BLACKSTONE AND THE BALANCE
OF EYEWITNESS IDENTIFICATION EVIDENCE

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I. INTRODUCTION

Blackstone's *Commentaries on the Laws of England* is comprised of four books, written in two volumes, running well over 1500 pages in length. Within this enormous work there may be no more well-known or more memorable line than that which has come to be known as the Blackstone Ratio: "the law holds that it is better that ten guilty persons escape than that one innocent suffer."[1]

The Blackstone Ratio clearly acknowledges that there are two kinds of errors that can be made within the criminal justice system, and that one, the false conviction, is far worse than the other: the false acquittal. Two other points are also implicit within the Blackstone Ratio, specifically that there is a trade-off relationship between false convictions and false acquittals, and the criminal justice system has some control over that trade-off in terms of the kinds of errors, false acquittals or false convictions, it will allow. The implication of the Blackstone Ratio is that the criminal justice system *could* reduce the number of false convictions, but in the process would lose some correct convictions. Alternatively, the criminal justice system *could* increase the number of correct convictions, but would likely convict more innocent people as well.

Without these two assumptions, regarding the trade-off between false convictions and false acquittals, and regarding the criminal justice system's role in determining that trade-off, the Blackstone Ratio would be meaningless. There would be little point in considering the proper relationship between false convictions and

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[1] 4 WILLIAM BLACKSTONE, COMMENTARIES *358.

false acquittals if it was possible somehow to reduce both errors simultaneously, or if the criminal justice system was powerless to control the relationship between the two.

The focus here is on eyewitness identification evidence for two reasons. First, the connection between eyewitness identification and wrongful conviction is well-established. In approximately 75% of the 261 cases in which innocent people were convicted and later exonerated through DNA evidence, the original conviction was obtained in whole or in part through mistaken eyewitness identification.[2] These and other archival analyses of false convictions have led to a consensus among legal scholars that mistaken eyewitness identification is one of the primary causes of wrongful convictions in the United States.[3] This dubious distinction begs the question, *why* does eyewitness identification contribute to so many wrongful convictions? An answer to this question brings us to the second reason for focusing on eyewitness evidence: it is extremely malleable, both in terms of the underlying information in memory and in the decision processes that operate on that information. This malleability not only affects the outcome of the identification procedure, in terms of whether a witness fails to identify the guilty or falsely identifies the innocent, but also influences the way eyewitness evidence flows through the criminal justice process.

The relationship between mistaken identification and wrongful conviction is often described retrospectively by starting with the wrongful conviction and tracing the path backwards to the cause of that wrongful conviction. The statistic linking wrongful convictions to mistaken identifications is such a retrospective analysis.[4] Of course, evidence flows forward in the criminal justice system, from

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[2] *Understand the Causes*, INNOCENCE PROJECT, http://www.innocenceproject.org/understand/Eyewitness-Misidentification.php (last visited May 25, 2011).

[3] Samuel R. Gross et al., *Exonerations in the United States 1989 through 2003*, 95 J. CRIM. L. & CRIMINOLOGY 523, 530 (2005); C. Ronald Huff et al., *Guilty Until Proved Innocent: Wrongful Conviction and Public Policy*, 32 CRIME & DELINQ. 518, 524 (1986); Arye Rattner, *Convicted But Innocent: Wrongful Conviction and the Criminal Justice System*, 12 LAW & HUM. BEHAV. 283, 285, 291 (1988). There is some disagreement as to whether mistaken identification is *a* primary cause or *the* primary cause of false convictions in the U.S. *See* Steven B. Duke et al., *A Picture's Worth a Thousand Words: Conversational Versus Eyewitness Testimony in Criminal Convictions*, 44 AM. CRIM. L. REV. 1, 1–2 (2007). For the present purposes this distinction is irrelevant.

[4] Anecdotally, people often misconstrue the meaning of the retrospective analysis. The finding that 75% of false convictions involve mistaken eyewitness identification is uninformative with respect to the forward flow of evidence, i.e., the proportion of eyewitness identifications that are false identifications, or the proportion of false identifications that lead to false convictions. INNOCENCE PROJECT, *supra* note 2.

eyewitness identification to case dispositions, not in the reverse. Thus, in order to better understand the relationship between false identification and false conviction, one must look at the forward flow of identification evidence.

The forward flow of eyewitness identification evidence is considered here as a series of filters created by the decisions of witnesses, police, attorneys, judges, and jurors. Witnesses first must decide whether to report the crimes they have seen and whether to participate in criminal investigations.[5] Evidence from a number of sources suggests that as many as half of the serious crimes are not reported to police. This aspect of the filter/decision process lies somewhat outside the scope of the present paper; however one aspect of this initial filtering of eyewitness evidence is worth noting. The witnesses who choose to participate in criminal investigations are not necessarily those who are in the best position to provide reliable evidence.[6]

Not all witnesses who come forward to participate in a criminal investigation will be presented with an identification procedure. Police must make the decisions as to whether and how to conduct an identification procedure. Those witnesses may be presented with a suspect through a one-person showup or a multiple-person lineup, and must decide whom to identify or whether to make any identification at all. Prosecutors and defense attorneys must make decisions regarding each case based on their evaluation of the evidence and its presumed impact on the jury. For the small subset of cases that are not resolved through plea bargain agreements, the trial judge must decide whether to allow the identification evidence to be heard by the jury. Finally, for that small minority of cases

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[5] This aspect of the witness decision-making process falls outside the main scope of the present paper. However, many witnesses do not participate in the criminal justice process. *See* BUREAU OF JUST. STAT., U.S. DEP'T OF JUSTICE, PUB. NO. 231327, NATIONAL CRIMINAL VICTIMIZATION, 2009 (2010), *available at* http://bjs.ojp.usdoj.gov/content/pub/pdf/cv09.pdf. The decision to report crime to the police, and to participate in the criminal justice process is based on many social and cognitive factors. *See* Martin S. Greenberg & Scott R. Beach, *Property Crime Victims' Decision to Notify the Police: Social, Cognitive, and Affective Determinants*, 28 LAW & HUM. BEHAV. 177, 177 (2004); 9 MARTIN S. GREENBERG & R. BARRY RUBACK, AFTER THE CRIME: VICTIM DECISION MAKING (1992).

[6] For example, witnesses who know the perpetrator are less likely to report the crime than witnesses who do not know the perpetrator. Simon I. Singer, *The Fear of Reprisal and the Failure of Victims to Report a Personal Crime*, 4 J. QUANTITATIVE CRIMINOLOGY, 289, 294–296 (1988). Also, a survey of crime witnesses and victim showed that witnesses and victims who stated that they got a better look at the perpetrator were less likely to report the crime to police. Rakel P. Larson & Steven E. Clark, Poster Session at the 12th Annual Meeting of the Society for Personality and Social Psychology: Intent Versus Actual Reporting of Crime: A Procedural Justice Analysis (Jan. 29, 2011).

that go to trial, the jury must decide whether to render a guilty or not-guilty verdict. The spirit of Blackstone's Ratio looms over each of these decisions.

These various decision-makers and the decisions they make will be examined here within a theoretical framework loosely based on Detection Theory. At the core of this theoretical foundation is the proposition that all of these decisions—by witnesses, law enforcement, judges, and juries—involve a trade-off between the guilty who escape and the innocent who may suffer.

II. THEORETICAL FRAMEWORK

Detection Theory was initially developed and applied to sensory processing tasks that have little in common with the decision-making tasks described here.[7] However, at its simplest level (the level that is of interest to legal decision-making) Detection Theory describes decision-making in terms of two components, the information available to the decision-maker and a simple binary decision rule. The diagnosticity of the information determines the overall accuracy of the decisions. The decision processes have no effect on overall accuracy, but determine the kinds of decisional errors that will be made.

An example from eyewitness identification illustrates the Detection Theory. When a suspect is presented to a witness, the witness may compare that suspect to his or her memory of the perpetrator. If that match between suspect and memory is high, above some *decision criterion*, the witness will say "yes, that's him." However, if the match is low, below that decision criterion, the witness will say "no, that's not him."[8] The probability of an identification error of some kind depends on the diagnosticity of the match information. The pattern of errors depends on the placement of the decision criterion. To the extent that the witness's decision criterion is low, the likelihood of a false negative, saying "no" when the suspect is guilty, will be low, but the risk of a false positive, saying "yes" when the suspect is innocent, will be high. In other words, few guilty may escape, but many innocents may suffer. If

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[7] *See* Wilson P. Tanner & John A. Swets, *A Decision-Making Theory of Visual Detection*, 61 PSYCHOL. REV. 401, 401–409 (1954).

[8] *See* NEIL A. MACMILLAN & C. DOUGLAS CREELMAN, DETECTION THEORY: A USER'S GUIDE 7–28 (1991); *see, e.g.*, Steven E. Clark, *A Memory and Decision Model for Eyewitness Identification*, 17 APPLIED COGNITIVE PSYCHOL. 629 (2003) (providing a more specific application to eyewitness identification).

the witness raises his or her decision criterion, requiring higher matches between suspect and memory in order to say "yes," the false positive rate will decrease, and the false negative rate will increase. By raising the decision criterion, the number of guilty who escape will increase, but the number of innocent who suffer will decrease.

This theory has also been extended to the task of the juror.[9] The underlying information is the evidence of guilt. If the evidence of guilt is high, above the decision criterion, the juror will render a verdict of guilty, whereas if the evidence of guilt is lower, below that decision criterion, the juror will render a verdict of not guilty. As in the previous example, if the juror's criterion is low then the conviction rate will be high. Few guilty men will escape justice, but many innocent will be falsely convicted. If the juror raises the decision criterion, more guilty men will escape justice and fewer innocents will suffer.

These examples illustrate the core components of Detection Theory. Variation in the quality of the underlying information leads to changes in accuracy, whereas variation in the decision criterion has no effect on the overall level of accuracy, but instead determines the particular kinds of errors that will be made. Thus, raising one's decision criterion does not make the decision-maker more accurate, but only shifts the distribution of errors, reducing false positives in exchange for false negatives. Detection Theory provides a simple framework for separating the diagnosticity of the underlying information from the decision-making process, and for understanding the trade-offs in errors, such as the trade-off between guilty men who escape and the innocent who suffer.

Section III of this paper examines the information that underlies eyewitness identification as well as the trade-off between correct identifications of the guilty that may be lost in exchange for false identifications of the innocent that are avoided. Section IV examines the flow of eyewitness identification evidence from the

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[9] See, e.g., Michael L. DeKay, *The Difference between Blackstone-Like Error Ratios and Probabilistic Standards of Proof,* 21 LAW & SOC. INQUIRY 95 (1996). It should be noted that while Detection Theory applications to jury decision-making are useful for illustrating the distinction between the diagnosticity of the evidence versus the criterion placement of the juror (i.e., the standard of proof), such simplifications will fail to capture other important aspects of the juror decision process. Most notably, according to the Story Model of juror decision-making, jurors do not simply weigh the evidence, but rather impose narratives on the evidence in order to evaluate alternative stories of "what happened." *See* Nancy Pennington & Reid Hastie, *A Cognitive Theory of Juror Decision Making: The Story Model,* 13 CARDOZO L. REV. 519 (1991).

identification to the trial. Section V focuses on the Supreme Court decision-making that governs whether identification evidence is admissible at trial. Section VI looks at juror knowledge and decision-making about eyewitness identification evidence. These three aspects of identification evidence, together, describe the information and the criterion-setting for eyewitness identification evidence as it flows through the criminal justice system.

III. EYEWITNESS IDENTIFICATION

A. The Research Paradigms

There are two primary research paradigms in the area of eyewitness identification, one based on archival analyses of actual crimes and the other based on experimental simulation of staged crimes. The two paradigms have complementary strengths and weaknesses. Archival analyses of actual crimes can be difficult to interpret for at least two reasons. The most serious difficulty is the ground-truth problem: in actual criminal cases one cannot be sure whether the suspect is guilty or innocent. Even when there are multiple witnesses and even when there appears to be corroborating evidence, one cannot be sure whether the positive identification of the suspect is a correct identification of the perpetrator or a false identification of an innocent person. A second challenge for archival analyses is representativeness. Archival analyses of DNA exoneration cases, for example, may reveal police procedures that are associated with the false identifications in those cases, but they less informative as to how often those procedures are used or how reliable those procedures are in general. To illustrate this last point, assume that some factor x is present in 20 of 100 known false convictions, where the conviction was based on a false identification. One might conclude that factor x is a contributing cause of false identifications, as it occurs in 20% of known false identification cases. But what if factor x is also present in 20% of known correct identifications? In order to fully understand the effect of a particular variable, one has to observe its effect both when the suspect is innocent and when the suspect is guilty. This is difficult to do in an archival analysis, but quite easy to do in laboratory experiments.

Experimental eyewitness identification research uses a paradigm in which research participants become witnesses to a staged crime, either live or on videotape. In the service of research, participants have been witnesses to petty thefts, robberies, bomb plots,

carjackings, and ATM robberies, to list a few of the various scenarios. Later, those participants, who are now witnesses to the staged crime, are presented with a suspect who is either guilty or innocent of the crime. It is typical to present a guilty suspect to half of the witnesses and an innocent suspect to the other half. This experimental paradigm has an advantage over archival analyses in that the guilt or innocence of the suspect is known to a certainty. The "perpetrator" is typically an (amateur) actor paid by the person conducting the experiment. The disadvantage, of course, is that the crime is not a real crime and the witnesses are not real witnesses. The staged crimes that are used in laboratory experiments cannot recreate the atmosphere of danger or the level of fear that would be aroused, for example, in a witnessed assault or shooting.

The staged crime experimental procedure is not a perfect simulation of real crimes or real criminal investigations, but it does capture many of the important elements.[10] As is often the case in real crimes, staged crimes unfold quickly and participant-witnesses do not know ahead of time that the crime is going to occur. Experimental lineups use materials similar to those used in the course of an actual criminal investigation, in some cases with lineups composed of mug shots that are used by law enforcement.

