Unreliable Eyewitness Evidence: The Expert Psychologist and the Defense in Criminal Cases

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In May of 1965, a person wearing wraparound sunglasses and a straw hat robbed a credit union in Warren, Michigan, escaping with nearly $5,000. A manager, an employee, and a customer witnessed the crime but on the same afternoon were unable to identify the robber, either from a book of mug shots or from a lineup. On the next day, the manager and the employee identified Louis Nasir first from a book of mug shots and then from a one-man show-up through a one-way glass. Nasir had not participated in the first lineup, although his mug shot may have been among those viewed by the witnesses on the day of the robbery. All three eyewitnesses identified Nasir as the robber from a lineup on the following Monday. There was no indication of unfairness or undue suggestion in the lineup itself.

At trial the sole issue was identification and the jury convicted Nasir, apparently choosing to believe the three eyewitnesses rather than six witnesses who placed Nasir at work on the day of the robbery. Nasir served 375 days in prison before being released after an accomplice of the now-dead robber confessed. Yet all three witnesses had expressed absolute certainty in their identifications of Nasir, who did resemble the actual robber.1

This is but one of the many instances of conviction of innocent people based on mistaken eyewitness identifications.2 Although there are numerous examples, it is very difficult to know how many innocent people have been convicted because, as in the Nasir case, it is very difficult to distinguish correct from incorrect identifications. In many of the cases the discovery of the mistake was purely a stroke of luck,3 while in others, such as the Nasir case, it was the result of diligent post-conviction investigation by defense counsel or the police detectives who participated in the case.4

One frequently-suggested method of safeguarding against convictions based on misidentification is the use of expert testimony on the unreliability of eyewitness evidence by cognitive psychologists. Trial courts

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2. See id. for two other examples of Michigan cases. See also, e.g., E. Borchard, Convicting the Innocent: Errors of Criminal Justice (1932); P. Wall, Eye-Witness Identification in Criminal Cases (1965).
3. See, e.g., E. Borchard, supra note 2, at 8.
4. See, e.g., id. at 1.
frequently have admitted such testimony, as was the case in a recent Louisiana trial. In *State v. Chapman*, the trial court permitted Dr. Robert Buckhout to testify about his experimental research, "which tended to discredit eyewitness identification generally." However, when trial courts have excluded such testimony, the defense has nearly always been unsuccessful in obtaining a reversal on appeal. The Louisiana Supreme Court recently joined the many other courts which have considered the admissibility of expert psychological testimony on eyewitness unreliability. In *State v. Stucke*, the court held that the trial court did not abuse its discretion in excluding the testimony of Dr. Buckhout, who would have testified as to the results of his own studies with the purpose of enlightening "the jury as to the quality of the victim's identification so that the jury would have a standard against which they could make an evaluation of the victim's identification." The court concluded that, because it found a substantial risk that the expert's testimony would be given excessive weight relative to the other evidence, the prejudicial effect of the testimony outweighed its probative value, that it would invade the province of the jury, and that it would not aid the jury. In so finding, the court followed the overwhelming majority of courts. In a concurrence, Justice Lemmon added that where justice requires, the judge may admit such testimony if, in his discretion, he finds that the offered expert testimony would aid the jury on the question of identity.

In light of this holding, a defense attorney might be uncertain of what approach to take when facing potentially unreliable eyewitness evidence. In such a situation, defense counsel should be aware of the

5. For example, as of 1978, Dr. Robert Buckhout had testified in at least thirty-two trials, Buckhout, Eyewitness Identification and Psychology in the Courtroom, Criminal Defense 9 (Sept.-Oct. 1977); by 1981 he had testified as an expert in more than sixty trials and pre-trial suppression hearings, see Buckhout & Greenwald, Witness Psychology, in Scientific and Expert Evidence 1291, 1296-97 (E. Imwinkelried 2d ed. 1981).

6. 436 So. 2d 451, 453 n.6 (La. 1983).

7. 436 So. 2d at 453.

8. Of the many cases involving the admissibility of expert testimony on eyewitness unreliability, there have been few reversals of trial court exclusion of such testimony. As this article went to press, this writer was aware of only two such decisions, one of which was decided too recently to be given any treatment in the text. See *State v. Chapple*, 135 Ariz. 281, 660 P.2d 1208 (1983), discussed infra text accompanying notes 447-48; *People v. McDonald*, 690 P.2d 709, 208 Cal. Rptr. 236 (Cal. 1984) (in bank) (discussed infra note 447). For a discussion of the treatment by the majority of courts, see infra notes 73-82 and accompanying text.

9. 419 So. 2d 939 (La. 1982).

10. 419 So. 2d at 944.

