Reconciling the Law with the Science of Eye-Witness Identification

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Reconciling the Law with the Science of Eyewitness Identification

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Root cause analyses of DNA exonerations have revealed that over seventy percent of wrongful convictions have included eyewitness misidentifications. See Brandon L. Garrett, *Judging Innocence*, 108 Colum. L. Rev. 55, 60 (2008)("[T]he vast majority of exonerees (79%) were convicted based on eyewitness testimony; we now know that all of these witnesses were incorrect."). "Virtually all of the pertinent studies since 1932 have pinpointed eyewitness misidentification as the single most pervasive factor in the conviction of the innocent." Daniel S. Medwed, *Anatomy of a Wrongful Conviction: Theoretical Implications and Practical Solutions*, 51 Vill. L. Rev. 337, 358 (2006). Social scientists have developed a comprehensive body of research on the nature of memory and the factors that can impact the accuracy and reliability of an eyewitness's identification. We now have the opportunity, if not the obligation, to reconcile the law with the science of eyewitness identification.

This handout contains two sections. The first section discusses the scientific research on eyewitness identification. The 2014 Report from the National Academy of Sciences: Identifying the Culprit: Assessing Eyewitness Identification (2014)("NAS Report"), provides a thorough review and outline of this research. The Report can be found at: https://www.innocenceproject.org/wp-content/uploads/2016/02/NAS-Report-ID.pdf.[1] The second section provides a non-exhaustive list of ways that science has been reviewed and adopted in the law. A good starting point is State v. Henderson, 27 A.3d 872 (N.J. 2011), which has been cited by nearly every court that has subsequently incorporated the science of eyewitness identification into the law.

[1] The internet contains other prepublication drafts of this report that are substantively the same as the published version. The page citations will vary depending on the draft. The citations in this handout refer to the report located at the above web address.

I. SOCIAL SCIENCE RESEARCH ON EYEWITNESS IDENTIFICATION

Background: Human memory is not like a video recording that a witness need only replay to remember what happened. Henderson, 27 A.3d at 894. It consists of three stages: acquisition, retention, and recall. The acquisition stage occurs when a witness perceives an event, and the information is encoded into a memory in his or her brain. The retention stage refers to the time period between acquisition and the witness's attempt to recall the information. The retrieval stage occurs when the witness attempts to recall the stored information.

"The accuracy and reliability of eyewitness identification are critically modulated by variables that include a witness' extant cognition and memory and related psychological and situational factors at the time of the event, over the ensuing intervals, and at all stages of recall." NAS Report, at 16. "Because a crime is an unexpected event, one can draw a critical distinction between variables that reflect the witness' unplanned situational or cognitive state and the variables that reflect controllable conditions and internal states following the witnessed events. Researchers categorize these factors, respectively, as estimator variables and system variables." Id.

A. System Variables: System variables are factors that the criminal justice system can influence through the use of best practices. The following is a list of system variables identified in the research.

1. Blind v. Non-blind Administration of Lineups: The "experimenter expectancy effect" is a well-established phenomenon where experimenters obtain the results that they expect, in part, because they have helped shaped that response. Henderson, 27 A.3d at 896 (citing R. Rosenthal & D.B. Rubin, *Interpersonal Expectancy Effects: The First 345 Studies*, 3 Behav. & Brain Sci. 377-86 (1978)). This phenomenon occurs in identification procedures when the person administering the lineup knows the identity of the suspect. The administrator may consciously or unconsciously give

suggestive information to the witness. Henderson, 27 A.3d at 896; State v. Lawson, 291 P.3d 673, 705-06 (Or. 2012). Nonverbal cues such as tone, demeanor, body language, pauses, and facial expressions give information to the witness that can significantly affect reliability of an identification. Henderson, 27 A.3d at 896-97; Lawson, 291 P.3d at 705-06.

Double-blind or blinded identification procedures should be used to guard against conscious and unconscious administrator influence. See Amy Klobuchar, Nancy Steblay, Hilary Caligiuri, *Improving Eyewitness Identifications: Hennepin County's Blind Sequential Lineup Pilot Project*, 4 Cardozo Pub. L. Pol'y & Ethics J. 381, 389-90 (2006); NAS Report, at 106. Double-blind administration of an eyewitness identification procedure occurs when the person administering the procedure does not know which lineup member is the police suspect. "[T]he purpose of double blinding is to prevent the conscious or subconscious expectations of the administrator from influencing the witness…outcomes." NAS Report, at 26. A similar effect can be achieved by "blinding" an administrator: when the person administering the identification procedure knows which individual is the police suspect but employs a procedure to prevent him or her from knowing which lineup member is being viewed by the witness. See Id.; Henderson, 27 A.3d at 896-97; Lawson, 291 P.3d at 705-06. For example, an administrator could place the line-up photographs into individual folders and shuffle them before being handed to the eyewitness. This procedure is called the Folder Shuffle Method. Id. at 18. Witnesses should also be told the administrator is blind so they do not attempt to infer information from the administrator's behavior. Lawson, 291 P.3d at 706.