At the outset we must be clear to define the possible responses that an eyewitness can make in an eyewitness identification experiment. These are defined and described in Table 1. Witnesses can make correct responses in two ways, by identifying the suspect when the suspect is guilty or by making no identification[11] when the suspect is innocent. Witnesses may err by identifying an innocent suspect, by identifying a lineup filler, or by making no identification when the suspect is guilty. Filler identifications and false rejections may allow the guilty to escape, whereas the false identification of an innocent suspect may cause the innocent to suffer.

Embedded in this description is a critical point. The mere fact that eyewitnesses make mistakes (or that eyewitness identification is "unreliable") is not by itself a threat to the innocent. For example, although the fillers in a lineup are all innocent of the crime, an errant identification of a filler almost never results in the

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[10] Some writers have been less forgiving of shortcomings of the experimental procedure. *See, e.g.*, Ebbe B. Ebbesen & Vladimir J. Konecni, *Eyewitness Memory Research: Probative v. Prejudicial Value*, 5 EXPERT EVIDENCE 2 (1996).

[11] Non-identifications include "none-of-the-above" responses that definitively state that the perpetrator is not in the lineup or that the suspect is "not the man," and may also include less definite "don't know" responses.

prosecution of that innocent person. The reason is that fillers are known to be innocent and their incorrect identification by a witness is a known error. Likewise, an incorrect "none-of-the-above" response to a lineup containing the guilty suspect is also not a threat to the innocent.[12]

TABLE 1: WITNESS RESPONSES IN EYEWITNESS IDENTIFICATION
EXPERIMENTS AND EXAMPLE RESULTS

	Guilty Suspect	Innocent Suspect
Suspect	Correct ID: 50/100 = 0.50	False ID: 10/100 = 0.10
Filler	Error: 20/100 = 0.20	Error: 40/100 = 0.40
No ID	Error: 30/100 = 0.30	Correct Non-ID: 50/100 = 0.50

The eyewitness identification response with the most serious consequences is the identification of the suspect, as this is the response that the police will take to the prosecutorial office. As it carries forward in the criminal justice system such identifications may result in the conviction of the guilty, assuming that the suspect is guilty, but it may also result in the conviction of the innocent in those cases in which the suspect is innocent. In the language of Blackstone, a failure to identify the suspect when he is guilty increases the chances that the guilty will escape, whereas the identification of the suspect when he is innocent increases the suffering of the innocent.[13]

It is important to be clear and consistent in the use of terms.

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[12] An exception to this rule would occur in cases in which the false rejection of the lineup caused law enforcement to shift their focus from the perpetrator to an innocent person. There is presently no data as to how often this occurs. To the extent that it does occur, a false non-identification of the guilty would indirectly increase the risk to the innocent. The concern that has often been raised is not about the risk from non-identifications that redirect police investigations to focus on innocent people, but rather about non-identifications that are followed by "second chance" identifications in which the same suspect is shown to witnesses again. *See* Kenneth A. Deffenbacher et al., *Mugshot Exposure Effects: Retroactive Interference, Mugshot Commitment, Source Confusion and Unconscious Transference*, 30 LAW & HUM. BEHAV. 287 (2006); Ryan D. Godfrey & Steven E. Clark, *Repeated Eyewitness Identification Procedures: Memory, Decision Making, and Probative* Value, 34 LAW & HUM. BEHAV. 241 (2010) [hereinafter *Repeated Eyewitness Identification*].

[13] Note that the issue is not about *whether* the innocent will suffer as a result of the false identification, but rather how much the innocent will suffer as a result of the false identification. Even if the case is later dismissed or the defendant is acquitted at trial, the false identification may still result in significant jail time, loss of income, and suffering.

Throughout this paper the term *correct identification* will be used only to describe the correct identification of a suspect who is guilty, and the term *false identification* will be used only to describe the incorrect identification of a suspect who is innocent. There is some confusion in the eyewitness identification literature created by inconsistent use of the term false identification, in particular using the term to describe any incorrect identification, including identifications of fillers. The identification of a lineup filler, while certainly incorrect, is a very different kind of error than the false identification of a suspect who is innocent. Again, the identification of a filler is a known error, whereas a false identification incorrectly confirms the suspicions of the police. A false identification is an important first step on the stairway to a false conviction; a filler identification is not.

The results from eyewitness identification experiments allow researchers to calculate what is incalculable in the real world—a measure of accuracy based on the likelihood of a correct identification when the suspect is guilty and the risk of false identification when the suspect is innocent. To illustrate, assume that one hundred experimental witnesses are shown a lineup with the guilty suspect in it, and an additional one hundred experimental witnesses are shown a lineup with an innocent suspect in it. In the guilty suspect condition fifty of the one hundred witnesses correctly identify the suspect, whereas in the innocent suspect condition ten of the one hundred witnesses falsely identify the innocent suspect. One can calculate the proportion of suspect identifications that are correct identifications of the guilty, which in this example would be 50/60 = 0.833. This calculation can be used as a measure of the probative value of a suspect identification,[14] and speaks directly to

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[14] There are many ways that one can calculate measures of accuracy, error, and probative value from correct and false identification rates. It is common, for example, to calculate probative value as a ratio of two probabilities: the probability of the evidence given that the suspect is guilty divided by the probability of the evidence given that the suspect innocent. *See* Richard D. Friedman, *A Close Look at Probate Value*, 66 B.U. L. REV. 733 (1986); Thomas D. Lyon & Jonathan J. Koehler, *The Relevance Ratio: Evaluating the Probative Value of Expert Testimony in Child Sexual Abuse Case*, 82 CORNELL L. REV. 43 (1996). For an eyewitness identification experiment, this would be a ratio of the correct and false identification rates, 0.5/0.1 = 50.0 in the present illustration. The interpretation of such ratios is straightforward; the suspect is five times more likely to be identified when guilty than when innocent. For analytical data purposes such ratios can be problematic, in part because the ratio becomes unstable when the false identification rates are small. *See* Steven E. Clark et al., *Regularities in Eyewitness Identification*, 32 LAW & HUM. BEHAV. 187 (2008). Clark and Godfrey measured accuracy from eyewitness identification experiments as the proportion of suspect identifications that were false identifications of the innocent suspect, i.e., the probability that the suspect was innocent given that the suspect was identified. *See*

the question: given that the suspect was identified, what is the likelihood that he is guilty, or conversely, what is the likelihood that he is innocent?[15]

Clark and Godfrey conducted a broad review of the eyewitness identification experimental literature to assess how various factors affected correct identification rates, false identification rates, and the probative value of a suspect identification. These results have been recently updated,[16] are described in Subsection B, and are summarized in Table 2.

Steven E. Clark & Ryan D. Godfrey, *Eyewitness Evidence and Innocence Risk*, 16 PSYCHONOMIC BULL. & REV. 22 (2009) [hereinafter *Eyewitness Evidence*]. For present purposes the probative value is reported, rather than the innocence risk, as the proportion of suspect identifications that are identifications of the guilty suspect.

[15] The prior probability of guilt, or guilty base rate, is clearly missing from this simple calculation. To illustrate, one may assume that the police suspect is usually guilty, such that there are a hundred guilty suspect cases, but only ten innocent suspect cases. Assuming the same correct (0.50) and false (0.10) identification rates, there would be fifty correct identifications, but only one false identification, and the probative value calculation would be 50/51 = 0.98. The question regarding the extent to which base rates should be considered does not have a simple answer. *See generally* Stephen E. Clark, The Benefits and Costs of Eyewitness Identification Reform (unpublished manuscript on file with Albany Law Review).

[16] The tables also include a few pre-2009 studies that were simply missed in the Clark and Godfrey analysis.

TABLE 2: CORRECT AND FALSE IDENTIFICATION RATES, AND
PROBATIVE VALUE CALCULATIONS BASED ON EYEWITNESS
IDENTIFICATION EXPERIMENTS

	Correct Identification Rate	False Identification Rate	Probative Value: C/(+F)
Limitations of Memory (n = 13)			
Better Conditions	0.465	0.080	0.844
Worse Conditions	0.266	0.085	0.747
Lineup Instructions (n = 19)			
Unbiased Instructions	0.532	0.089	0.857
Biased Instructions	0.596	0.151	0.817
Lineup Composition (n = 10)			
More similar fillers	0.642	0.221	0.742
Less similar fillers	0.740	0.443	0.635
Lineup Presentation (n = 43)			
Sequential	0.421	0.097	0.803
Simultaneous	0.503	0.165	0.781

Note: Data are from Clark & Godfrey (2009) and Clark (2011). C / (C+F) is the correct identification rate divided by the sum of the correct and false identification rates.

B. The Results from Eyewitness Identification Experiments

Researchers have considered scores of forensically-relevant variables to examine their role in eyewitness identification errors. These variables can be sorted into two categories corresponding to

system variables and non-system variables.[17]   For example, police officers make choices about the fillers that they include in a lineup, and they have control over what they say to witnesses before, during, and after the identification procedure. They have control over how they conduct the procedure. They do not have control over the witness's opportunity to observe the perpetrator at the time of the crime. They do not have control over the witness's emotions at the time of the crime. These aspects of eyewitnessing, over which the criminal justice system has little or no control, fall in the category of non-system variables.

1. Non-System Variables and the Limitations of Memory

Non-system variables tend to be those that constrain the witness's memory of the perpetrator.[18] For example, the witness's opportunity to observe the perpetrator places a limit on the quantity and quality of the information about the perpetrator that the witness can store in memory. Simply put, one cannot store in memory what one did not see. In addition to that simple rule, the accuracy of memory is also limited by the witness's attention[19] and by the stressfulness of the event.[20] The opportunity to observe does not guarantee that the witness *did* observe or that the witness was cognitively able to store relevant information in memory. In addition, memory is limited by the passage of time. As the length of

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[17] This distinction was originally framed by Wells as a distinction between system and estimator variables. *See* Gary L. Wells, *Applied Eyewitness-Testimony Research: System Variables and Estimator Variables*, 36 J. OF PERSONALITY & SOC. PSYCHOL. 1546 (1978) [hereinafter *Applied Eyewitness-Testimony Research*].   The term "estimator variable," however, does not capture the main point of the distinction between the variables over which the criminal justice system has control versus those variables over which it has little or no control. Wells coined the term "estimator variable" because "one can at best only *estimate* the role of such factors." *Id.* at 1548. However, this applies to system variables as well. In the same way that one can only estimate the effect of stress for a given witness, one also can only estimate the effect of poor lineup composition for a given witness. Thus, the term "estimator" does not describe the distinction between the factors the criminal justice can control versus those factors that it cannot control.

[18] For a distinction similar but framed not the same way, *see* Gary L. Wells & Elizabeth F. Loftus, *Eyewitness Memory for People and Events*, *in* 2 HANDBOOK OF PSYCHOLOGY: FORENSIC PSYCHOLOGY 149, 150 (Alan M. Goldstein ed., 2003).

[19] The attentional manipulation for which there is the most research concerns a phenomenon called the weapon focus effect. Simply put, to the extent that a weapon captures the witness' attention, that witness' attention may be drawn away from the person holding the weapon, such that the witness stores less information about the perpetrator in memory and is less able to identify the perpetrator later. Nancy Mehrkens Steblay, *A Meta-Analytic Review of the Weapon Focus Effect*, 16 LAW & HUM. BEHAV. 413, 414 (1992).

[20] Charles A. Morgan III et al., *Accuracy of Eyewitness Memory for Persons Encountered During Exposure to Highly Intense Stress*, 27 INT'L J. OF L. & PSYCHIATRY 265, 274 (2004).

time passes memories fade, become inaccessible due to interference from other memories, or may be become distorted or altered. The net effect of all of these factors—the limited opportunity to observe, limitations due to the stressfulness of the crime, and the loss and alteration of information over time—affects the completeness and accuracy, and hence the diagnosticity, of the information about the perpetrator that is available in the witness's memory at the time of the identification.

What are the effects of these memory limitations? For lineups, these memory limitations are associated with lower correct identification rates, but have little or no effect on false identification rates.[21] To illustrate with a representative study conducted by Boyce, Lindsay, and Brimacombe (2008, Experiment 2), when witnesses had more time to see the perpetrator, the correct identification rate was 0.610 and the false identification rate was 0.148, but when the opportunity to observe was shorter, the correct identification rate dropped to 0.225, while the false identification increased slightly to 0.178.[22] The probative value of a suspect identification, i.e., the probability that the suspect is guilty given that the suspect was identified is 0.610 / (0.610 + 0.148) = 0.805 when the exposure duration was longer and is 0.225 / (0.225 + 0.178) = 0.558 when the exposure duration was shorter. It is important to note that the probative value of a suspect identification did not decrease because the false identification rate increased, but rather because the correct identification rate decreased.

Table 2 summarizes the results from twelve studies that compared better memory conditions (longer exposure times, less stressful situations, shorter retention intervals) versus poorer memory conditions (shorter exposure times, more stressful situations, longer retention intervals). The pattern of results is clear. For lineups, conditions that result in inaccurate or incomplete memories of the perpetrator show large decreases in the correct identification rates, but very little change in the false identification rates. The effects of the passage of time appear to be different for showups than they are for lineups (noting, however, that this conclusion is based on only two published studies). For showups, better memory conditions result in higher correct

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[21] *Repeated Eyewitness Identification, supra* note 12.

[22] Melissa A. Boyce et al., *Investigating Investigators: Examining the Impact of Eyewitness Identification Evidence on Student-Investigators*, 32 LAW & HUM. BEHAV. 439 (2008).

identification rates and lower false identification rates.[23]

The results for lineups require additional discussion. On the one hand, the studies show that limitations of memory do not *cause* innocent people to be misidentified; the false identification rates in Table 2 are essentially identical for better and poorer memory conditions. However, limitations of memory do undermine the probative value of suspect identification evidence. In other words, when the conditions are such that the witness's memory is less accurate or less complete, it is more likely that an identified suspect is in fact innocent.