11. Id. at 945.

12. See infra notes 73-82 and accompanying text.

13. 419 So. 2d at 951.
factors which cause eyewitness unreliability, the results of psychological research on the subject, how these results can be used with or without expert testimony, and how the courts have dealt with such expert testimony. Before discussing the legal arguments and possible approaches, it is first necessary to summarize how eyewitness evidence can be made unreliable.

The Psychology of Eyewitness Identification

A person’s ability to identify another person depends on his capacity to perceive, remember, and articulate what occurs before him. That the processes of perception, memory, and articulation are subject to defects which might affect the reliability of eyewitness evidence has become a focal point for analysis and psychological research. Additionally interrogation can cause inaccuracies in eyewitness evidence, particularly identifications: suggestive photo or physical lineup procedures can contribute to misidentification. However, such effects are not the central concern of this paper and thus will be treated only incidentally.

Of the three cognitive processes mentioned above, perception and memory have been at the center of attention for the experimental psychologists in their studies of eyewitness evidence. Some features of articulation are often considered in studies of memory, which is broken down into three stages for analysis: encoding or acquisition, storage or retention, and retrieval.

Perception

At its most basic level, perception is the operation of the physical senses such as sight, smell, etc., but as a process it is much more. It is a social as well as a physical process in that human observers are motivated by the desire to be accurate and by the desire to live up to others’ expectations and desires. It is highly selective because the number of signals or amount of information impinging upon the senses is so great that the mind can process only a small fraction of the incoming data. Also, it is an interpretive process in that “our perceptions are

inevitably colored by personal material which is mingled with the actual sense data." Such data are meaningless unless processed in light of experience, learning, preferences, biases, and expectations. These features have important implications when a crime is involved for when a person witnesses a crime he is engaged in what can be described as "one-shot perception," that is, the selection and storage of information without an opportunity to rehearse what was seen in order to stabilize his memory. . . . The human observer is able to take the fragments of information to which there is time to pay attention (i.e., he actively reduces the information) and reach conclusions based on prior experience, familiarity, biases, expectancy, faith, desire to appear certain, and so forth. Another implication of the selectivity of perception is that gaps in information will exist, which the observer will fill by choosing details which may logically but incorrectly complete the picture. Because perception and memory closely interact, factors which cause unreliability in both will be discussed after the general features of memory are treated.

Memory

Contrary to the position taken by some, human memory does not operate like a camera, gathering every detail for later recall exactly as it was perceived. Rather, it is an active, reconstructive process in which images are constantly altered through the integration of new experiences and interpretations. A person can unknowingly integrate post-event information to fill gaps or replace forgotten or poorly remembered details, with imagination frequently playing a significant role. The result can be distorted or totally incorrect recall.

As noted earlier, experimental psychologists have treated memory as a three stage process. Encoding involves the input of perceived information into the memory system; the point of acquisition is that "at which perception registers in the various areas of the cortex and is initially stored." Storage, or retention, is that part of the process

18. A. Trankell, supra note 17, at 17.
19. Id. at 16-17. See also C. Bartol, supra note 17, at 170.
20. Buckhout, supra note 5, at 5, 6.
21. A. Trankell, supra note 17, at 18.
23. See C. Bartol, supra note 17, at 171; A. Trankell, supra note 17, at 21. See also E. Loftus, Memory: Surprising New Insights into How We Remember and Why We Forget (1980).
24. A. Trankell, supra note 17, at 23.
25. C. Bartol, supra note 17, at 170. See also Penrod, Loftus & Winkler, supra note 15, at 123.
during which the information is retained until it is to be recalled, with the lapse of time between encoding and retrieval being called the "retention interval." Finally, the retrieval stage is that in which what is commonly called "remembering" occurs: "the brain searches for the pertinent information, retrieves it, and communicates it."  

One important feature common to both perception and memory is that people are not conscious of these processes. They may be aware of the end results, but research indicates that they do not realize how the processes of perception, encoding, retention, and retrieval can manipulate and change the original information. This is a significant feature of perception and memory for those who must deal with eyewitness evidence.  

**Factors Affecting Reliability**  
The factors which affect the reliability of eyewitness performance operate on both perception and memory, and are classified according to their source. Those associated with the eyewitness himself are called witness factors, while those arising from the event being observed are called situational or event factors. Some factors will overlap both categories since the distinction between the categories is analytical rather than real. This classification reflects the typical experimental approach in which one variable or factor is studied while the others are controlled, or remain constant. As the effects of each of the factors are discussed it should be kept in mind that "other things remaining the same" is implicit in what is said. This isolation of variables one at a time has implications for the applicability of the research which will be discussed below.

A third set of factors, particular to recognition of faces, is sometimes classified as defendant factors. These will be discussed separately even though, strictly speaking, they can be classified either as witness or as situational factors. Also, those factors peculiar to the retrieval stage, i.e., those associated with the mode of interrogation, will be treated only briefly.