2. Pre-identification Instruction: Research has demonstrated that informing the witness in advance that the suspect may not be present in the lineup and that they need not make a choice reduced relative judgment and substantially reduced misidentifications. See Nancy M. Steblay, *Social Influence in Eyewitness Recall: A Meta-Analytic Review of Lineup Instruction*

Effects, 21 L. & Hum. Behav. 283 (1997). "Relative judgment refers to the fact that the witness seems to be choosing the lineup member who most resembles the witnesses' memory **relative** to other lineup members." Id. (quoting Gary L. Wells, *The Psychology of Lineup Identifications*, 14 J. Applied Soc. Psychol. 89, (1984)). Relative judgment may cause an eyewitness to choose the best look-alike even when the actual perpetrator is not in the lineup. Ibid. "Identification procedures should [therefore] begin with instructions to the witness that the suspect may or may not be in the lineup or array and that the witness should not feel compelled to make an identification." Henderson, 27 A.3d at 897; see NAS Report, at 107-08.

3. Lineup and Photo Array Construction: "Lineup composition may bias not only witnesses' choices, but also their confidence in those choices…." Steve D. Charman, et al., *The Dud Effect: Adding Highly Dissimilar Fillers Increases Confidence in Lineup Identifications*, 35 L. & Hum. Behav. 479, 481 (2011). Mistaken identifications are more likely to occur when the suspect stands out from the other members of a lineup, otherwise known as a biased lineup. Henderson, 27 A.3d at 898; Lawson, 291 P.3d at 706-07. Witnesses who select a suspect from a biased lineup are also more likely to be confident in the identification when compared with a witness who made the identification from a fair lineup. Steve D. Charman, et al., *The Dud Effect: Adding Highly Dissimilar Fillers Increases Confidence in Lineup Identifications*, at 494.

Research has identified methods for constructing a fair lineup. The suspect should not be made to stand out from the other lineup members. Henderson, 27 A.3d at 898; Lawson, 291 P.3d at 706-07. Lineups should include a minimum of five fillers and only one suspect per lineup. Ibid. Fillers should also be chosen with reference to the witness's description rather than to the suspect's appearance. Lawson, 291 P.3d at 706-07. Fillers should match the suspect if the suspect differs in appearance from the witness's description but the investigation has led to other information

suggesting that the police suspect is the perpetrator. Lawson, 291 P.3d at 706-07. If a suspect has distinctive features such as scars or tattoos, they should be concealed or artificially added to all of the lineup fillers. Lawson, 291 P.3d at 707.

4. Suggestive Feedback and Recording Confidence: Information provided both before and after an identification procedure can affect the witness's memory. Henderson, 27 A.3d at 899; Lawson, 291 P.3d at 709. External information or assumptions used in questioning have the ability to contaminate a witness's memory, often without the witness's awareness. Lawson, 291 P.3d at 709. Confirmatory or post-identification feedback can reduce a witness's doubt and inflate confidence. Henderson, 27 A.3d at 899; Lawson, 291 P.3d at 710; Nancy K. Steblay, et al., *The Eyewitness Post Identification Feedback Effect 15 Years Later: Theoretical and Policy Implications*, 20 Psychol., Pub. Policy & L. 1, 11 (2014). News accounts, statements of other witnesses, and the normal evolution of a criminal investigation into a prosecution are all sources of post-event information that can contaminate a witness's memory. Henderson, 27 A.3d at 909; Lawson, 291 P.3d at 710. Research has also shown that the contaminating effect of misinformation is stronger when other factors compromise the witness' ability to encode information about the event. Elizabeth F. Loftus, *Planting Misinformation in the Human Mind: A 30-year Investigation of the Malleability of Memory*, 12 Learning & Memory 361, 362 (2005).