This distinction arises from two different conditional probabilities. The risk of a false identification is the probability of a suspect identification, given that the suspect is innocent. Referring to the data in Table 2, these probabilities are 0.080 for the better memory conditions and 0.085 for the poorer memory conditions. The risk that an identified suspect is in fact innocent is the probability of innocence given a suspect identification. This probability, derived from both the correct and false identification rates, is 0.156 for better memory conditions and 0.253 for poorer memory conditions. This latter probability, which Clark and Godfrey called innocence risk, is the inverse of the probative value. It is the probability that must be considered by jurors and anyone else who must interpret the identification evidence when assessing whether, based on the eyewitness identification, the identified suspect is guilty or innocent.

2. System Variables: Police Procedures

This section describes the variables and decisions over which the criminal justice system has considerable control. These include the decision whether to conduct a lineup or a showup, the decisions involved in the construction of a lineup, the decision of how to instruct the witness and how to present the lineup to the witness, as well as seemingly inconsequential decisions about what police officers and detectives say to witnesses during the identification procedure.

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[23] The relevant data are from A. Daniel Yarmey et al., *Accuracy of Eyewitness Identifications in Showups and Lineups*, 20 LAW & HUM. BEHAV. 459, 464 (1996), and Dawn J. Dekle et al., *Children as Witnesses: A Comparison of Lineup Versus Showup Identification Methods*, 10 APPLIED COGNITIVE PSYCHOL. 1, 1–12 (1996); and are summarized by Clark & Godfrey in *Repeated Eyewitness Identification*, *supra* note 12, at 255–56. Note that for the Dekle et al. study, the relevant comparisons discussed here are based on adult eyewitnesses.

a. Lineups and Showups

One of the most fundamental decisions in a criminal investigation is whether to conduct a showup or a lineup. In a showup there are no fillers. Instead, only the suspect is presented to the witness, who may identify or not identify that suspect as the perpetrator of the crime. Much has been written about the inherent suggestiveness that arises from the fact that the suspect is presented by himself. The procedure makes it clear that the person presented is the suspect and is being detained by the police.

The average correct and false identification rates, based on fifteen experimental comparisons, are shown in Table 2. The false identification rates are lower and the correct identification rates are slightly higher for lineups relative to showups. These results suggest that the use of a lineup rather than a showup does not create a trade-off of correct identifications lost in exchange for false identifications avoided. And the probative value of a suspect identification is higher for lineups than showups.

There is, however, a trade-off that is not represented in the results shown in Table 2. The decision that police officers must make in some cases is a decision between a showup conducted sooner versus a lineup conducted later. Showups are often used when the police find a suspect very soon after the crime has been committed. The prototypical case is one in which the victim of a robbery calls the police within minutes after the robbery. The description of the robber is broadcast to police who shortly thereafter observe a person matching that description. The police can detain that person and present him or her to the witness within just a few minutes. A lineup may not be so quickly arranged. If the suspect has no prior record, a booking photograph will need to be taken, lineup fillers chosen, and a lineup created. Digital technology may speed up the lineup process considerably, but in some cases the choice may still be one between a showup conducted within a few minutes after the crime versus a lineup conducted much later.

Direct comparisons between showups conducted sooner versus lineups conducted later can be made using two studies. For example, a study by Yarmey, Yarmey, and Yarmey[24] allows a comparison between a showup conducted immediately versus a

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[24] *See generally* A. Daniel Yarmey et al., *Accuracy of Eyewitness Identifications in Showups and Lineups*, 20 LAW & HUM. BEHAV. 459 (1996)

lineup conducted twenty-four hours later. The correct and false
identification rates were 0.697 and 0.176, respectively, for the
showup conducted immediately and 0.324 and 0.140 for the lineup
conducted the next day. The probative value of a suspect
identification was therefore slightly higher for the immediate
showup (0.798) than for the twenty-four hour delayed lineup
(0.698). Two studies by Dekle, Beal, Elliott, and Huneycutt[25] also
provide a comparison between a showup conducted right away, with
correct and false identification rates of 0.28 and 0.04, and a lineup
conducted two to three days later, with correct and false
identification rates of 0.30 and 0.063. The probative value
calculations for this second comparison were indistinguishably close
at 0.878 and 0.826. Based strictly on the index of probative value,
calculated as a conditional probability, both studies suggest a very
slight advantage for a showup conducted immediately versus a
lineup conducted one to three days later.[26]

b. Lineup Composition and the Selection of Lineup Fillers

The issues of suggestiveness regarding lineup composition are, at
one level, sufficiently intuitive that they are the stuff of cartoons.
In her seminal book *Eyewitness Testimony*, Elizabeth Loftus
presented a cartoon lineup consisting of one plausible individual, a
youngish man with long hair and a beard, in a lineup with a blind
man (complete with a cane), a little kid blowing bubbles with bubble
gum, and an elderly woman in a wheel chair. With great certainty,
and perhaps a little bit of righteous indignation, the witness is
pointing directly at the man with the beard, who is obviously the
suspect. The joke, of course, is that the lineup and the accusatory
finger-pointing of the witness are meaningless because anyone can
tell who the suspect is.[27]

The problem appears to be obvious. The suspect stands out
because no one else in the lineup looks remotely like him. It follows
that if the low similarity of the fillers is a problem leading to false
identifications, then increasing filler similarity should be the

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[25] *See generally* Dawn J. Dekle et al., *Children as Witnesses: A Comparison of Lineup Versus Showup Identification Methods*, 10 APPLIED COGNITIVE PSYCHOL. 1 (1996).

[26] Some caution is necessary in these comparisons between showups conducted "immediately" and lineups conducted one to three days later. Even under the best circumstances, a truly immediate showup may be rare, as it takes police time to arrive, time to locate the suspect, and time to transport the witness to the location where the suspect is being detained.

[27] ELIZABETH F. LOFTUS, EYEWITNESS TESTIMONY (1979).

solution.

The results are averaged across ten[28] experiments that directly compared eyewitness identification accuracy using lineups with more similar or less similar fillers. The correct and false identification rates shown in Table 2 show a clear trade-off pattern. Increasing the similarity of the fillers to the suspect reduces the false identification rate (from 0.443 to 0.221), but also reduces the correct identification rate (from 0.740 to 0.642).

This pattern of results contradicts an often-made claim that increasing the similarity of fillers only reduces the false identification rate, but has no effect on the correct identification rate.[29] This claim is clearly contradicted by data. By increasing the similarity of the fillers, some guilty men will escape justice in order that some innocents shall not suffer.

Is there a way to select fillers that will avoid this trade-off? Some researchers have argued that selecting fillers based on their similarity to the suspect is misguided.[30] The potential problem is illustrated as follows: assume that Mr. P robs a liquor store, and that Mr. I is observed near the liquor store by police shortly after the robbery, with no good explanation about why he is there. Mr. I also fits the description of the robber given by the liquor store owner.[31] A few days later Mr. I's photograph is placed in a six-person lineup, along with five fillers who are selected based on their similarities to Mr. I, who is now the prime suspect in the robbery. By the standard that fillers should be similar to the suspect, it is a

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[28] Seven of these comparisons are from *Repeated Eyewitness Identification*, *supra* note 12. Two additional comparisons are from Michael R. Leippe et al., *Cueing Confidence in Eyewitness Identifications: Influence of Biased Lineup Instructions and Pre-Identification Memory Feedback Under Varying Lineup Conditions*, 33 LAW & HUM. BEHAV. 194 (2009).

[29] *See, e.g.*, Rod C.L. Lindsay & Joanna D. Pozzulo, *Sources of Eyewitness Identification Error*, 22 INT'L J. L. & PSYCHIATRY 347, 352 (1999) (Here, referring to "a clear pattern that is repeated in all lineup bias studies. Manipulation of [filler] quality did not significantly influence the rate of identification of the criminal. . . . The impact of [filler] quality on false identifications was significant and dramatic.").

[30] Steven E. Clark & Jennifer L. Tunnicliff, *Selecting Lineup Foils in Eyewitness Identification Experiments: Experimental Control and Real-World Simulation*, 25 LAW & HUM. BEHAV. 199, 203 (2001); C.A. Elizabeth Luus & Gary L. Wells, *Eyewitness Identification and the Selection of Distracters for Lineups*, 15 LAW & HUM. BEHAV. 43, 46–47 (1991); David Navon, *Selection of Lineup Foils by Similarity to the Suspect is Likely to Misfire*, 16 LAW & HUM. BEHAV. 575, 576 (1992).

[31] How often do innocent people initially become suspects because of their match to the witness's description? An analysis of actual false convictions shows that similarity of appearance was the basis of the initial suspicion in 59% of known false identifications. *See* Samuel R. Gross, *Loss of Innocence: Eyewitness Identification and Proof of Guilt*, 16 J. LEGAL STUD. 395, 416 (1987). Note that this analysis does not provide information about how often guilty people initially become suspects based on their similarity of appearance.

good-looking lineup.

Question: How many people are in the lineup specifically because they were judged as matching the description of the perpetrator given by the witness?

One may be tempted to say six, but the answer is only one, and that person is the suspect. The other five people are in the lineup not because they were judged as matching the description of the perpetrator given by the witness, but rather because they look similar to a person who was judged as matching the description of the perpetrator given by the witness. It follows from this analysis that the person in the lineup who is most likely to be identified is the innocent suspect. Indeed, this result has been shown in several experiments.[32] The irony of these results is that the selection of fillers who are similar to the suspect was supposed to protect the innocent from mistaken identification; but the similarity solution backfires by making the innocent suspect the person in the lineup who is most likely to be identified.

The problem, one may reason, is that one can select fillers who are reasonably similar (similar enough) to the suspect, but who do not fit key aspects of the witness's description of the perpetrator. A filler may look nearly identical to the suspect, but mismatch on one feature. For the sake of illustration, assume that the key feature is ear size. If the innocent suspect has big ears (consistent with the witness's description of the perpetrator), but the fillers (who otherwise look very similar to the innocent suspect) do not have big ears, the innocent suspect, because he is the only person in the lineup with big ears, should be the person in the lineup who is most likely to be identified.

If the problem is that fillers selected to match the suspect may nonetheless mismatch on key features of the witness's description, then the solution would seem to be to select fillers that do match the witness's description of the perpetrator.[33]

This match-to-description rule may have other benefits as well. It appears to provide an answer to two questions. When selecting fillers based on their similarity, how similar is similar enough? At one overly-conscientious extreme one might select fillers that match the suspect on every single feature. Such fillers have a name—

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[32] *See generally* Steven E. Clark, *A Memory and Decision Model for Eyewitness Identification*, 17 APPLIED COGNITIVE PSYCHOL. 629 (2003).

[33] *See* Luus & Wells, *supra* note 30, at 48; U.S. DEP'T OF JUSTICE, EYEWITNESS EVIDENCE: A GUIDE FOR LAW ENFORCEMENT 29–30 (1999) (a recommendation of the Technical Working Group for Eyewitness Evidence).

clones. Obviously, the match-every-feature strategy will not work, so the question becomes one of which features to match? The answer is to match those features given in the witness's description of the perpetrator.

Based on this analysis, Luus and Wells[34] predicted that, relative to the match-to-suspect strategy, the match-to-description strategy should increase the correct identification rate. Navon and Clark and Tunnicliff[35] predicted that the match-to-description strategy would lower the false identification rate. The combination of an increased correct identification rate, plus a reduced false identification rate, would constitute an exception to the trade-off rule. But what does the data show?

Consistent with Luus and Wells' prediction, three out of the five studies reviewed by Clark and Godfrey showed higher correct identification rates. Averaging across studies, the correct identification rate was higher for description-matched lineups (0.57) than for suspect-matched lineups (0.43). Fewer guilty men will escape justice, but what about the innocent? Three out of the five studies also showed increased false identification rates for description-matched lineups, with an average false identification rate of 0.16, compared to a false identification rate of 0.08 for suspect-matched lineups. Once again, the ubiquitous trade-off is observed. In this case, fewer guilty men escape justice but more innocent suffer.

c. Relative Judgments and the Use of Simultaneous and Sequential Lineups

Closely related to the issue of lineup composition is a concern about the psychological decision processes that eyewitnesses employ in making identification decisions. To see the connection between decision-making and lineup composition, consider that when witnesses compare each lineup member to their memory of the perpetrator, some lineup members will match better than others. Logically there will always be one lineup member who is a better match than the others.[36]   This may be the case even when the

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[34] *See supra* note 30.

[35] *See supra* note 30.

[36] The "logical" qualifier implies that there must be a best match in the lineup to the extent that match values can be computed and the top two match values are not precisely identical out to very large number of decimal places. Of course, while such match values are mathematically calculable, the psychological matches that may be assessed by a witness may not be discriminably different across lineup members.

lineup is reasonably well constructed, and more importantly even when the perpetrator is not in the lineup. This last point means that the witness should not simply identify the lineup member that best matches his or her memory of the perpetrator.

But Wells proposed that that may be exactly what (at least some) witnesses do. He described such a decision strategy as a relative judgment strategy.[37] According to Wells, such a strategy may be fine when the suspect is guilty (presumably because the guilty suspect should be the best match in the lineup). However, when the suspect is innocent, Wells argued that the use of a relative judgment decision strategy is "problematic," "dysfunctional," and "dangerous."[38]

Wells contrasted the relative judgment strategy with an absolute judgment strategy, according to which a witness would not identify a lineup member simply because that person was the best match, but rather would identify that person only if the match were sufficiently high, above "some cut-off or threshold."[39]

In his original formulation of the relative-absolute distinction, Wells asserted that absolute and relative judgment strategies should produce equivalent correct identification rates when the suspect is guilty, but that relative judgments would lead to higher false identification rates when the suspect was innocent. This prediction may have been more of a description of the empirical results that were available in the early to mid-1980s rather than a theory-based prediction regarding the results of future experiments. To the extent that relative judgments are invoked by poor lineup composition, the results from the previous section show that this prediction is not confirmed by data. To the contrary, variation in the quality of the lineup fillers produces co-variation in both correct and false identification rates. As noted earlier, correct and false identification rates both increase when the lineup fillers are less similar to the perpetrator and decrease when the lineup fillers are more similar to the perpetrator.[40] Even though the predictions, as

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[37] *See generally* Gary L. Wells, *The Psychology of Lineup Identifications*, 14 J. APPLIED SOC. PSYCHOL. 89, 94–95 (1984) [hereinafter *Psychology of Lineup Identifications*].