27. C. Bartol, supra note 17, at 171. See also Penrod, Loftus & Winkler, supra note 15, at 138.
28. C. Bartol, supra note 17, at 170-71.
29. See infra text accompanying note 121.
30. See C. Bartol, supra note 17, at 171-72; Penrod, Loftus & Winkler, supra note 15, at 123-24. See also Buckhout, supra note 5, at 6; E. Loftus, supra note 14, at 23-51.
31. See C. Bartol, supra note 17, at 171-72, 181-86; Penrod, Loftus & Winkler, supra note 15, at 146-49.
Witness Factors: The most obvious factors affecting perception are the physical limitations on the eyewitness’s own senses. Each individual has unique upper limitations on his abilities to see, hear, taste, smell, touch; anything causing the eyewitness to function beyond these limits will reduce the reliability of the eyewitness’s performance. A related factor is a witness’s physical orientation or deployment of his senses at the time of the event.

Stimulus overload occurs when the senses are overwhelmed with too much information in too short a period of time, a condition affecting both perception and memory. The effect on perception is that the witness simply is unable to sense everything that happens and may misperceive some of the information, resulting in later storage of inaccurate and incomplete information. Also, this phenomenon raises the opportunity for confabulation, i.e., the creation or substitution of false memories through later suggestion. Related to stimulus overload is the level of excitement, stress, and sensory arousal. Research indicates that very high and very low states of arousal reduce accuracy while moderate levels may increase accuracy, contrary to the commonly held belief that high arousal or stress increases accuracy. However, this relationship is not simple. It depends on the complexity or difficulty of the witness’s task in recalling the event. If the task is highly complex or difficult, high arousal will decrease accuracy while moderate levels will improve it; if the task has low complexity or difficulty, high arousal may enhance accuracy. In addition, high arousal may induce a witness to pay less attention to his surroundings. In a crime situation, the witness may be concerned with personal safety or the safety of someone close to him, and if he is the victim, he “will focus intensely on some of the personally relevant cues,” such as a weapon. Arousal is both a situation and a witness factor, and one must distinguish between the level of excitement experienced by the witness or victim and the actual level of violence, at least for theoretical purposes (it would be difficult to do practically).

A person’s expectations and stereotypes can also affect both perception and memory: what he perceives and encodes is, to a large extent, determined by cultural biases, personal prejudices, effects of training, prior information, and expectations induced by motivational states, among

33. Id.
34. C. Bartol, supra note 17, at 172.
35. Id. at 175-77. See also Katz & Reid, Expert Testimony on the Fallibility of Eyewitness Identification, 1 Crim. Just. J. 177, 184-86 (1977) (citing cases in which the court adhered to the erroneous belief that high arousal increases eyewitness accuracy).
36. C. Bartol, supra note 17, at 176.
37. Id. at 177.
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others. For example, in one experiment a "semi-dramatic" photograph was shown to a wide variety of subjects, including whites and blacks of varying backgrounds. The photograph showed several people sitting in a subway car, with a black man standing and conversing with a white man, who was also standing, but holding a razor. Over half of the subjects reported that the black man had been holding the razor, and several described the black man as "brandishing it wildly." Effectively, expectations and stereotypes cause people to see and remember what they want or expect to see or to remember. This phenomenon should be of concern to the criminal justice system as "there is evidence that some people may in fact incorporate their stereotype of 'criminal' in their identification of suspects. . . . [One study] suggests that many people have stereotypes about how 'deviants' and criminals are supposed to look."

The accuracy of perception and encoding also depends on how well "prepared" the witness is to receive and process the information. The kind of pre-exposure instructions or information the witness has will affect his ability to concentrate on essential details; the required depth of processing (e.g., is he asked to assess another person's honesty or attractiveness) will affect how the witness looks at the person and how he integrates the information with what he already knows; and the presence or absence of verbal labels such as signs or captions on pictures simplifies the witness's task.

Event or Situational Factors. The shorter the time available for observation, the less complete will be perception and recall. While accuracy will diminish as the rapidity of the event increases (i.e., as exposure time declines), both accuracy and completeness will increase as the frequency of exposure increases. The experimental results clarify the distinction between recall memory and recognition memory. The former refers to the ability to remember and describe details of what was observed, while the latter refers to the ability to identify a person or thing as being the one previously seen. The accuracy of both is increased by an increase in exposure time; however, the accuracy of recall memory decreases with increasing complexity of the event, while that of recognition memory increases with increased complexity.

The nature of the crime is another factor that may affect memory.