5. Multiple Viewings: "The reliability of an identification may suffer if the witness has viewed the suspect more than once during the investigation." Young v. State, 374 P.3d 395, 421 (Alaska 2016). Research has shown prior mugshot exposure decreases accuracy at a subsequent identification procedure and increases the risk of misidentification. See Kenneth A. Deffenbacher, et al., *Mugshot Exposure Effects: Retroactive Interference, Mugshot Commitment, Source Confusion, and Unconscious Transference*, 30 L. & Hum. Behav. 287, 306 (2006). Prior exposures can create

"source confusion" where the witness is unaware of whether the subsequent identification stems from a memory of the original events or from the earlier identification procedures. Id. at 289; see also Henderson, 27 A.3d at 900; Nancy K. Steblay & Jennifer E. Dysart, *Repeated Eyewitness Identification Procedures with the Same Suspect*, 5 J. of Applied Res. in Memory and Cognition 284 (2016). The best practice therefore is to shield witnesses from viewing both suspects and fillers more than once during an investigation.

6. Simultaneous v. Sequential Lineups: A large body of research demonstrates that sequential lineups are superior to simultaneous lineups in preventing misidentifications. See Nancy K. Steblay, et al., *Seventy-two tests of the sequential lineup superiority effect: a meta-analysis and policy discussion*, 17 Psych., Pub. Policy & L. 99 (2011); Gary L Wells, et al., *Double Blind Photo Lineups Using Actual Eyewitnesses: An Experimental Test of a Sequential Versus Simultaneous Lineup Procedure*, 39 L. & Hum. Behav. 1 (2015). The prevailing explanation for this difference is that simultaneous lineups allow the witness to easily engage in relative judgments instead of independent recollection.

7. Showups: "Showups are essentially single person lineups: a single suspect is presented to a witness to make an identification." Henderson, 27 A.3d at 902. Showups are inherently suggestive and create a substantial risk for misidentifications. Id. "[I]n contrast to lineups and photo arrays, which allow a witness with a faulty memory to pick someone other than the suspect, every positive identification in a showup implicates the suspect." Young, 374 P.3d at 421. "Showups seemingly provide little protection against witnesses who are inclined to guess, as witnesses tend to base their identifications on clothing." Id. (citing Jennifer E. Dysart et al., *Show-ups: The Critical Issue of Clothing Bias*, 20 Applied Cognitive Psychol. 1009, 1019-21 (2006)). "Research shows that an innocent suspect who resembles the actual perpetrator is more likely to be

incorrectly identified in a showup than in a lineup." Id. (citing Nancy K. Steblay et al., *Eyewitness accuracy rates in police showups and lineup presentations: A Meta-Analytic Comparison*, 27 L. & Hum. Behav. 523 (2003)).

Showups should be done only in the immediate aftermath of the crime, when the witness's memory is fresh. Research has shown that using a showup procedure even a relatively short period of time after the event can increase the risk of misidentification. See A. Daniel Yarmey et al., *Accuracy of Eyewitness Identifications in Showups and Lineups*, 20 L. & Hum. Behav. 459, 464-65 (1996).

B. Estimator Variables: Estimator variables are those which are present either at the time of the event or during the retention interval. The following is a list of commonly recognized estimator variables.

1. Stress: "Even under the best viewing conditions, high levels of stress can diminish an eyewitness' ability to recall and make an accurate identification." Henderson, 27 A.3d at 904; *see also* NAS Report at 94-95; Lawson, 291 P.3d at 701. According to one meta-analysis, correct identification rates fell from approximately 59 percent in low stress situations to 39 percent in high stress situations. See Kenneth A. Deffenbacher et al., *A Meta-Analytic Review of the Effects of High Stress on Eyewitness Memory*, 28 L. & Hum. Behav. 687, 695 (2004). Another study found that exposing subjects to physical threats of violence substantially decreased correct identifications and drastically increased the percentage of false identifications. *See* Charles A. Morgan III, et al., *Accuracy of Eyewitness Memory for Persons Encountered During Exposure to Highly Intense Stress*, 27 Int'l J. L. & Psychiatry 265, 272 (2004).

2. Weapons Focus: "Weapons focus refers to the visual attention that eyewitnesses give to a perpetrator's weapon during the course of a crime." Nancy M. Steblay, *A Meta-Analytic Review*

of the Weapons Focus Effect, 16 L. & Hum. Behav. 413, 414 (1992). "Research suggests that the presence of a weapon at the scene of a crime captures the visual attention of the witness and impedes the ability of the witness to attend to other important features of the visual scene, such as the face of the perpetrator." NAS Report, at 93. "The ensuing lack of memory of these other key features may impair recognition of a perpetrator in a subsequent lineup." Id.