[38] *See* Gary L. Wells, *What Do We Know About Eyewitness Identification?*, 48 AM. PSYCHOLOGIST 553, 553, 560 (1993).

[39] *Psychology of Lineup Identifications*, *supra* note 37, at 94–95.

[40] Of course, the police cannot select fillers based on their similarity to the perpetrator, particularly when the perpetrator is unknown, as would be the case when the person they suspect is innocent. Rather, the similarity of the fillers to the perpetrator is moderated either by their match to the witness's description of the perpetrator or by their similarity to the suspect.

they were originally specified by Wells, are contradicted by data, one may still ask whether on balance the co-variation in correct and false identification rates still favors the use of absolute judgments over relative judgments.[41]

Guided by the distinction raised earlier between factors that are within (versus beyond) the control of the criminal justice system, one may ask whether witness decision processes are sufficiently modifiable that the criminal justice system might have some control over them, in order to minimize witness's tendency to make relative judgments.

Lindsay and Wells reasoned that if the lineup members were presented sequentially, witnesses would not be able to make comparisons between lineup members, and thus would have to rely less on relative (comparative) judgments and more on absolute judgments, with the result being a decrease in the false identification rate and little change in the correct identification rate. The most straightforward test of this prediction arises from a direct comparison between simultaneous and sequential lineups. Although the first published study[42] reported results consistent with Wells' original predictions, showing roughly equal correct identification rates for simultaneous (0.58) and sequential lineups (0.50) and much lower false identification rates for sequential lineups (0.17) compared to simultaneous lineups (0.43)—that pattern has not held up in many of the studies conducted in the last 25 years.[43]

The results based on 43 comparisons are shown in Table 2. Sequential lineup presentation clearly reduces the risk of false identifications, from 0.165 in simultaneous lineups to 0.097 in sequential lineups, but also reduces the rate of correct identifications, from 0.553 to 0.421. Again, note the ubiquitous trade-off. The sequential lineup leads to an increase in the number of guilty that escape justice and a decrease in the number of innocents who suffer. The net result, as shown in Table 2, is a very

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[41] This turns out to be quite complicated. Derivations from a computational model show a complex and wide-ranging pattern of results. Under some conditions absolute judgments may lead to more accurate identification decisions than relative judgments, whereas under other conditions absolute judgments may result in less accurate identification decisions than relative judgments, and under some conditions the two decision strategies may produce equivalent performance. *See* Steven E. Clark et al., *Probative Value of Absolute and Relative Judgments in Eyewitness Identification*, LAW & HUM. BEHAV. (forthcoming).

[42] R.C. Lindsay & Gary L. Wells, *Improving Eyewitness Identifications from Lineups: Simultaneous Versus Sequential Lineup Presentation*, 70 J. APPLIED PSYCHOL. 556 (1985).

[43] *See, e.g.*, *Eyewitness Evidence*, *supra* note 14.

small increase in the probative value of a suspect identification (from 0.781 to 0.803). It must be noted that the results presented here are different from those of a recent meta-analysis by Steblay, Dysart, and Wells.[44] In their analysis the decrease in correct identification rates was much smaller than the decrease in false identification rates, suggesting a larger increase in the probative value of a suspect identification for sequential lineups relative to what is shown in Table 2.

How can two analyses of the same data lead to different conclusions? The answer is that they are not based on the same data. Four studies included in the present analysis, all of which showed a substantial probative value disadvantage for sequential lineups, were excluded from the Steblay et al. analysis.[45]

d. Suggestiveness and Pre-Lineup Instructions

Several experiments have examined the effects of biased versus unbiased instructions. Unbiased instructions acknowledge that the perpetrator of the crime may or may not be in the lineup, and that "none-of-the-above" is a legitimate witness response. Contrast these instructions with biased instructions that would state or imply that the perpetrator is in the lineup and that it is the witness's "job" to identify him. Averaging across studies, the correct and false identification rates for witnesses given biased instructions were 0.596 and 0.151, respectively; and the correct and false identification rates for witnesses given unbiased instructions were 0.532 and 0.089.[46]

The recommendation to provide witnesses with unbiased instructions is not controversial. However, the impact of such instructions appears to be very small. Moreover, unbiased instructions produce a decrease in both false and correct identifications, implying again that some guilty men will escape so

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[44] Nancy K. Steblay et al., *Seventy-Two Tests of the Sequential Lineup Superiority Effect: A Meta-Analysis and Policy Discussion*, 17 PSYCHOL. PUB. POL'Y & L. 99 (2011).

[45] The four studies excluded by Steblay et al. are: Scott D. Gronlund et al., *Robustness of the Sequential Lineup Advantage*, 15 J. EXPERIMENTAL PSYCHOL. APPLIED 140 (2009); Ryann M. Haw & Ronald P. Fisher, *Effects of Administrator-Witness Contact on Eyewitness Identification Accuracy*, 89 J. APPLIED PSYCHOL. 1106 (2004); Amy Bradfield Douglass & Dawn McQuiston-Surrett, *Post-Identification Feedback: Exploring the Effects of Sequential Photospreads and Eyewitnesses' Awareness of the Identification Task*, 20 APPLIED COGNITIVE PSYCHOL. 991 (2006); Nancy K. Steblay et al., *Sequential Lineup Laps and Eyewitness Accuracy*, LAW & HUM. BEHAV. (forthcoming).

[46] *Eyewitness Evidence*, *supra* note 14, at 33; Michael R. Leippe et al., *supra* note 28, at 200, tbl. 1.

that fewer innocent men will suffer.

e. Suggestive Influence of Lineup Administrators

Another source of false identifications pointed to by researchers is the suggestive influence of the lineup administrator at the time that the witness is looking at the lineup. The influence is summarized in a simple hypothetical example of a detective who says to the witness, "I noticed you paused on number three."[47] Implicit within this example is that number three is the person that the detective believes to be the perpetrator (i.e. number three is the suspect). By calling the witness' attention to number three, number three becomes more likely to be identified. The underlying psychological mechanism for such an interaction between the police officer and the witness is well-established. Police officers, like all humans, have expectations.[48] To the extent that the police believe that the suspect is guilty, expect that the witness will confirm their belief, and are motivated to obtain a positive identification of the suspect, consistent with their expectations, because it appears to solve the case, they may leak those beliefs, expectations, and motivations to the witness whose behavior may be influenced accordingly.

A solution to the problem of such motivated expectations is to conduct the lineup in such a way that the person administering the lineup does not know who the suspect is. This type of procedure is referred to as a blind procedure, and has long been a foundation of behavioral and medical research.[49] The blind procedure is motivated by a simple idea: one cannot leak what one does not know. A handful of experiments have been conducted that directly compare blind and non-blind identification procedures. Somewhat surprisingly, these comparisons show no evidence that the blind procedure reduces the risk of false identification of innocent suspects.[50] How can such a tried-and-true procedure, with such a

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[47] Bill Nettles et al., *Eyewitness Identification: "I Noticed You Paused on Number Three."*, CHAMPION, Nov. 1996, *available at* http://www.nacdl.org/public.nsf/printerFriendly/A9611p10?openDocument.

[48] *See* Robert Rosenthal, *Covert Communication in Classrooms, Clinics, Courtrooms, and Cubicles*, 57 AM. PSYCHOL. 839, 844 (2002) (stating that interpersonal expectancy effects have been proven in many studies).

[49] *See, e.g.*, W. H. R. Rivers & H. N. Webber, *The Action of Caffeine on the Capacity for Muscular Work*, 36 J. PHYSIOLOGY 33, 34 (1907) ("At some time in the course of each day's experiment we took a dose of either caffeine or control, and it was not till the end of the whole experiment that we acquainted ourselves with the nature of the does on any given day.").

[50] Melissa B. Russano et al., *"Why Don't You Take Another Look at Number Three?":* *Investigator Knowledge and Its Effects on Eyewitness Confidence and Identification*

long history in the behavioral and medical sciences, not lead to higher rates of eyewitness identification accuracy? A tentative explanation rests on one aspect of the experimental methodology. The experiments are conducted with pairs of participants, one of whom plays the role of the witness while the other participant plays the role of the lineup administrator. The critical point may be that the first-time lineup administrators, college students, may be motivated to obtain suspect identifications, but may not engage in the procedures that would obtain those suspect identifications.

Brower, Clark, Rosenthal, and Godfrey conducted a study that spoke directly to this possibility by training lineup administrators to engage in various suggestive procedures.[51] For example, if a witness hesitated, or seemed slow to respond, the lineup administrator simply encouraged the witness to "take your time" and to "look at each photograph carefully." Such innocuous and ostensibly cautionary comments have been shown to increase overall identification rates, presumably by redirecting witnesses to the task of making an identification.[52] If witnesses made any reference to a lineup fillers (e.g., "Number two looks kind of like him"), the lineup administrator would simply ask for clarification, asking for example, "I just want to be sure I understand what you're saying. Are you saying that number two is the guy, or that you think number two looks similar to the guy?" It is important to emphasize that at no point in these interactions did the lineup administrator instruct the witness to consider a particular person in the lineup, or attempt to undo a witness's unqualified identification. The results were straightforward and dramatic. Witnesses whose non-suspect responses were met with encouragement ("take your time") or clarification were twice as likely to identify the suspect in the lineup relative to witnesses who made their identifications without comment from the lineup administrator. This result was obtained irrespective of whether the suspect was guilty (suspect identification rates increased from 0.36 to 0.78) or innocent (suspect identification rates increased from 0.14 to 0.36).

Decisions, 4 CARDOZO PUB. L. POL'Y & ETHICS J. 355, 370–371 (2006).
    [51] GWENDOLYN L. BROWER ET AL., EFFECTS OF BIASED LINEUP ADMINISTRATORS ON CORRECT AND FALSE IDENTIFICATIONS (forthcoming 2011).
    [52] Stephen E. Clark et al., Lineup Administrator Influences on Eyewitness Identification Decisions, 15 J. EXPERIMENTAL PSYCHOL.: APPLIED 63, 64 (2009).

C. Summary of Results and Their Implications

The factors over which the criminal justice system has little or no control, non-system variables, are associated with lower correct identification rates, but appear to have little or no effect on false identification rates. The net result of the decrease in correct identifications with little or no change in false identifications is a substantial decrease in the probative value of a suspect identification. The magnitude of this effect is quite large. Thus, variation in the opportunity to observe and to store and retain information in memory over time is associated with substantial changes in the probative value of a suspect identification.

By contrast, variation in system variables, those over which the criminal justice system does have control, are associated with changes in both correct and false identification rates that combine to produce smaller changes in the probative value of a suspect identification (smaller relative to the changes in probative value associated with non-system memory variables). The one exception to this pattern is for showup-lineup comparisons.

The use of unbiased instructions decreases the false identification rate but also reduces the correct identification rate. The minimization of lineup administrator influence lowers the false identification rate but also reduces the correct identification rate. The use of sequential lineups reduces the false identification rate but also reduces the correct identification rate. The inclusion of better (more similar) fillers reduces the false identification rate but also reduces the correct identification rate. Choosing fillers based on their match to a description of the perpetrator increases the correct identification rate but also increases the false identification rate. In every one of these analyses, the correct and false identification rates are joined in a co-varying relationship. This ubiquitous pattern of results is consistent with the information/decision distinction at the heart of Detection Theories.

These results unambiguously contradict a claim that is widely held and often repeated among eyewitness identification researchers and many legal scholars, which is that false identification rates can be reduced with little or no change in correct identification rates.[53] Framed in the language of Blackstone, the

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[53] *See* Gary L. Wells, *Eyewitness Identification: Systemic Reforms*, 2006 WIS. L. REV. 615, 631 (2006); *see also* Keith A. Findley, *Toward a New Paradigm of Criminal Justice: How the Innocence Movement Merges Crime Control and Due Process*, 41 TEX. TECH L. REV. 133, 148 (2008).

claim has been made that recommended procedures exist which, if implemented by the police, would increase the protection of the innocent with no increase in the number of guilty men who escape. The data simply do not support this claim.

There does appear to be one exception. In studies that directly compare lineups and showups, the false identification rates for lineups are lower, and the correct identification rates for lineups are not lower but rather are just slightly higher. However, even in the showup-lineup comparison there may be tradeoffs in that police officers may have to make a choice between a showup that can be done sooner versus a lineup that can be done later.

1. Under the Control of the Criminal Justice System

Police have control over procedural decisions such as whether to do a showup sooner or a lineup later, whether to use more or less similar fillers in lineups, whether to provide witnesses with biased or unbiased instructions, whether to present the lineup sequentially or simultaneously, and whether to "nudge" and influence the witness in subtle ways or to let the witness make his or her identification decision without influence. Each of these decisions involves a Blackstone trade-off. This trade-off may not be apparent at the level of the individual case. Presumably, the police believe, with varying degrees of certainty, that their suspect is the perpetrator and a false identification, by definition, cannot occur when the suspect is the perpetrator. Moreover, from the standpoint of the police, suggestive or biasing procedures work. Examination of the results in Table 2 show that suspect identifications increase with more influence and with more suggestive procedures. Thus, police may have complete control over the procedures, but may be drawn in by the lure of the surely-guilty suspect.

While the criminal justice system has control over the identification procedures, it has little or no control over factors that affect the quality of the witness's memory. However, even here the criminal justice system may have more control than it appears. Specifically, although the criminal justice system may have little or no control over the witness's opportunity to observe, it certainly has control over how it responds to this aspect of eyewitness identification evidence. For example, the police can decide whether, given the circumstances, it is simply too risky to show a witness a lineup. The risk is measured not in terms of the risk of a false identification, which may increase only slightly when the conditions

of observation are poor.   Rather the risk is measured in the likelihood that the suspect is innocent given that the suspect is identified.