39. Id. at 129-30. See also A. Trankell, supra note 17, at 18-19.
42. Penrod, Loftus & Winkler, supra note 15, at 130-34.
43. Id. at 124-25; C. Bartol, supra note 17, at 172.
44. Penrod, Loftus & Winkler, supra note 15, at 125.
Some researchers suggest that accuracy of memory will improve as the seriousness of the crime increases. For example, a witness may have better recall of the theft of an auto than of the theft of a pencil. This is presumably because the less serious the event, the less attention and energy the witness is likely to devote to it. Nonetheless, the more serious the offense, the more likely is the witness to choose a suspect from a lineup even if the perpetrator is not present. On the other hand, studies suggest that the more violent the act, the lower will be the accuracy and completeness of perception and memory. This reduced accuracy would result from the higher level of arousal or excitement that a more violent crime would produce. Also, possibly because of the divided attention that would result, recall of violent events may decline as the number of perpetrators increases. Accuracy and completeness of memory will decline as the retention interval increases simply because we tend to forget more as time passes, and because the passage of time increases the opportunities for confabulation.

In the retrieval stage, accuracy and completeness of eyewitness evidence depends on several factors. The nature of the questions is important. Free narrative questions tend to produce more accurate but less complete responses, while direct, or controlled narrative questions tend to give lower accuracy but greater completeness. Biased questions, such as leading questions or those with biased terms (such as "smashed" or "clobbered" rather than "hit" or "contacted") enhance the opportunity for suggestion to fill gaps or replace poorly remembered details. In addition, undue suggestion and confabulation can result from multiple retrievals, from biases in lineup instructions, and the use of hypnosis.

45. Id. at 128-29; C. Bartol, supra note 17, at 173.
46. Penrod, Loftus & Winkler, supra note 15, at 128-29. See also C. Bartol, supra note 17, at 174.
48. C. Bartol, supra note 17, at 175.
49. Penrod, Loftus & Winkler, supra note 15, at 134-38; A. Trankell, supra note 17, at 23.
50. Penrod, Loftus & Winkler, supra note 15, at 138-39. A free narrative question calls for the witness to describe his recollection freely, without prompting or requests for specific details. For example, "What did you see that evening?" would be a free narrative question. A controlled narrative question, on the other hand, would require the witness to give his recollection of specific details, as requested by the interrogator. For example, "What did the assailant do when he reached the corner?" would be a controlled narrative question, when asked in a series of similar questions which sequentially lead the witness through his recall of the events.
51. Id. at 139-40.
52. Id. at 140-44. On hypnosis, see generally Note, Admissibility of Hypnotically Enhanced Testimony in Louisiana, 44 La. L. Rev. 1039, 1040-46 (1984) and authorities cited therein.
Facial Recognition. One factor which affects the accuracy of eyewitness identification is the process known as “unconscious transference,” or the tendency to confuse a person seen in one situation with another person seen in a different situation. Loftus argues that this results from the integration of new information into the memory, with the consequent transformation of old information. Regardless of the theoretical explanation, one aspect of transference has great significance for those who must deal with eyewitnesses: “in any given case it is nearly impossible to tell whether transference has occurred or not.” That a witness does not realize that transferrence has occurred reduces the chances for an effective attack on the witness’s credibility and strengthens his image as a believable witness.

Recall of a face depends on the particular face; some are more easily recalled than others, with uniqueness and attractiveness playing a role. In any case, research consistently shows that a face seen but once for a short time will be accurately identified only about 70% of the time and rarely more than 85% of the time. Accuracy of identification is also affected by the race of the person observed; the accuracy of identification of members of one’s own race is higher than that of members of other races. This result might be explained by the fact that people are more familiar and have had more experience with members of their own race.

Given that these factors operating singly and together can produce significant unreliability in eyewitness evidence, the question which naturally arises is whether the legal system has recognized the dangers of such testimony and if so, what safeguards does it have to counteract the risks involved?

Eyewitness Evidence in the Legal System

The legal profession has long been aware of the problem’s existence and its general nature. Bentham recognized defects in perception and memory and their effect on the reliability of testimony as early as the first half of the nineteenth century. Numerous legal commentators have addressed the subject since then, with some writers such as Borchard

53. E. Loftus, supra note 14, at 142.
54. Id. at 143-44.
55. C. Bartol, supra note 17, at 181.
56. Id. at 183-86.
57. Id. at 184-85.
58. J. Bentham, 1 Rationale of Judicial Evidence, Specially Applied to English Practice 161-83 (1827).
59. See, e.g., 2 C. Moore, A Treatise on Facts or, the Weight and Value of Evidence §§ 695-698, at 749-53 (1908) (effect of excitement or fear), §§ 699-701, at 754-57 (effect of expectations), § 701, at 757-58 (inference as part of the process of perception), § 702, at 758-59 (effect of bias); Hutchins & Slesinger, Some Observations on the Law of Evidence,
documenting cases of wrongful convictions based on misidentifications.\textsuperscript{60} It is difficult to know the frequency with which innocent persons are convicted on the basis of eyewitness evidence. Some believe that the problem of misidentification still exists to nearly the same extent as that indicated by Borchard.\textsuperscript{61} That most of the examples of wrongful conviction pre-date the Second World War might suggest (1) that the phenomenon is much less prevalent today, (2) that the risk of wrongful conviction has been reduced by improvements in the training and education of law enforcement personnel and by greater sensitivity to individual rights brought about by the civil rights movement and the decisions of the Warren Court, or (3) that cases like the Geter case in Texas\textsuperscript{62} are rarities caused primarily by racial prejudice and the abuse of prosecutorial discretion rather than a fundamental failure of the system because of its reliance on eyewitness evidence.

