eyewitness testimony. “Given that ‘witnesses oftentimes profess considerable confidence in erroneous identifications,’ expert testimony was the only method of imparting the knowledge concerning confidence-accuracy correlation to the jury.”
Fourth Circuit	<i>United States v. Harris</i> , 995 F.2d 532 (4 th Cir. 1993) <i>See also United States v. White</i> , 309	Discretion not abused in exclusion. The Fourth Circuit affirmed the district court’s judgment, finding that none of the limited circumstances under which courts allow expert testimony on eyewitness identification were present in this case.

	Fed. Appx. 772 (4 th Cir. 2009) ¹	
Fifth Circuit	<i>United States v. Moore</i> , 786 F.2d 1308 (5 th Cir. 1986) <i>See also United States v. McGinnis</i> , 201 Fed.Appx. 246 (5 th Cir. 2006) ²	Discretion not abused in exclusion. The decision whether to admit this testimony is squarely within the discretion of the trial judge and properly so. “This Court accepts the modern conclusion that the admission of expert testimony regarding eyewitness identifications is proper, and we have no prior contrary authority which binds us.” This is not a case in which the eyewitness identification testimony is critical. Even if the identifications of the defendants are completely disregarded, the other evidence of guilt are overwhelming.
Sixth Circuit	<i>United States v. Smithers</i> , 212 F.3d 306 (6 th Cir. 2000) <i>See also United States v. Smead</i> , 317 Fed. Appx. 457 (6 th Cir. 2008) ³	Discretion abused in exclusion without a <i>Daubert</i> hearing. “Recognizing the dichotomy between eyewitness errors and jurors’ reliance on eyewitness testimony, this Circuit has held that expert testimony on the subject of eyewitness identification is admissible.”
Seventh Circuit	<i>United States v. Bartlett</i> , 567 F.3d 901 (7 th Cir. 2009)	Discretion not abused in exclusion. Noting, however, that “[e]xpert evidence can help jurors evaluate whether their beliefs about the reliability of eyewitness testimony are <i>correct</i> .”
Eighth Circuit	<i>United States v. Martin</i> , 391 F.3d 949 (8 th Cir. 2004)	Discretion not abused in exclusion. The Eighth Circuit upheld the exclusion because “[t]he general reliability of eyewitness identification is a matter of common understanding,” and because in that case the

¹ This is an unpublished opinion finding that the lower court did not abuse its discretion in excluding expert testimony.

² This is an unpublished opinion finding that the lower court did not abuse its discretion in excluding expert testimony.

³ This is an unpublished opinion following *Smithers* and noting that it was not an abuse of discretion for the trial court to exclude a portion of expert’s testimony while admitting another portion. The Sixth Circuit here stated, “expert testimony regarding eyewitness identifications ‘inform[s] the jury of *why* the eyewitness’ identifications were inherently unreliable’ and, thus, provide a ‘scientific, professional perspective that no one else [can] offer [] to the jury.’ The significance of an expert’s testimony ‘cannot be overstated’ because, without it, a jury has ‘no basis beyond defense counsels word to suspect the inherent unreliability of an eyewitness identification.’” *Smead*, 317 Fed. Appx. at 464 (citations omitted).

		eyewitness testimony was corroborated. It cited <i>United States v. Davis</i> , for the proposition that courts “are ‘especially hesitant to find an abuse of discretion unless the government's case against the defendant rested exclusively on uncorroborated eyewitness testimony.’” 260 F.3d 965, 970 (8th Cir.2001) (citation omitted).
Ninth Circuit	<i>United States v. Rincon</i> , 28 F.3d 921 (9 th Cir. 1994), cert. denied, 513 U.S. 1029 (1994) <i>See also United States v. Jernigan</i> , 44 Fed. Appx. 127 (9 th Cir. 2002) ⁴	Discretion not abused in exclusion. The Ninth Circuit held that “[e]ven though the factors about which [the expert] was to testify may have been informative, the district court conveyed that same information by providing a comprehensive jury instruction to guide the jury's deliberations.”
Tenth Circuit	<i>United States v. Rodriguez-Felix</i> , 450 F.3d 1117 (10 th Cir. 2006)	Discretion not abused in exclusion. “Nonetheless, we remain cognizant that while cross-examination is often effective, expert testimony, when directed at complex issues, may provide a more effective tool for rebutting an eyewitness's testimony.”
Eleventh Circuit	<i>United States v. Smith</i> , 122 F.3d 1355 (11 th Cir. 1997), cert. denied 522 U.S. 1021 (1997) <i>But see, United States v. Smith</i> , 370 Fed. Appx. 29 (11 th Cir. 2010) ⁵	Discretion not abused in exclusion. The Eleventh Circuit explained that, under the prior panel precedent rule, it is bound by earlier panel holdings. Expert testimony not needed because the jury could determine reliability under the tools of cross-examination and jury instruction to highlight particular problems in eyewitness recollection. The defendant was successful in this case in getting the district court to instruct the jury about cross-racial identification, potential bias in earlier identification, delay between event and time of identification, and stress.

⁴ This is an unpublished opinion finding that the lower court did not abuse its discretion in excluding expert testimony.

⁵ That decision (not published in the Federal Reporter) noted that during the trial, Dr. Solomon Fulero testified as an expert witness for defendant regarding the reliability of eyewitness testimony and memory. In particular, Dr. Fulero noted factors that lessen the reliability of eyewitness identification, including the passage of time, stress, and cross-racial identification.