The question is if the police discern from the witness's description of the crime, that he or she got only a fleeting glimpse of the perpetrator under poor conditions of observation, should the police show that witness a lineup? As will be discussed in Section V, the Supreme Court has determined that the witness's opportunity to observe may be used to determine whether the identification is sufficiently reliable to admit the evidence at trial.   It seems reasonable to ask whether the same test should be applied to the decision about whether to conduct the identification procedure in the first place.

IV. POST-IDENTIFICATION EFFECTS OF EYEWITNESS IDENTIFICATION EVIDENCE

Eyewitness identification plays a key role in solving cases[54] and moving those cases through the district attorney's office.[55] Yet it is clear from the discussion in Section III that eyewitnesses make identification errors. Some of those cases that appear to be solved through eyewitness identification are not solved at all because the defendants are not guilty.

The risk of false identifications can be reduced through various means: by creating lineups with more similar fillers, by presenting lineups sequentially, by giving witnesses unbiased instructions that acknowledge the possibility that the suspect is innocent, and by minimizing the influence of the lineup administrator.   It is important to note that these procedures trade one kind of error for another kind of error. False identifications decrease, but missed identifications, failures to identify the perpetrator, increase.

If errors cannot be eliminated altogether then it is important for the criminal justice system to be able to recognize errors and correct them. How capable is the justice system at correcting course after

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[54] PETER W. GREENWOOD ET AL., U.S. DEP'T OF JUSTICE, R-1778-DOJ, THE CRIMINAL INVESTIGATION PROCESS VOLUME III: OBSERVATIONS AND ANALYSIS 71 (1975) (reporting that eyewitness identification was the most significant factor in closing theft and robbery cases); CHARLES WELFORD & JAMES CORNIN, JUSTICE RESEARCH & STATISTICS ASSOC., AN ANALYSIS OF VARIABLES AFFECTING THE CLEARANCE OF HOMICIDES: A MULTISTATE STUDY 9, 26–27 (1999).

[55] Heather D. Flowe et al., *The Role of Eyewitness Identification Evidence in Felony Case Dispositions*, 17 PSYCHOL. PUB. POL'Y & L. 140–59 (2011); FRANK J. CANNAVALE & WILLIAM D. FALCON, WITNESS COOPERATION: WITH A HANDBOOK OF WITNESS MANAGEMENT 21–23 (1976).

an identification error?

One method of error correction, when a witness does not identify the police suspect, is to simply conduct another identification procedure. This method of error correction has been investigated through the same kinds of experiments described in the previous section. Repeating identification procedures, however, does not eliminate errors. Repetition changes the nature of the errors. By "trying again" with a follow-up identification procedure, the likelihood of identifying the suspect does indeed increase. However, it appears to increase both when the suspect is guilty and also when the suspect is innocent.[56]

It is important to note that not all suspects who are identified are arrested. A study by Behrman and Davey showed that arrest rates for identified suspects varied from as low as 57%, when there was no corroborating evidence of guilt, to 96% when there was "substantial" corroborating evidence of guilt.[57] To the extent that the lack of corroborating evidence was due to the suspect's being innocent, there might be some evidence of error correction for false identifications.

Some of the best data regarding the criminal justice system's ability to correct course after a false identification come from a study of actual false identifications conducted by Sam Gross. In the corpus of cases he reviewed, 58% of false identifications were dismissed before trial.[58] Of course, this also means that 42% of those cases went to trial, suggesting that although the criminal

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[56] *See* Evan Brown et al., *Memory for Faces and the Circumstances of Encounter*, 62 J. APPLIED PSYCHOL. 311, 313 (1977); *see also Repeated Eyewitness Identification*, *supra* note 12, at 256; *see also* Ryann M. Haw et al., *The Phenomenology of Carryover Effects between Showup and Lineup Identification*, 15 MEMORY 117, 125 (2007).

[57] Bruce W. Behrman & Sherrie L. Davey, *Eyewitness Identification in Actual Criminal Cases: An Archival Analysis*, 25 LAW & HUM. BEHAV. 475, 481 (2001). Missing from this analysis are the booking rates when witnesses did not identify the suspect. In order to determine the extent to which the arrests were based on the identification, one needs to know the arrest rates for those cases in which the witness did not identify the suspect. To illustrate, a 92% arrest rate following an eyewitness identification suggests that the identification evidence is a strong determiner of arrest. However, that conclusion depends on the arrest rates in the absence of eyewitness identification evidence. If the comparable arrest rate without an eyewitness identification was also 92%, it would suggest that the "substantial" corroborative evidence, rather than the eyewitness identification, was driving the arrest decisions.

[58] Gross, *supra* note 29, at 395. The 58% figure was for a set of more recent cases rather than the entire sample. Older cases came primarily from books on wrongful convictions and thus likely underestimated the rate of pre-trial dismissals. *See id.* at 414–15. Gross suggested that the 58% figure may represent a low estimate due to a sampling bias. *See id.* at 415. False identifications that go to trial are more newsworthy (and thus more likely to be found in a search) than false identifications that are quickly discovered.

justice system may be able to correct many errors, it fails to recognize many others.

There is evidence from psychological experiments suggesting that both kinds of eyewitness errors, failures to identify the guilty and false identifications of the innocent, may be difficult to correct.

Several studies have examined the investigative process in the laboratory, to examine the "arrest" decisions of people (college students) participating in the role of a police investigator.[59] Participant/investigators made judgments about the guilt of the suspect prior to and after considering the eyewitness identification evidence. Arrest decisions were strongly influenced in both directions. A positive identification led investigators to revise their belief in guilt upward, whereas non-identifications led investigators to revise their belief in guilt downward. The results of these studies showed that the investigators over weighted the eyewitness identification evidence, particularly when the conditions of observation were poor. In other words, they revised their probability of guilt to be too high (relative to the actual probative value of the identification evidence) following an identification of the suspect and revised their probability of guilt to be too low (relative to the actual probative value of the identification evidence) following a non-identification of the suspect.[60] In addition, the investigators had little ability in determining whether the identifications were correct or incorrect. When the witness's conditions of observation were better, investigators were better calibrated (i.e., their revised probability estimates of the suspect's guilt were more in line with the actual probative value of the evidence), and they showed some ability to distinguish between correct and false identifications. These studies have the important limitation that the "investigators" were not actual police officers or detectives. One might question whether real police officers would be so easily convinced of their suspect's innocence based on the non-identification of a single witness.

Eyewitness evidence may also alter the interpretation of other evidence, creating a "cognitive coherence"[61] among different sources

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[59] *See, e.g.,* Melissa A. Boyce et al., *supra* note 22; Leora C. Dahl et al., *Investigating Investigators: Examining Witnesses' Influence on Investigators*, 30 LAW & HUM. BEHAV. 707 (2006) [hereinafter *Examining Witnesses' Influence*]; Leora C. Dahl et al., *Investigating Investigators: How Presentation Order Influences Examining Witnesses' Influence of Eyewitness Identification and Alibi Evidence*, 33 LAW & HUM. BEHAV. 368 (2009) [hereinafter *Presentation Order Influences*].

[60] Boyce et al., *supra* note 22, at 452.

[61] Dan Simon, *A Third View of the Black Box: Cognitive Coherence in Legal Decision*

of evidence. Simon, Snow, and Read showed that in the course of rendering verdicts based on a summary of trial evidence, experimental participants changed their evaluation of critical evidence in such a way that the evidence as a whole would become more coherent and consistent.[62] Evidence that might otherwise seem less important or less probative came to have more importance when combined with other evidence in the verdict decision-making process.

Not only may eyewitness evidence change the interpretation of other evidence, it may also be used by investigators to *obtain* other evidence. In an analysis of actual police interrogations, Richard Leo has shown that it is common practice to present suspects with corroborative evidence of their guilt. In most cases that evidence is true (about 85% of cases), although in many cases the evidence is made up (about 30% of cases). The tactic in the course of the interrogation is to inform the suspect, "we have a witness who identified you so we know you did it!" In some cases those witnesses actually exist. In other cases they do not.

Of course, most cases are settled through plea agreements rather than jury or bench trials, which raises the question regarding the role of eyewitness identification evidence in the plea bargaining process. One might expect, given that people generally believe in the veracity of eyewitness identification evidence[63] that such evidence should play an important role in the decision whether to accept a plea or go to trial. However, the data are inconclusive. Data from six U.S. cities showed the role of eyewitness identification evidence in plea agreements to be very small.[64] One aspect of the plea agreement process, not specific to eyewitness identification, is that innocent defendants may be more likely to reject plea agreements than guilty defendants.[65] To the extent that

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Making, 71 U. CHI. L. REV. 511 (2004).

  [62] Dan Simon et al., *The Redux of Cognitive Consistency Theories: Evidence Judgments by Constraint Satisfaction*, 86 J. PERSONALITY & SOC. PSYCHOL. 814 (2004).

  [63] *See* Boyce et al., *supra* note 22, at 451; *Examining Witnesses' Influence*, *supra* note 59, at 730; *Presentation Order Influences*, *supra* note 59, at 377; R. C. Lindsay et al., *Can People Detect Eyewitness-Identification Accuracy Within and Across Situations?*, 66 J. APPLIED PSYCHOL. 79, 87 (1981) (exploring the impact of witness identification on investigators and jurors).

  [64] Harold W. Elder, *Trials and Settlements in the Criminal Courts: An Empirical Analysis of Dispositions and Sentencing*, 18 J. LEGAL STUD. 191, 194, 197 (1989).

  [65] The relevant data come from experiments in which participants either assume the role of an innocent or guilty defendant. Kenneth S. Bordens, *The Effects of Likelihood of Conviction, Threatened Punishment, and Assumed Role on Mock Plea Bargaining Decisions*, 5 BASIC & APPLIED SOC. PSYCHOL. 59 (1984); W. Larry Gregory et al., *Social Psychology and Plea Bargaining: Applications, Methodology, and Theory*, 36 J. PERSONALITY & SOC. PSYCHOL.

innocence is associated with the decision to reject plea agreements, the proportion of innocent defendants at trial will increase.[66]

Section V examines a critical decision point in the flow of eyewitness identification evidence through the criminal justice system: the decision by the trial judge whether to admit or exclude the identification evidence.

V. ADMISSIBILITY OF EYEWITNESS IDENTIFICATION EVIDENCE

It is useful, at this point, to place the Blackstone Ratio in the context in which it was stated. "All presumptive evidence of felony should be admitted cautiously: for the law holds, that it is better that ten guilty persons escape, than that one innocent suffer."[67] Thus, the Blackstone Ratio is aimed directly at decisions regarding the admissibility of evidence. These are decisions over which the criminal justice system has complete control.

Admissibility decisions are guided by two Supreme Court decisions, *Neil v. Biggers*[68] in 1972 and *Manson v. Brathwaite*[69] in 1977, which established a two-pronged admissibility test. The first prong is a determination of suggestiveness. In both decisions, the Court opined that suggestiveness alone was insufficient for the exclusion of identification evidence. As the Court noted in *Manson*, a "suggestive . . . identification procedure does not in itself intrude upon a constitutionally protected interest,"[70] and both Supreme Court decisions consider not only the suggestiveness of the identification procedure, but also (in the second prong) other factors and indices that, in the opinion of the Court, would be relevant to a determination of the reliability of the identification evidence. The Court opined, "[r]eliability is the linchpin in determining the admissibility of identification testimony."[71] The issue, of course, is what is meant by reliability, and how one determines reliability. A reasonable measure of reliability that is available from the experimental literature is the calculation of probative value.

In both *Biggers* and *Manson*, the Court listed five factors relevant to the determination of reliability: (1) the witness's opportunity to

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1521 (1978).
    [66] Gary L. Wells et al., *Eyewitness Evidence: Improving Its Probative Value*, 7 PSYCHOL. SCIENCE IN THE PUB. INTEREST 45, 51 (2006).
    [67] 4 WILLIAM BLACKSTONE, COMMENTARIES *352.
    [68] Neil v. Biggers, 409 U.S. 188, 196, 198–99 (1972).
    [69] Manson v. Brathwaite, 432 U.S. 98, 113, 114 (1977).
    [70] *Manson*, 432 U.S. at 113.
    [71] *Id.* at 114.

view the criminal at the time of the crime, (2) the witness' degree of attention, (3) the accuracy of the witness's prior description of the criminal, (4) the level of certainty demonstrated at the identification procedure, and (5) the time between the crime and the identification.[72]

Our main concern in this section is to analyze the *Biggers/Manson* factors in terms of the diagnosticity of the underlying information used in making admissibility decisions, as well as the criterion placement in the yes-no admissibility decisions. First, the validity of the two-pronged test is discussed as it should operate in principle. Then it is discussed in terms of how it is likely to operate in practice.

A. In Principle

1. Conditions of Observation and Memory

The analyses conducted by Clark and Godfrey show that factors associated with the completeness and accuracy of memory are indeed diagnostic predictors of eyewitness identification accuracy. An identification of the suspect is more likely to be a *correct* identification of a *guilty* person, than a false identification of an *innocent* person when: (a) the witness had a better opportunity to observe the perpetrator at the time of the crime; (b) the observations were made under less stressful conditions; and (c) the identification is made sooner rather than later.

2. The Witness's Description

To what extent is the witness's description of the perpetrator a diagnostic index of reliability? At the extremes, the witness's description has to be a diagnostic index of reliability. At one extreme, a witness who is blindfolded and locked in a closet during the commission of the crime will likely be unable to provide a description of the perpetrator, and thus an identification of a suspect should be viewed as unreliable. At the other extreme, an identification made by a witness who—prior to the identification— provided a detailed description of the perpetrator right down to the location of a mole on the left side of the perpetrator's face, about an inch in front of the left ear, is likely to be accurate.