This reasoning might partially explain what cognitive psychologists describe as the legal system’s “uncritical acceptance of eyewitness testimony.”\textsuperscript{63} Other proffered explanations include the following: weak motivation to examine the reliability of eyewitness testimony because, correctly or not, it is believed that wrongful convictions are rare, or because sound statistical information is not readily available;\textsuperscript{64} adherence

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\item 28 Colum. L. Rev. 432, 437-40 (1928) (adverse effect of stress on reliability of perceptions), 440 (suggesting that testimony admitted most readily and most frequently under the spontaneous declaration exception to the hearsay rule is that which is potentially the least reliable); Hutchins & Slesinger, Some Observations on the Law of Evidence—Memory, 41 Harv. L. Rev. 860, 872 (1928) (risk that false recognition may generate false recall); Morgan, The Relation Between Hearsay and Preserved Memory, 40 Harv. L. Rev. 712, 719 (1927) (The witness’s “capacities of perception, memory, and narration, and his disposition to make an honest use of them can be satisfactorily examined. Only his opportunity and incentives for exercising his powers of perception are beyond effective questioning.”)
\item 60. See supra note 2.
\item 62. In the Geter case, a black employee of a high technology firm in a suburb of Fort Worth, Texas, was convicted of armed robbery on the basis of eyewitness identifications, in spite of the testimony by Geter’s co-workers that he was working in the office at a time which would have precluded the conclusion that he could have been at the scene of the robbery. There were few blacks living in the area, or working there, and there were allegations that the prosecution of the case was racially motivated. The nationwide attention, led by the CBS television program \textit{60 Minutes} was helpful in obtaining an order for a new trial, and after serving nearly 16 months of life sentence, Geter was released pending a new trial. Three months later, after four of the five eyewitnesses identified another man as the robber, the prosecution dropped the charges. See Baton Rouge Morning Advocate, Mar. 22, 1984, at Al, col. 4.
\item 63. See, e.g., Buckhout, supra note 5, at 5.
\item 64. Goldstein, supra note 41, at 226-27.
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to the erroneous belief that "the human observer is a perfect recording
device—that everything that passes before his eyes is recorded and can
be pulled out by sharp questioning or 'refreshing one's memory';"65
adherence to the status quo because action on the basis of knowledge
that perceptual processes are "highly unreliable, or unpredictably biased,
or riddled by random error" would require extensive and very difficult
changes in the criminal justice system;66 and, continued treatment of
eyewitness evidence as direct evidence, in spite of the availability of
information which shows that additional inferences must be made from
eyewitness evidence to establish the facts, and that it is not different
from other forms of circumstantial evidence.67 It cannot be said that
the legal system is unaware of the problems inherent in eyewitness
evidence; the treatment of some of the defects in the Wade-Gilbert-
Stovall trilogy by the United States Supreme Court suggests otherwise.68

Whatever the reason for continued reliance on eyewitness evidence,
it is likely to continue. Given that the legal system probably will continue
to use such evidence, legal professionals should consider all possible
means of reducing the risk of wrongful convictions based on unreliable
eyewitness evidence. One means is the use of expert testimony by cog-
nitive psychologists. Others include the right to counsel and due process
requirements established by the Wade trilogy and subsequent cases, and
the traditional features of the adversary system, i.e., cross examination,
closing argument, and instructions to the jury. Another solution, exclu-
sion of eyewitness evidence, has been proposed by one psychologist, but
it does not seem to have gained the approval of anyone in the legal
profession. One commentator has suggested that because of its inherently
unreliable nature, eyewitness evidence be excluded "when it is the only
class of evidence available in a criminal trial," and "further . . . that
no official police action should be taken on the basis of eyewitness
testimony alone."69 This rather extreme proposal has been questioned
by both psychologists and legal commentators. One critic noted that it
would not always be necessary to require that additional evidence be
offered, and concluded that the resulting "inability on the part of the
judge and jury to exercise discretion . . . might present more problems
Another writer noted that exclusion under a balancing test like that of Federal Rule of Evidence 403 goes too far because eyewitness evidence may be the only link between the defendant and the crime, "even an unreliable identification may be completely accurate" and would be better than none at all in such instances, and finally, exclusion would prevent the conviction of those who are actually guilty.71

It is difficult to understand how an unreliable identification can be accurate, unless the commentator meant to say that an identification may be accurate even though obtained through unreliable means; it is even more difficult to understand how the application of the Federal Rule of Evidence 403 balancing test72 could be "going too far" unless an abuse of discretion is found. In any case, it seems desirable to allow the court the flexibility provided by the 403 balancing test since eyewitness evidence arises in such a wide variety of situations, and a rigid rule would unduly impede the operation of an already over-technical system. The undesirability of a rigid rule would also arise in the case of expert psychological testimony, and the courts have treated it as a matter of trial court discretion. However, the results are problematical.