3. Exposure Duration: Research has demonstrated that a witness's short viewing time generally reduces the accuracy of an identification. See Brian H. Bornstein, et al., *Effects of Exposure Time and Cognitive Operations on Facial Identification Accuracy*, 18 Psychol., Crime & L. 473, 481 (2012). "[T]he additional information available from longer viewing times reduces uncertainty and enables better detection and discrimination of visual stimuli." NAS Report at 98; see Henderson, 27 A.3d at 905; Lawson, 291 P.3d at 702. Moreover, research has shown that witnesses consistently tend to overestimate the duration of a short event, particularly where much was going on or the event was stressful. Henderson, 27 A.3d at 905 (citing Elizabeth F. Loftus et al., *Time Went By So Slowly: Overestimation of Event Duration by Males and Females*, 1 Applied Cog. Psychol. 3, 10 (1987)).

4. Lighting and Distance: "[G]reater distance between a witness and a perpetrator and poor lighting conditions can diminish the reliability of an identification." Henderson, 27 A.3d 906. Research has shown that the total amount of visually extractable information is effectively reduced when luminance is low and distance is greater. Geoffrey R. Loftus, *Picture Perception: Effects of Luminance on Available information and Information Extraction Rate*, 114 J. Applied Psychol. 324, 354 (1985); Geoffrey R. Loftus & Erin M. Harley, *Why is it easier to identify someone closer than far away?*, 12 Psychonomic Bull. and Rev. 43 (2005). People also have difficulty estimating distances, id. (citing R.C.L. Lindsay et al., *How Variations in Distance Affect Eyewitness Reports*

and Identification Accuracy, 32 L. & Hum. Behav. 526 (2008)), and tend to estimate a shorter distance to an observed event. Lawson, 291 P.3d at 702 (citing Gary L. Wells and Amy L. Bradfield, *"Good, You Identified the Suspect": Feedback to Eyewitness Distorts their Reports of the Witnessing Experience*, 83 J. Applied Psychol. 360 (1998)).

5. Witness Characteristics: The age of both the witness and the suspect can also bear on reliability. Research has shown that both children and elderly persons are more likely to make misidentifications. Henderson, 27 A.3d at 906 (citing Joanna D. Pozzulo & R.C.L. Lindsay, *Identification Accuracy of Children Versus Adults: A Meta-Analysis*, 22 L. & Hum. Behav. 549, 563-565 (1998) and James C. Bartlett & Anna Memon, *Eyewitness Memory in Young and Older Adults*, 2 The Handbook of Eyewitness Psychology: Memory for People 309, 317-19 (2007)). Moreover, some research has identified an "own-age bias" where the witnesses are better able to recognize members of their own age group than people of other ages. Id. at 906.

Drug and alcohol impairment can also affect the reliability of an identification. High levels of alcohol consumption promote false identifications. Id.

6. Characteristics of the Perpetrator: "Disguises and changes in facial features can affect a witness' ability to remember and identify a perpetrator." Henderson, 27 A.3d at 907. Research has shown that the encoding process for storing information about a face is impaired when a perpetrator is wearing glasses, a hat, or has facial hair. "Disguises as simple as hats have been shown to reduce identification accuracy." Henderson, 27 A.3d at 907 (citing Brian L Cutler et al., *Improving the Reliability of Eyewitness Identification: Putting Context into Context*, 72 J. Applied Psychol. 629, 635 (1987)); *see* Brian L. Cutler, *A Sample of Witness, Crime and Perpetrator Characteristics Affecting Eyewitness Identification Accuracy*, 4 Cardozo Pub. L. Pol'y & Ethics J. 327, 333 (2006); Lawson, 291 P.3d at 703.

7. Memory Decay: The more time that passes between the incident and identification, the less reliable the identification becomes. Kenneth A. Deffenbacher et al., *Forgetting the Once–Seen Face: Estimating the Strength of an Eyewitness's Memory Representation*, 14 J. Experimental Psychol.: Applied 139, 142 (2008). The effect of time on memory retention depends largely on the strength of the original memory, which is impacted by estimator variables present during the memory encoding process. Id. at 139. Moreover, the rate of memory loss is not constant. "Rate of memory loss for an unfamiliar face is greatest right after the encounter and then levels off over time." Id. at 148.