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[72] *Id.*; *Biggers*, 409 U.S. at 199–200.

These boundary conditions are consistent with an underlying assumption that a complete and accurate description is the product of a complete and accurate memory. This assumption has some empirical support in that person descriptions are better when the conditions of observation are better.[73]

There are, however, three problems. First, the boundary conditions are not very informative with respect to the large majority of real eyewitness cases that fall between the extremes: those cases in which the witness got a good enough look at the perpetrator to provide some descriptive information, but fall far short of the spot-on, mole-on-left cheek level of detail.[74] The second problem is that there are very few studies that have examined the relationship between description quality and identification accuracy. The question here is not whether better conditions of observation lead to better descriptions, but rather whether better descriptions are indicators of better eyewitness identification accuracy.

The third problem is that there is no objective way to measure the accuracy of the witness's description. The witness's description is not assessed for its match to the perpetrator, but rather can only be assessed for its match to the person who is believed to be the perpetrator, i.e., the defendant. This match can be quite high, even when the defendant is innocent. To illustrate, a witness may make an error in his or her description of the perpetrator. That error increases the likelihood that persons who match that incorrect description will be suspected of having committed the crime. Thus, an innocent person who is a close match to the witness's incorrect description of the perpetrator may be suspected by police of having committed the crime, and may be identified by the witness because that person matches the witness's incorrect memory of the perpetrator. The trial judge, in considering a motion to exclude the identification, will note the close correspondence between the witness's description and the defendant.

3. The Witness's Confidence

Shortly after the *Manson* decision there was much criticism of the Court's opinion that witness confidence could be used as a predictor

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[73] Christian A. Meissner et al., *Person Descriptions as Eyewitness Evidence*, *in* HANDBOOK OF EYEWITNESS PSYCHOLOGY, 2 MEMORY FOR PEOPLE 3, 8, 9, 11 (2007).

[74] *Id.*

of the witness's identification accuracy.[75]   The criticism can be succinctly summarized—"[s]cientific evidence conclusively establishes . . . that there is absolutely no correlation between an eyewitness's level of certainty in an identification and the correctness of an identification."[76]

However, as researchers have continued to collect more data and analyzed existing data more carefully, the "no correlation" view has changed.   Indeed, witness confidence does predict witness identification accuracy, and although confidence is not a perfect predictor of accuracy, the size of the correlational effect turns out to be as large or larger than for many other factors.[77]

Taken together, the *Biggers/Manson* factors are, in principle, reasonable indices of eyewitness identification accuracy. Eyewitness identification research has shown that each of the five factors, perhaps with the exception of the description-accuracy criterion, is a predictor of eyewitness identification accuracy. Then why has there been such a torrent of criticism of the *Biggers/Manson* factors over the last thirty years?

The answer may be tied to a distinction between the confidence-accuracy relationship in *practice* versus the confidence-accuracy relationship in *principle*.

B. In Practice

The problems with the *Biggers/Manson* admissibility rules fall into four categories: (1) the criteria are evaluated through the self-report of the witness; (2) the criteria as they are self-reported are very susceptible to the post-identification feedback; (3) the criteria have been inconsistently applied, often confusing indices of reliability with corroborative evidence of guilt; and (4) the suggestiveness and memory criteria are not combined in such a way that admissibility decisions are actually based on the totality of the circumstances.

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[75] Benjamin R. Rosenberg, *Rethinking the Right to Due Process in Connection with Pretrial Identification Procedures: An Analysis and a Proposal*, 79 KY. L. J. 259, 276–77 (1991); Gary L. Wells & Donna M. Murray, *What Can Psychology Say About the* Neil v. Biggers *Criteria for Judging Eyewitness Accuracy?*, 68 J. APPLIED PSYCHOL. 347, 349 (1983).

[76] Rosenburg, *supra* note 75, at 276–77.

[77] Siegfried Ludwig Sporer et al., *Choosing, Confidence, and Accuracy: A Meta-Analysis of the Confidence–Accuracy Relation in Eyewitness Identification Studies*, 118 PSYCHOL. BULL. 315, 324 (1995); J. Don Read et al., *The Relationship Between Confidence and Accuracy in Eyewitness Identification Studies: Is the Conclusion Changing?*, *in* EYEWITNESS MEMORY: THEORETICAL AND APPLIED PERSPECTIVES 107–09, 125, 127 (Charles P. Thompson et al. eds., 1998).

1. Self-Reports

How does the trial court establish that the witness had adequate opportunity to observe the criminal? The specific question is whether the witness's opportunity to observe is determined by objective means, for example, by calibrating witness statements to the time on a clock or by simply asking the witness, for example, "were you able to get a good look at the man who attacked you?" To the extent that the finding of the witness's opportunity to observe is based on the witness's self-assessment, there are likely to be problems. Most fundamentally, there is a problem of circularity. If the enquiry is to determine the reliability of the witness's identification, it seems unproductive to go back to the source whose reliability is being assessed. At its most absurd, why not simply ask the witness, "did you get it right, or not?"

The problem, of course, is that if the witness is an unreliable source, then the answers to the questions asked of that witness in order to establish the reliability of the identification may also be unreliable. This circularity suggests that there may be problems. Indeed data show that there are problems.

There is research showing that people may not be particularly good at estimating time. So when the question is asked, "how long were you able to see the perpetrator?" the answer may be an overestimate of the actual time,[78] leading the judge to believe that the witness had more time to see the perpetrator than was actually the case. Regarding the loss of information over time, Clark and Godfrey noted a trend in their analysis which suggested that as the retention time increased witnesses adjusted their criterion for making an identification.[79] One might assume that witnesses would raise their criterion with longer retention intervals so as to become more cautious in making identification decisions based on a faded memory. To the contrary, the results suggested that witnesses lowered their criterion as the retention time increased.[80] In other words, as time passed and memories presumably faded, witnesses became more willing to make positive identification responses, rather than non-identification responses.

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[78] Elizabeth F. Loftus et al., *Time Went by so Slowly: Overestimation of Event Duration by Males and Females*, 1 APPLIED COGNITIVE PSYCHOL. 3, 4 (1987).

[79] *Eyewitness Evidence*, *supra* note 14, at 36.

[80] *Id.*

2. Distortion of *Biggers/Manson* Factors

Another problem is identified by Wells and Bradfield.[81] When witnesses are given feedback indicating that they identified the "right" person, those witnesses may revise their memories accordingly, to believe that they made their identification with greater confidence and that they got a better look at the perpetrator. It is not hard to see how this could happen. The witness may simply reason: "If I identified the *right* person (and apparently I did, because the police officer told me that I did), then I must have gotten a good look at the perpetrator. How else would I have identified the right person?"

In the experiments, feedback is typically presented explicitly, i.e., "good, you identified the perpetrator." However, there are many sources of implicit feedback that operate in the criminal justice system. Simply put, the fact that the prosecutor is calling the witness to testify carries an implicit message that the witness identified the suspect who the prosecutor is quite convinced is the perpetrator.

3. Confusion Between Reliability and Corroborative Evidence of Guilt

The *Biggers/Manson* reliability criteria are reasonably well-focused on factors related to the accuracy and completeness of the witness's memory. However, the reliability criteria have been misinterpreted in many cases in terms of the reliability of the trial outcome, rather than the reliability of the evidence.[82] The distinction here is between corroborative evidence regarding the reliability of the identification versus corroborative evidence of the defendant's guilt. The latter is illustrated in *Gilday v. Callahan* wherein the United States Court of Appeals for the First Circuit stated: "On the whole, we consider this eyewitness evidence, while not without weaknesses, impressive," and continued:

>Further, the evidence was overwhelming that Gilday was involved in the crime. In his own testimony, he

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

[82] *See* Rudolf Koch, *Process v. Outcome: The Proper Role of Corroborative Evidence in Due Process Analysis of Eyewitness Identification Testimony*, 88 CORNELL L. REV. 1097, 1100–01 (2003).

acknowledged that he had bought the semiautomatic weapon and one of the cars that had been used in the robbery and murder, that he had stolen a license plate and affixed it to another car used by the robbers.[83]

The short of it is that the identification was reliable because the defendant was guilty.

This confusion does not begin or end with the *Biggers* or *Manson* decisions. In *United States v. Wade* the Court enumerated a list of six factors, three of which are common to the *Biggers/Manson* factors, to be considered when determining whether an in-court identification, following an illegal pretrial identification, had an independent source.[84] Similarly, in *Stovall v. Denno*, the Court affirmed the judgment of the Court of Appeals, noting that "a claimed violation of due process of law in the conduct of a confrontation depends on the totality of the circumstances surrounding it."[85]

In 1971, the Minnesota Law Review described numerous cases where the decisions of lower courts regarding the admissibility of eyewitness identification evidence appeared to have construed the totality and independent basis criteria as corroborating evidence of the defendant's guilt. The Minnesota Law Review did not mince words: "[i]n other words, anything goes as long as he's guilty."[86] This problem, based on the trial court's confusion between corroborative evidence of identification reliability and corroborative evidence of the defendant's guilt, has not been ameliorated by the application of the *Biggers/Manson* factors.[87]

4. The Combined Assessment of Suggestibility and Memory Factors

In general, the more diagnostic information one considers in making a decision, the more accurate the decision should be. Should not a two-prong decision be more accurate than a one-prong decision? This might be the case if admissibility decisions were based on evidence of a suggestive procedure *and* evidence regarding memory factors. However, in the *Biggers/Manson* assessment of reliability, memory trumps suggestiveness.[88] Factors that would

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[83] Gilday v. Callahan, 59 F.3d 257, 270 (1st Cir. 1995).

[84] United States v. Wade, 388 U.S. 218, 241 (1967).

[85] Stovall v. Denno, 388 U.S. 293, 302 (1967).

[86] Note, *Pretrial Identification Procedures—Wade to Gilbert to Stovall: Lower Courts Bobble the Ball*, 55 MINN. L. REV. 779 (1971).

[87] *See* Koch, *supra* note 82, at 1114, 1116.

[88] *Id.*

suggest that the witness's memory *should* be accurate, e.g., adequate opportunity to observe and a relatively short retention interval, completely override concerns about suggestive procedures.[89]

C. Summary

We return now to our analysis of admissibility decisions in terms of the underlying information and the criterion placement in the yes-no decision whether to admit the evidence. In principle, the two-pronged approach seems entirely reasonable. It uses information that has diagnostic value. The probative value of a suspect identification *does* increase when the conditions of observation and memory are better. However, in practice, the indices of reliability are themselves unreliable. Because suggestibility concerns are trumped by the indices of reliability, an identification that is the result of a highly suggestive procedure can be admitted into evidence if the witness simply asserts that he or she is absolutely certain.[90] Thus, in the Detection Theory analysis, the information as it is received by the trial court may have low diagnostic value, and the criterion for the yes-no admissibility decision may be exceedingly low.

VI. EYEWITNESS IDENTIFICATION EVIDENCE AND JUROR DECISION MAKING

James Bradley Thayer observed that the laws of evidence, including admissibility decisions, are in large part the "child of the jury system."[91] It is that jury system to which we now turn our attention.

Application of the *Biggers/Manson* criteria suggests that juries will be presented with eyewitness identification evidence if: (1) the conditions of memory are poor, provided that there is no determination that the procedures were suggestive; (2) the procedures are determined to be suggestive, but the conditions of memory are (deemed to be) good; or (3) the conditions of memory are good and there is no determination that the procedures are suggestive.

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[89] *Id.* at 1114.

[90] *See id.* (describing one of the *Biggins* factors as the witness' level of certainty).

[91] James Bradley Thayer, A PRELIMINARY TREATISE ON EVIDENCE AT THE COMMON LAW 266 (1898).

This raises two questions: what do jurors know, understand, and believe with respect to the factors that are associated with eyewitness identification accuracy and to what extent does that knowledge translate into juror verdicts?[92] The focus of this section is, as it was in previous sections, on the diagnosticity of the information used in decision-making (i.e., the juror) and the decision processes that underlie the yes-no binary decision, in this case the yes-no decision of guilty or not-guilty verdicts.

The analyses suggest that (a) lay people (i.e., those who may become jurors) have reasonable but imperfect and malleable knowledge regarding the factors that determine eyewitness identification accuracy; that (b) people have a one-sided view of accuracy that emphasizes correct identifications of the guilty, but gives less consideration to correct non-identifications of the innocent; and that (c) people have difficulty in applying their general knowledge to actual eyewitness identifications.

A. What People Know and Believe About Eyewitness Evidence

The claim is often made that lay people do not have sufficient understanding of the factors that determine eyewitness identification accuracy.   However, lay intuition may be more consistent with the results of eyewitness identification experiments than previously thought.[93]

When Shaw, Garcia, and McClure asked people in an open-ended format to list factors that they believed were relevant to the accuracy of eyewitness identification evidence,[94] they listed characteristics of the eyewitness (for example, vision and emotional state during the crime) most often and police procedures least often.[95]   This emphasis on witness memory factors over police procedure factors is, in fact, consistent with the data in Table 2. Changes in the probative value of a suspect identification are larger for memory-related factors than they are for factors related to the suggestiveness of police procedures.[96] Of course, one may question whether people listed memory factors more than police procedures

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[92] Of course, jurors alone do not render verdicts. Juries do. The use of the term juror rather than jury reflects the state of jury research related to eyewitness identification.

[93] *See* J. Don Read & Sarah L. Desmarais, *Lay Knowledge of Eyewitness Issues: A Canadian Evaluation*, 23 APPLIED COGNITIVE PSYCHOL. 301, 318 (2009).

[94] John S. Shaw et al., *A Lay Perspective on the Accuracy of Eyewitness Testimony*, 29 J. APPLIED SOC. PSYCHOL. 52, 52, 65 (1999).

[95] *Id.* at 65.

[96] *See infra* Table 2.

because of their nuanced understanding of how correct and false identification rates vary due to memory and decision factors, or whether their responses simply reflect a bias to think of eyewitness identification accuracy in terms of identifying the guilty rather than clearing the innocent.