**Treatment by the Courts**

The leading case in this area is *United States v. Amaral,*73 where the court held that the trial court must consider four criteria in determining the admissibility of expert psychological testimony on the unreliability of eyewitness evidence: first, its probative value must outweigh its prejudicial effects in terms of waste of time and confusion; second, it must relate to proper subject matter, *i.e.*, it must be beyond the full understanding of the average layman; third, the witness must be qualified as an expert, *i.e.*, he must in fact be an expert and must be accepted as such by the court; fourth, the testimony must conform to a generally accepted scientific theory.74 The courts have relied on one or more of these criteria, or similar considerations, in finding no abuse of discretion.

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70. L. Parker, Legal Psychology: Eyewitness Testimony, Jury Behavior 30 (1980).
71. Note, supra note 68, at 1001.
72. "Although relevant, evidence may be excluded if its probative value is substantially outweighed by the danger of unfair prejudice, confusion of the issues, or misleading the jury, or by considerations of undue delay, waste of time, or needless presentation of cumulative evidence." Fed. R. Evid. 403.
73. 488 F.2d 1148 (9th Cir. 1973).
74. 488 F.2d at 1152-53. The general acceptance criterion is derived from the standard adopted for the admission of scientific evidence in *Frye v. United States,* 293 F. 1013 (D.C. Cir. 1923). There the court stated: "While courts will go a long way in admitting expert testimony deduced from a well-recognized scientific principle or discovery, the thing from which the deduction is made must be sufficiently established to have gained general acceptance in the particular field in which it belongs." 293 F. at 1014.
in the trial court's exclusion of such testimony, with few exceptions. The courts have most frequently relied upon the proper subject matter criterion, either on the ground that the testimony would not aid the jury or on the ground that the testimony would usurp the jury's function. Frequently, the courts have concluded that the testimony is unnecessary because the traditional features of the adversary process could adequately deal with the unreliability of eyewitness evidence: cross-examination, closing argument, and special instructions to the jury. Some courts have used the general acceptance criterion to exclude the testimony, while others have concluded that the prejudicial effect outweighed the probative value based on findings of undue weight, lack of specificity to the particular eyewitness, and confusion of the issues, waste of time or undue delay.


The *Amaral* approach is not without its problems, however. It is not analytically precise because it regards the probative value—prejudicial effect balancing test as just another criterion to be used along with the other three, which are merely factors which bear on the probative value—prejudicial effect inquiry. The better approach would be to determine whether the probative value outweighs the prejudicial effects by considering the other criteria listed in *Amaral*, along with any other aspects of the case that bear on the probative value or prejudicial effects of the expert testimony.

Generally, *Amaral* has been criticized for its failure to consider the policy implications or to provide legal analysis of the merits of expert psychological testimony and for its failure to establish guidelines for the trial courts to follow in exercising their discretion in this area. More specifically, the proper-subject-matter and the general-acceptance criteria each has significant deficiencies.

Under the proper subject matter criterion, the courts have generally adopted one or both of two different but related interpretations: beyond the ken of the average layman, and invasion of the jury’s province. Under the beyond-the-ken test, the courts do not admit the testimony unless it is shown that it would aid the jury in understanding the issues. In McCormick’s words, it “must be so distinctively related to some science, profession, business or occupation as to be beyond the ken of the average layman.” This test has been interpreted as requiring merely “that the expert have a greater degree of understanding of the subject than the jury so that the offered testimony would enable the jury to evaluate the facts more intelligently.” The question then is whether cognitive psychologists have a greater understanding of the vagaries of eyewitness behavior than does the average layman. It is apparent from a study of the cases that the majority of the courts which have treated the issue do not think so. This reluctance to accept what the experimental cognitive psychologists have to offer is reflected in the legal profession and law enforcement circles. One study shows that “prosecuting attorneys and law officers are extremely opposed to its utilization in court, prosecutors significantly more so than the law officers.” This resistance has been traced in part to the legal profession’s experience with expert testimony by psychiatrists and other mental health specialists:

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83. Note, supra note 68, at 1014.
84. Id. at 1016.
86. Note, supra note 68, at 1016. See also McCormick on Evidence § 13, at 33.
87. See, e.g., cases cited supra note 76.
Part of this problem, of course, is tied fundamentally to the limited knowledge of human behavior that is available. I am referring to the limited hard evidence that has accumulated, notwithstanding the great number of studies and articles that have been published on the subject. For years, mental health experts have vastly oversold their product in the market place. . . . The mystique of psychiatry has been fueled by the exorbitant fees ($50.00 an hour) that many charge and the M.D. or Ph.D. credential tacked on the wall.  