8. Cross-Racial Identifications: People have greater difficulty identifying members of another racial group. See 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, 21 (2001). The NAS Report cited research by the Innocence Project recognizing that "cross racial (mis)identification was present in 42 percent of cases in which an erroneous identification was made." *See* NAS Report at p. 96; The Innocence Project, *What Wrongful Convictions Teach Us About Racial Inequality*, at p. 3. "The existence of "cross-race effect (CRE)—that people are generally less accurate at identifying members of other races than they are at identifying members of their own race—has [similarly] reached a near consensus in the relevant scientific community and has been recognized by courts and scholars alike." Commonwealth v. Bastaldo, 32 N.E.3d 873, 880–81 (Mass. 2015) (citing Commonwealth v. Gomes, 22 N.E.3d 897 (2015); State v. Guilbert, 49 A.3d 705, 721-22 (Conn. 2012); State v. Cabagbag, 277 P.3d 1027 (Haw. 2012); Henderson, 27 A.3d at 907; and Lawson, 291 P.3d at 703).

9. Co-Witness Feedback: "Co-witness feedback may cause a person to form a false memory of details that he or she never actually observed." Henderson, 27 A.3d at 908; see Helen M.

Patterson & Richard I. Kemp, *Comparing Methods of Encountering Post-Event Information: The Power of Co-Witness Suggestion*, 20 Applied Cognitive Psychol. 1083, 1083 (2006). Similar research has also shown that witness confidence in an identification rose when the witnesses were told that a co-witness agreed with them and fell when the co-witness disagreed. C.A. Elizabeth Luus & Gary L. Wells, *The Malleability of Eyewitness Confidence: Co-Witness and Perseverance Effects*, 79 J. of Applied Psychol. 717-18 (1994). The best practice is for the officer administering the identification procedure to ask questions designed to determine whether the witness has spoken to anyone about the event and, if so, what was discussed. Henderson, 27 A.3d at 909.

II. APPLICATIONS OF EYEWITNESS IDENTIFICATION RESEARCH IN THE LAW

On July 14, 2017, the Minnesota Supreme Court issued an Order directing the Advisory Committee on the Rules of Evidence to review and evaluate research concerning the reliability and fallibility of eyewitness identification testimony. The Court ordered the Committee to report its findings and any recommendations by March 1, 2018. The Court explicitly directed that recommendations need not be limited to modification of the Rules of Evidence.

Jurisdictions throughout the United States have used several different methods to incorporate eyewitness identification science evidence into the law. The list below provides some examples.

A. Legislation: Wisc. Stat. §175.50; Colo. Stat. §16-1-109; Conn. Gen. Stat. §54-1p; Ga. Code Ann. §17-20; 75 Ill. Comp. Stat. Ann. §5-107A; Md. Cod. Ann., Public Safety §3-506.1; Neb. Rev. Stat. §81-1455; Nev. Rev. Stat. §171.1237; N.C. Gen. Stat. §15A-284.52; Ohio Rev. Code Ann. §2933.83; Texas Code Crim. Proc. Art. 38.20; Utah Code Ann. §77-8-4; Vt. Stat. Ann. §5581; Va. Code. Ann. §19.2-390.02; W. Va. Code Ann. §62-1E.

B. Law Enforcement Policies: Many law enforcement agencies now have policies that incorporate research to dictate when and how to conduct identification procedures. The Minneapolis

Police Department has such a policy. See Minneapolis Police Department Policy and Procedure Manual § 10-208. The policy can be found at: http://www.minneapolismn.gov/police/policy/mpdpolicy_10-200_10-200

C. Rules of Evidence: State v. Lawson, 291 P.3d 673 (Or. 2012).

D. Due Process: Young v. State, 374 P.3d 395 (Alaska 2016); State v. Almaraz, 301 P.3d 242 (Idaho 2013); State v. Dickson, 141 A.3d 810 (Conn. 2016).

E. Expert Testimony: State v. Clopten, 223 P.3d 1103 (Utah 2009); State v. Guilbert, 49 A.3d 705 (Conn. 2012); People v. Lerma, 47 N.E.3d 985, 994 (Ill. 2016); Commonwealth v. Walker, 92 A.3d 766, 789 (Pa. 2014); State v. Almaraz, 301 P.3d 242, 258 (Idaho 2013); Minor v. United States, 57 A.3d 406, 414-16 (D.C. Ct. App. 2012); Tillman v. State, 354 S.W.3d 425, 442-43 (Tex. Crim. App. 2011).

F. Jury Instructions: State v. Henderson, 27 A.3d 872 (N.J. 2011); Commonwealth v. Gomes, 22 N.E.3d 897 (Mass. 2015); Commonwealth v. Bastaldo, 32 N.E.2d 873 (Mass. 2015); State v. Cabagbag, 277 P.3d 1027 (Haw. 2012).