The open-ended question format used by Shaw et al. is illuminating in that it reveals what "comes to mind" without prompting, and may be viewed as an indicator of the beliefs and biases jurors bring with them to the trial. There are, of course, advantages and disadvantages to the open-ended question format. The advantage is that the responses are less influenced by the form of the question. The disadvantage is that open-ended questions may provide a low estimate for what people actually know or understand about eyewitness evidence. One might expect that more direct questions will reveal that deeper knowledge and understanding. Both sides of this issue will be discussed in turn.

The relevant data come from multiple choice surveys, including true-false questions and comparisons of brief eyewitness scenarios.[97] In the scenario-comparison studies, people were presented with descriptions of two witnesses or two sets of circumstances and were asked which would be more likely to produce an accurate[98] or reliable[99] identification.

Consistent with the open-ended survey, people generally appear to believe that stress results in decreased accuracy of memory[100] and that accuracy increases with the opportunity to observe and direct one's attention to the perpetrator.[101] People also seem to agree that memory accuracy will be better with shorter rather than longer retention intervals.[102] In fact, regarding retention intervals and forgetting rates, although people may not intuitively predict the

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[97] Kenneth A. Deffenbacher & Elizabeth F. Loftus, *Do Jurors Share a Common Understanding Concerning Eyewitness Behavior?*, 6 LAW & HUM. BEHAV. 15, 18 (1982); Saul M. Kassin & Kimberly A. Barndollar, *The Psychology of Eyewitness Testimony: A Comparison of Experts and Prospective Jurors*, 22 J. APPLIED SOC. PSYCHOL. 1241, 1242 (1992); R.C.L. Lindsay, *Expectations of Eyewitness Performance: Jurors' Verdicts do not Follow from Their Beliefs*, *in* ADULT EYEWITNESS TESTIMONY: CURRENT TRENDS AND DEVELOPMENTS 362, 364 (David Frank et al. eds., 1994); Richard S. Schmechel et al., *Beyond the Ken? Testing Jurors' Understanding of Eyewitness Reliability Evidence*, 46 JURIMETRICS 177, 194 (2006).

[98] Lindsay, *supra* note 97 at 364, 371.

[99] Schmechel et al., *supra* note 97, at 197–203.

[100] Deffenbacher & Loftus, *supra* note 97, at 19–20; Kassin & Barndollar, *supra* note 97, at 1242–44; Schmechel et al., *supra* note 97, at 197.

[101] Lindsay, *supra* note 97, at 365–66.

[102] *Id.* at 365.

precise power-law shape[103]   of the forgetting function, their estimates regarding the decline in the accuracy of memory over time suggest a faster rate of forgetting than that assumed by the scoring of the question.[104]

The direct-question surveys reveal a level of understanding not apparent in the open-ended survey. For example, when asked directly, most (but not all) people appear to appreciate that lineups are more reliable than showups;[105] that testimony can be distorted by expectations[106] and post-event misinformation;[107] and that confidence can be inflated by statements made to the witness by police.[108]

Regarding police procedures, people appear to hold some beliefs that are inconsistent with the patterns of correct and false identifications shown in Table 2. In particular, people appear to have a preference for biased over unbiased instructions,[109] biased over unbiased lineup composition,[110] and simultaneous over sequential lineups.[111]   While it is the case that suggestiveness effects are smaller than memory effects when it comes to the probative value of a suspect identification, the effects do not favor biased instructions, biased lineups, or simultaneous lineups, unless of course one is focusing only on the correct identification rates. Such results fit with the view that for many people "accuracy" means identifying the guilty. Indeed, operating under such a one-sided view of accuracy, one should prefer biased instructions, biased lineups, and simultaneous rather than sequential lineups because experiments show that identification rates for guilty suspects are higher under those conditions.[112]

The one-sided view of eyewitness accuracy overlooks or at least under-appreciates the possibility of a false identification and suggests that jurors may apply a decision rule with a low criterion when making decisions about eyewitness identification evidence.

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[103] John T. Wixted & Ebbe. B. Ebbesen, *On the Form of Forgetting*, 2 PSYCHOL. SCI. 409, 414–15 (1991).

[104] *See generally* Defenbacher & Loftus, *supra* note 97.

[105] Schmechel et al., *supra* note 97, at 200–01.

[106] Kassin & Barndollar, *supra* note 97, at 1244.

[107] *Id.* at 1243; Schmechel et al., *supra* note 97, at 195.

[108] Schmechel et al., *supra* note 97, at 198–99.

[109] Kassin & Barndollar, *supra* note 97, at 1243; Lindsay, s*upra* note 96, at 369; Schmechel et al., *supra* note 97, at 201–02.

[110] Lindsay, *supra* note 97, at 375–76, 378.

[111] Schmechel et al., *supra* note 97, at 203.

[112] *See Eyewitness Evidence*, *supra* note 14, at 31, 35.

B. What People Do: Verdicts in Mock-Juror Trials

We now look to mock trials to see how juror beliefs are related to juror verdicts.

The definition of a mock trial, as it is used here, is quite broad, and includes studies in which people are presented with evidence and are asked to make believability judgments and/or render verdicts. In some cases the presentation of the evidence is little more than a bare-bones written summary of the facts; in others the trial testimony is presented live or on videotape.[113] In the latter set of studies, some involve the "real" witnesses who participated in studies like those described in Part III of the present paper. Others use actors to play the role of the witness.

The results of mock trials have sometimes been taken to show that jurors are simply insensitive to most of the factors that are considered to be relevant to the evaluation of identification evidence.[114] However, jurors do not appear to be insensitive to *everything*. The pattern of results regarding the factors that seem to matter and those that do not sheds light on how people conceptualize and evaluate identification evidence. One aspect of the experiments may be quite important – whether the evidence was presented in a natural and narrative form, as it would be presented to the jury in an actual criminal trial, or was presented in a reduced form, such as a short written summary of the key points.

1. Trial by Summary or Audiotape

First, people do give fewer guilty verdicts when the evidence includes information about the witness's low abilities. Here, jurors cannot be described as insensitive. A large number of studies, with few exceptions, have shown that witnesses who were shown to have very poor eyesight were routinely disregarded by mock-jurors. These studies are of the bare-bones summary format. They present three conditions to different groups of mock jurors. A baseline condition includes evidence other than eyewitness identification evidence. A second condition adds an eyewitness identification to the baseline condition. In a third condition the eyewitness who made the identification is revealed to have very poor eyesight.

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[113] *See, e.g.*, Bernard E. Whitley, Jr., *The Effects of Discredited Eyewitness Testimony: A Meta-Analysis*, 127 J. SOC. PSYCHOL. 209, 12 (1987).

[114] BRIAN L. CUTLER & STEVEN D. PENROD, MISTAKEN IDENTIFICATION: THE EYEWITNESS, PSYCHOLOGY, AND THE LAW 207, 209 (1995).

Although the initial study by Loftus[115] suggested that jurors were oblivious to the visual limitations of the witness, subsequent studies have shown that not only do people quite often disregard the identification evidence, but in some studies the witness is rejected rather soundly such that guilty verdicts are returned less often when a discredited witness is presented than when no eyewitness is presented.[116]

In other studies, mock jurors returned fewer guilty verdicts when the observations were made at night (0.37) rather than on a sunny afternoon (0.57),[117] fewer guilty verdicts when the witness's description did not match the defendant, and fewer guilty verdicts when the trial summary stated that the witness's attention was directed elsewhere.[118]

2. More Realistic (Videotaped) Trials

In studies that use actors to play the role of the witness, the jurors cannot return objectively correct or incorrect verdicts. Such studies vary the testimony across conditions to create scenarios that would be more or less indicative of accuracy. In these studies, mock-jurors appear to be insensitive to variation in the witnessing conditions; mock-jurors return guilty verdicts equally often irrespective of the conditions of observation, the stressfulness of the crime, the time between the crime and the identification, the similarity of the fillers in the lineup, the bias of the instructions given to the witness, and whether the lineup was presented simultaneously or sequentially.[119]

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[115] Elizabeth F. Loftus, *Reconstructing Memory: The Incredible Eyewitness*, 8 PSYCHOL. TODAY 116 (1974) (examining the effects of suggestibility on the memory of eyewitnesses).

[116] Whitley, *supra* note 113, at 209–10.

[117] See R. C. L. Lindsay et al., *Mock-Juror Evaluations of Eyewitness Testimony: A Test of Metamemory Hypotheses*, 16 J. APPLIED SOC. PSYCHOL. 447, 456 (1986). The proportion of guilty verdicts was 0.57 (daylight) and 0.37 (night). The effect was reported as statistically non-significant. However, the size of the effect is relatively large ($r = 0.200$). The trial in this study was presented on audiotape. *Id.*

[118] *See* Amy L. Bradfield & Gary L. Wells, *The Perceived Validity of Eyewitness Identification Testimony: A Test of the Five* Biggers *Criteria*, 24 LAW & HUM. BEHAV. 581, 585 (2000). This same study, however, did not report significant variation due to whether the witness had an obstructed or unobstructed view, or made the identification the night of the crime or six months later.

[119] Brian L. Cutler et al., *Juror Decision Making in Eyewitness Identification Cases*, 12 LAW & HUM. BEHAV. 41, 50 (1988); Brian L. Cutler et al., *Juror Sensitivity to Eyewitness Identification Evidence*, 14 LAW & HUM. BEHAV. 185, 188–89 (1990); Jennifer L. Devenport et al., *How Effective are the Cross-Examination and Expert Testimony Safeguards? Jurors' Perceptions of the Suggestiveness and Fairness of Biased Lineup Procedures*, 87 J. APPLIED PSYCHOL. 1042, 1051 (2002); Lindsay, *supra* note 93, at 373; Shaw et al., *supra* note 90, at 54.

One of the limitations of studies using actors is that the actors may present themselves in ways that are different from the way a "real" eyewitness might behave. There are, however, a small handful of studies that have linked the eyewitness identification studies like those described in Part III of the present paper with juror decision-making studies. In such studies, real witnesses—real in that they actually did witness a crime, however staged it may have been, and actually did make an identification from a lineup— give testimony before participants who each take the role of the juror.

The results of such studies are rather sobering. In one study by Wells, Lindsay, and Ferguson (1979) mock-jurors observed a cross examination of a witness to a staged crime.[120] Of those witnesses who made an identification, 74% correctly identified the perpetrator of the crime. Thus, if one were to randomly sample from the one hundred witnesses who made an identification, the sampled witness would have made a correct identification 74% of the time. Mock-jurors believed the eyewitness 80% of the time, a figure quite close to the actual proportion of correct witnesses. However, mock jurors were unable to distinguish between correct and incorrect witnesses, believing them 80% of the time when they were correct and 80% of the time when they were incorrect.

A follow-up study by Lindsay, Wells, and Rumpel varied the conditions of observation across three levels, ranging from very limited to fairly good.[121] The proportion of mock-jurors who believed the witness also increased from the more-limited to the less-limited condition, suggesting that they understood the relevance of the conditions of observation and incorporated that understanding into their assessment of the witness's accuracy. However, the sensitivity of the mock-jurors followed a flatter function than the accuracy of the witnesses. In other words, the witnesses showed greater variability in their identification accuracy across witnessing condition relative to the belief that mock jurors had in those witnesses. In addition, the sensitivity to the variation in the opportunity to observe was wiped away for witnesses who expressed high confidence.

The results from Boyce, Lindsay, and Brimacombe are relevant here as well.[122] Although their participants played the role of

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[120] Gary L. Wells et al., *Accuracy, Confidence, and Juror Perceptions in Eyewitness Identification*, 64 J. APPLIED PSYCHOL. 440, 447 (1979).

[121] Lindsay et. al., *supra* note 63, at 81.

[122] Boyce et al., supra note 22, at 444.

investigators rather than jurors, their task was nonetheless to assess the eyewitness identifications of actual witnesses to staged crimes. Their results showed that participants over-weighted the identification evidence relative to its actual probative value, thus revising their subjective probability of the suspect's guilt to be too high following an identification of the suspect, and revising their subjective probability of the suspect's guilt to be too low following a non-identification of the suspect.

C. Disconnection Between Juror Knowledge and Juror Verdicts?

People seem to have a reasonable level of understanding of the factors that influence the accuracy of eyewitness identification, but that general understanding may not make its way into their verdicts. In other words, people may know in principle that a witness's poor conditions of observation or poor vision will undermine the accuracy of that witness's identification, and yet not be able to fully incorporate that understanding when they make the yes-no, guilty or not-guilty decision about a particular witness they have heard testify. Why do juror verdicts not follow from juror knowledge? Some reasons for the disconnect are discussed next.

1. Malleability of Juror Knowledge

A pattern that emerges from studies that assess juror knowledge is that juror knowledge appears to be rather malleable. For example, although people spontaneously list the conditions of observation as a factor related to eyewitness accuracy,[123] only 36% of respondents in the Kassin-Barndollar survey agreed that memory would be less accurate with less time to observe the event.[124] Even more striking are the within-study inconsistencies in which respondents appear to directly contradict themselves. In the Schmechel survey, only 14% of respondents indicated that they thought stress improved recall for details of an event. Yet 48% of those same respondents agreed with the statement that, "the act of remembering a traumatic event is like a video recording in that one can recall details as if they had been imprinted or burned into one's brain."[125] How can stress make memory less accurate if memory of the event is burned into the brain?

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[123] Lindsay, *supra* note 97, at 373; Shaw et al., *supra* note 94, at 54.

[124] Kassin & Barndollar, *supra* note 97, at 1244.

[125] Schmechel et al., *supra* note 97, at 196, 211.

In another example, 54% of Deffenbacher and Loftus' participants indicated they thought a white woman would find the identification of a black man to be more difficult than the identification of a white man. However, only 19% of those same people endorsed the view that "they all look alike." The malleability and contradictions in juror beliefs suggest that the pathway from beliefs to verdicts has many twists and turns.