The same writer goes on to argue that the judicial system should not allow its experience with the mental health experts such as psychiatrists to affect its attitude toward accepting "bona fide scientific psychological evidence as it bears on problems such as eyewitness testimony."  

What then should the legal system do when cognitive psychologists themselves are divided on whether their research is useful to the judicial system? On the one hand, there is the argument that "even though an all encompassing theoretical framework has yet to be developed, there is enough research literature to begin closely questioning the judicial system’s reliance on the accuracy of eyewitnesses," and that for almost a century, experimental psychologists have been developing "methodologically sound data about human perception and memory" so that they can make substantial contributions in this area. On the other hand there is the argument that the experimental techniques used by the psychologists "are not designed to answer applied questions, and worse, that (1) their experimental results can prove very misleading when generalisations for common practice are based on them," primarily because the experiments focus on groups rather than individuals, (2) they can tell only whether an effect occurs but not how significant it is, (3) they frequently involve only "tenuous abstractions of real-life situations," (4) they neglect successful performance, and (5) the strategy of investigating the effects of only one variable at a time ignores the interactions between many variables that occur in reality. Between these two extremes is the argument that, while we should be skeptical about

89. L. Parker, supra note 70, at 6.
90. Id. at 8.
91. C. Bartol, supra note 17, at 169.
93. Id. at 9-10.
94. Id. at 8-9.
95. Id. at 8 (emphasis deleted).
96. Id. at 10-11.
97. Id. at 5-6.
the trustworthiness of the experimental findings, we should also recognize that generally,

psychology has benefited the legal profession by disclosing that humans are fallible and quite limited processors of information, thus dispelling the common-sense belief that testimony will be correct as long as the witness is mentally normal and has the intention of telling the truth.

In light of this split of opinion among the experimental psychologists themselves, it is not surprising that the courts are reluctant to accept their findings. However, one feature of the experimental results indicates that they may be useful to the legal system after all. One criticism aimed at the experiments is that they never involve real crimes and thus do not accurately reflect the stress, excitement and other aspects of a crime. However, it has been pointed out that

any deficits shown under artificially controlled laboratory conditions will give an underestimate of such deficits in real life. This means that if an observer's testimony is poor in the laboratory it will be poorer still in a real life situation where numerous other factors are operating to distort memory for such things as a seen criminal or a set of criminal actions.

Thus, it seems that an experimental psychologist could testify that given results represent the best that could be expected under the circumstances of the experiment and that better performance in real life could not be expected. Whether he should be allowed to testify depends on whether such results are common knowledge.

While the courts believe that such results are common knowledge, there are data which suggest that neither laymen nor members of the legal profession nor law enforcement personnel, are fully aware of the factors which may render eyewitness evidence unreliable. One study surveyed the comparative understanding of such factors among lawyers, law students, judges, potential lay jurors and expert psychologists. It
tested their knowledge of the effects of stress and level of violence, weapon focus, time estimation, cross-racial identification, police identification, lineup identification, subjective confidence of eyewitness, question wording, eyewitness testimony and descriptions by the elderly, recognition by the elderly, person identification by the elderly, responses by children in giving eyewitness evidence, and voice identification. Although the results were mixed, the experts were shown to have significantly greater understanding of nearly all of the factors studied. In some cases the legal professionals were shown to share the same inaccurate beliefs as the potential jurors. A different study disclosed that prosecutors and police officers "regard eyewitness identification as relatively accurate and feel that its importance is appropriately emphasized by judges and jurors," while defense attorneys were found to regard eyewitness identification as inaccurate and overemphasized by the factfinder. Yet another study suggests that prospective jurors significantly overestimate the success rate of eyewitness identifications, and are also unaware of the sources of error in such identifications.

In light of these empirical findings, the notion that experimental psychologists can be of no aid to the jury must be regarded with some skepticism, and the courts' findings under the "common understanding" version of the proper-subject-matter test must be viewed as having lost much of their force. The same can be said of the invasion-of-the-jury's-function argument, but much more forcefully. Wigmore declared this basis for excluding such testimony to be misleading, unsound and a "mere bit of empty rhetoric." He noted that this argument cannot be a basis for excluding expert testimony because there is really no attempt to usurp the jury's function, and even if there were, it could not be done, simply because the jury may in any case choose to ignore the expert's testimony. This criticism was also reflected in the approach taken in the Federal Rules of Evidence. Finally, one court has noted the effect of the adoption of Federal Rule of Evidence 704 on this interpretation. In United States v. Watson, the court noted that it need not rely on the invasion-of-the-jury's-province rationale because