2. Over-Reliance on Witness Confidence

Perhaps the most consistent result across studies and variations in methodologies is that people place considerable weight on the confidence of the witness.[126] In the past many have been concerned that jurors might give too much weight to a witness's confidence when they evaluate the likely accuracy of that witness's identification.[127] However, in light of more recent reviews suggesting that confidence is a valid, although imperfect, predictor of identification accuracy, it makes sense that jurors consider the confidence of the witness.[128] The question remains as to how much weight is appropriate and how much weight constitutes over-reliance. Also, the issue may not be about *whether* to consider witness confidence, but rather *when* to consider confidence. A witness's expression of confidence, without the taint of confirming post-identification feedback, is a reliable predictor of witness accuracy. Statements of confidence after confirming post-identification feedback, however, are less reliable predictors of accuracy.

3. Over-Reliance on Memory for Details

A study by Wells and Leippe, using the same methodology used by Wells, Lindsay, and Ferguson (1978)[129] and Lindsay, Wells, and Rumpel (1981), showed that mock jurors were very sensitive to cross-examination questions about trivial details of the crime, and

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[126] *See* Bradfield & Wells, *supra* note 118, at 585–90; Brian L. Cutler et al., *The Eyewitness, the Expert Psychologist, and the Jury*, 13 LAW & HUM. BEHAV. 311, 320–23 (1989); Cutler et al., *supra* note 119, at 43–51; Lindsay, *supra* note 97, at 365–66; Lindsay et al., *supra* note 63, at 83–85; Shaw et al., *supra* note 94, at 62–65.

[127] *See* BRIAN L. CUTLER & STEVEN D. PENROD, MISTAKEN IDENTIFICATION: THE EYEWITNESS, PSYCHOLOGY, AND THE LAW 94–96 (1995); Michael R. Leippe, *The Case for Expert Testimony About Eyewitness Memory*, 4 PYSCHOL. PUB. POL'Y & L. 909, 924–28 (1995); Bradfield & Wells, *supra* note 118, at 590–92.

[128] *See* Sporer et al., *supra* note 77, at 322.

[129] Gary L. Wells et al., *supra* note 118, at 441–42.

were less likely to believe witnesses who had been the target of such probing cross-examinations. Their underlying assumption seems to have been that witnesses who can answer questions about such minute details must have more complete and more accurate memories. However, the opposite pattern was suggested by the eyewitness identification results. Witnesses who remembered such trivial details were actually less likely to have made a correct identification than witnesses who did not remember such trivial details. A moment's reflection suggests a possible basis of this negative correlation: A witness who is noticing the number of pictures on the wall as a robbery is taking place may not be focusing a lot of attention to the person committing the robbery.[130]

4. Over-Belief

Boyce, Beaudry, and Lindsay[131] have suggested that people have a general tendency to over-believe eyewitnesses. Of course over-belief can only be determined in the small set of studies that have data for the proportion of witnesses who made an accurate identification that can be compared to the proportion of mock-jurors who believed that the witness made a correct identification. The Lindsay, Wells, and Rumpel study is consistent with the over-belief view. Most notably, in the condition in which witnesses had a limited opportunity to observe, but stated high confidence in their identification, 33% of the witnesses were correct, but 76% of mock-jurors believed them. The Wells and Leippe study also shows the over-belief pattern, except for the condition in which witnesses were cross-examined on trivial details, showing under-belief; jurors may have incorrectly lost faith in witnesses who could not answer questions about trivial details of a crime.[132]

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[130] Gary L. Wells & Michael R. Leippe, *How Do Triers of Fact Infer the Accuracy of Eyewitness Identifications? Using Memory for Peripheral Detail Can Be Misleading*, 66 J. APPLIED PSYCHOL. 682, 686 (1981).

[131] Melissa Boyce et al., *Belief of Eyewitness Identification Evidence*, *in* HANDBOOK OF EYEWITNESS PSYCHOLOGY: MEMORY FOR PEOPLE 501, 508 (R.C.L. Lindsay et al. eds., 2007).

[132] An open question regards the basis of witness over-belief. Tyler has suggested that over-belief is motivated by the desire to convict and a need to justify that conviction. "Overbelief facilitates the ability to act on the desire to convict by providing plausible evidence of guilt and thus legitimates a guilty verdict." Tom R. Tyler, *Viewing CSI and the Threshold of Guilt: Managing Truth and Justice in Reality and Fiction*, 115 YALE L.J. 1050, 1069 (2006). Alternatively, over-belief may be somewhat automatic in that it is what humans do by default. Daniel T. Gilbert et al., *Unbelieving the Unbelievable: Some Problems in the Rejection of False Information*, 59 J. PERSONALITY & SOC. PSYCHOL. 601, 610 (1990).

5. Hypothesis-Testing and Reasoning

The question put to the juror is the same question framed earlier in this paper: given that the witness identified the defendant as the perpetrator of the crime, how likely is it that the defendant really is the perpetrator of the crime? Some of the results discussed above suggest that people may view the eyewitness identification task as a test to see if the witness has the ability to identify the perpetrator of the crime. Framed in this way, jurors may evaluate the identification evidence as a test of a single hypothesis. Specifically, *if the defendant is guilty, then the witness should identify him. The witness did identify him. Therefore, the defendant is guilty.* This reasoning is, of course, based on an invalid deductive syllogism (affirming the consequent, or "AC") and fails to consider the alternative hypothesis that the defendant is innocent. People often fail to see the error in affirming the consequent,[133] and have difficulty considering alternative hypotheses.[134]

The AC error may be reduced if people list alternatives that would lead to the stated result.[135] In other words, the AC error in the *if p then q* argument is less likely if people can generate alternatives to *p*. In the case of eyewitness identification evidence those alternatives, biased lineups and suggestive police procedures, are precisely the factors that people do not list when asked about the factors relevant to identification accuracy.[136] In that way, the failure to fully explore the defendant's innocence may be due to an availability problem; people have difficulty imagining how the defendant could have been identified if he were not guilty of the crime.

The reasoning task for the juror is not an easy one. The factors that are shown to cause false identifications of suspects who are innocent are also shown to increase the correct identification rates for suspects who are guilty. How should a juror incorporate evidence of suggestiveness in an identification procedure? The juror may consider the following questions. If the suspect is innocent,

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[133] Barbara Rumain et al., *Conversational Comprehension Processes are Responsible for Reasoning Fallacies in Children as well as Adults: If is not the Biconditional*, 19 DEVELOPMENTAL PSYCHOL. 471, 480–481 (1983).

[134] Raymond S. Nickerson, *Confirmation Bias: A Ubiquitous Phenomenon in Many Guises*, 2 REV. GEN. PSYCHOL. 175, 203 (1998); Peter C. Wason, *Reasoning*, in NEW HORIZONS IN PSYCHOLOGY (B.M. Foss ed., 1966).

[135] Denise D. Cummins et al., *Conditional Reasoning and Causation*, 19 MEMORY & COGNITION 274, 280 (1991).

[136] Shaw, *supra* note 94, at 62.

would the suggestive procedure increase his risk of being falsely identified? The answer is yes. If the suspect is guilty, would the suggestive procedure increase the likelihood of his being correctly identified? The answer again is yes. This situation may leave the juror with little to inform his or her evaluation of the probative value of the suspect identification evidence.

Finally, how should a juror reason about an identification based on conditions of observation or memory that would seem quite poor? This is part of a thread that runs through every section of this paper. For example, what if the witness got only a fleeting look at the perpetrator, in the dark, under stressful and fear-provoking conditions? If the identification procedures were not suggestive or improper, the poor conditions of observation alone would not add much to the risk of a false identification. Under such conditions one might expect a correct identification to be difficult and unlikely. But the witness *did* identify the suspect. The question is whether jurors are able to understand that, even though the poor conditions of observation do not increase the risk of a false identification, they nonetheless reduce the probative value of the suspect identification obtained. Put another way, jurors have to understand that poor conditions of observation and memory may have little or no effect on the probability of a suspect identification, given that the suspect is innocent, but have a very large effect on the probability that the suspect is innocent given that he was identified. With no evidence of suggestive factors that would *cause* the witness to specifically identify the suspect, as opposed to some other person in the lineup, there is nothing to explain how the suspect came to be identified if he did not commit the crime.[137]

D. Cautionary Notes

There are two cautionary notes with respect to the research on juror   knowledge   and   decision-making   about   eyewitness identification, both of which are grounded on a comparison of the laboratory world to the real world.

As noted earlier, part of the beauty of the experimental method is

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[137] *Applied Eyewitness-Testimony Research*, *supra* note 17, at 157. This lack of a causal explanation for a mistaken identification is at the heart of the problem noted by Wells and Loftus (2003) and Wells and Olson (2001). Poor conditions of observation and memory "might not matter much to the jury . . . because they fail to explain why the eyewitness picked the suspect out of the lineup," rather than a lineup filler. Gary L. Wells & Elizabeth A. Olson, *The Other-Race Effect in Eyewitness Identification: What Do We Do About It?*, 7 PSYCHOL., PUB. POL'Y & L. 230, 240 (2001).

that experimenters can have complete control over the conditions and the stimuli presented to study participants. One aspect of this experimental control is that conditions can be counter-balanced. For example, the confidence of the witness (high or low) can be counterbalanced with the opportunity to observe (better or poorer) in such a way as to present all four conditions (high confidence and better conditions; high confidence and poorer conditions; low confidence and better conditions; and low confidence and poorer conditions). However, what may be counterbalanced in the laboratory may not be counterbalanced in the real world. For example, the combination of poor conditions of observation and high witness confidence may co-occur less frequently in real cases than the combination of high witness confidence and better conditions of observation. This difference between laboratory co-occurrence and real world co-occurrence, however, does not challenge the general conclusion that jurors may find it very difficult to discriminate between accurate and inaccurate witnesses, particularly in cases where the factors combine in uncommon ways (such as a highly confident witness whose observations of the perpetrator were extremely limited). Rather, this conclusion suggests that some combinations are indeed uncommon.

Finally, one must consider the difference between statements of belief or verdicts rendered in the context of a laboratory experiment versus the verdicts rendered in an actual criminal case. A yes or no decision to believe the witness may not translate into a yes or no guilty verdict using a beyond a reasonable doubt standard of proof. Over-belief, to the extent that it exists, is not tantamount to over-conviction. At least two additional factors need to be considered: First, jurors do not convict defendants, juries do, and thus all of the jurors on the jury panel must believe the eyewitness in order to render a guilty verdict. There is some evidence to suggest that juries are predisposed toward leniency, at least relative to judges.[138] Second, that belief should have a higher standard of proof than belief statements made in the course of an experiment.[139]

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[138] HARRY KALVEN, JR. & HANS ZEISEL, THE AMERICAN JURY 58–59 (1966); Theodore Eisenberg et al., *Judge-Jury Agreement in Criminal Cases: A Partial Replication of Kalven and Zeisel's* The American Jury, 2 J. OF EMPIRICAL LEGAL STUD. 172, 204 (2005).

[139] The quantification of the reasonable doubt standard of proof depends on how it is measured. Direct measurements, asking people to assign a probability to the reasonable doubt standard, or by deriving membership functions, provide higher standards of proof, at or above 0.90. Indirect measurements of reasonable doubt, derived from respondents' utility estimates of trial outcomes provide much lower estimates of the reasonable doubt standard that are barely above 0.50. *See* Mandeep K. Dhami, *On Measuring Quantitative*

VII. Summary, Conclusions, and Loose Threads

Contrary to a widely-held view among eyewitness identification researchers and many legal scholars, correct identifications of the guilty and false identifications of the innocent co-vary as a function of police procedures. The view that the reduction of false identifications is costless, that it will result in no loss of correct identifications, runs counter to data and counter to the trade-off implied in the Blackstone Ratio. The other side of this trade-off is that procedures that appear to be successful, in that they increase the rate of suspect identifications, and appear to achieve that increase irrespective of the guilt or innocence of the suspect. Either way, there are no free lunches when it comes to police procedures to increase correct identification rates or reduce false identification rates.

Eyewitness identification evidence is admitted through a decision process that may, in many cases, be based on non-diagnostic information such as witness self-reports and use a decision criterion that is very low. As a result of these admissibility decisions, jurors are likely to be presented with eyewitness identification evidence at the margins of reliability. In some cases they will hear testimony from witnesses whose memories at the time of the identification are incomplete, inaccurate, distorted, or faded. In other cases they will hear testimony with conflicting indices of reliability from eyewitnesses whose memories *should be* relatively complete and accurate, but whose identifications were compromised by the influence of suggestibility.

How well equipped are jurors to evaluate such testimony? The experimental results reviewed here suggest that jurors may have difficulty doing so, not so much because of limitations in their general knowledge about eyewitness memory but rather because of the difficulty of applying that knowledge. Juries may render inaccurate verdicts as a result. Arkes and Mellers[140] have suggested that jurors are almost certainly less accurate in their decisions compared to an error rate that people say they are willing to tolerate.

A theme that was touched on only lightly in this article concerns the ability of the justice system to correct errors. The lightness of

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Interpretations of Reasonable Doubt, 14 J. Experimental Psychol. Applied 353, 357, 361 (2008).

[140] Hal R. Arkes & Barbara A. Mellers, *Do Juries Meet our Expectations?*, 26 Law & Hum. Behav. 625, 630–31 (2002).

coverage is not proportional to the importance of the issue, but rather reflects the dearth and difficulty of conducting research. The issue of error correction is important because eyewitness identification errors will occur. The police can reduce the false identification rate by implementing alternative procedures, but these alternative procedures will increase false negative errors. There is some psychological evidence to suggest that false negatives should carry less weight than false positives—to the extent that false positives confirm law enforcement's hypothesis regarding the suspect's guilt, whereas false negatives contradict that hypothesis. These are important considerations. Eyewitness identification errors are a natural product of the workings of human memory and decision-making. Error detection and correction needs to be a natural working within the criminal justice system.