106. Id. at 18-19. See also 2 J. Wigmore, supra note 105, § 673, at 936.
107. See Fed. R. Evid. 704 and Advisory Committee Notes.
Rule 704 removed the objection to otherwise admissible opinion testimony on the ground that "it embraces an ultimate issue to be decided by the trier of fact." 109 The requirement that the testimony conform to a generally accepted explanatory theory is essentially an application of the Frye test for admissibility of scientific evidence. In Frye v. United States the court held that the admissibility of scientific expert opinion testimony would depend on whether the underlying scientific principles were generally accepted within the relevant field of science. 110 The viability of the Frye test itself has been seriously questioned 111 and in some applications it has been abandoned altogether. 112 In the context of expert psychological testimony on eyewitness unreliability, it has been argued that the Frye test should not apply because (1) it has not been applied to medical and psychiatric testimony, and thus by analogy, should not be applied here; 113 and (2) it is not relevant in the present context because such testimony does not deal with novel devices which the jury could regard as conclusive. 114 Some courts have rejected or ignored the Frye test in admitting expert testimony. 115 In Louisiana, the Frye test was rejected in favor of the balancing approach espoused by McCormick in dealing with the admissibility of polygraph results, 116 and this approach was followed in the case of hypnotically induced testimony. 117 Thus, the usefulness in Louisiana of the Amaral requirement of conformity to a generally accepted theory is highly questionable.

These arguments leave only the balancing test and the qualifications requirement of the Amaral criteria with unquestionable applicability in this context. That both of these criteria have continuing usefulness hardly anyone could doubt. The balancing test now forms the core of evidence law, both federal and state, 118 and it can hardly be suggested that it should be waived for expert psychological testimony when the psychologists themselves as a group are uncertain as to the usefulness of their experimental results to the judicial system. Likewise, no one is likely

109. Id. at 369 n.5.
112. See the discussion in McCormick on Evidence § 203, at 605-08.
113. Note, supra note 68, at 1022.
114. Id. at 1022-23.
115. See McCormick on Evidence § 203, at 606-07 nn.21 & 23.
116. State v. Catanese, 368 So. 2d 975, 980 (La. 1979).
117. State v. Culpepper, 434 So. 2d 76, 82-83 (La. App. 5th Cir. 1982).
to suggest, at least not seriously, that the qualifications requirement be
waived for this group of experts. However, it has been suggested that,
in assessing the alleged expert's qualifications, the court should very
closely scrutinize the witness's degrees, his empirical experience, and his
publications record.119

However, should defense counsel persuade the trial court that these
major arguments against admission of expert psychological testimony on
eyewitness unreliability are no longer persuasive, he must still convince
the court that its probative value outweighs its prejudicial effects. In
that context, the case for admission can be strengthened by pointing
out the weaknesses of the alternatives which the courts have relied upon
to safeguard against eyewitness unreliability.

_Alternatives to Expert Psychological Testimony_

It has been argued that the constitutionally-based safeguards estab-
lished by the _Wade-Gilbert-Stovall_ trilogy are insufficient because first,
the attorney may not be sufficiently aware of all of the factors which
could cause misidentification, and second, because the presence of coun-
sel at the line-up cannot eliminate or weaken those factors which are
unrelated to the identification procedure itself.120

The effectiveness of cross-examination as a safeguard against misi-
dentification is lessened by the fact that an unreliable eyewitness, because
he is unaware of the defects in his own perception and memory processes,
honestly believes that he is relating accurate observations and memories.
As a result, his apparent unshakeable belief in his testimony and his
demeanor will convey only sincerity and certainty to the trier of fact.121
Also, the effectiveness of cross-examination will depend on the cross-
examining attorney's depth of understanding in this area. As indicated
earlier, there is some question as to whether the legal profession has
sufficient understanding of the nuances of eyewitness behavior to allow
the kind of cross-examination needed.122 In addition, one study suggests
that jurors are generally unable to distinguish between accurate and
inaccurate witnesses based upon cross-examination. The results indicated
a small but significant benefit from the use of leading questions on
cross-examination, but even in that case the jurors accorded greater
credibility to the eyewitnesses.123

Several courts and commentators have addressed the usefulness of a

119. Note, supra note 68, at 1014-16.
120. Id. at 994.
121. Id. at 995.
122. See supra notes 103-104 and accompanying text.
123. Rahaim & Brodsky, Empirical Evidence versus Common Sense: Juror and Lawyer
Knowledge of Eyewitness Accuracy, 7 L. & Psychology Rev. 1, 7 (1982).
cautionary instruction to the jury as a safeguard against reliance on unreliable eyewitness evidence.\textsuperscript{124} The effectiveness of such cautionary instructions depends on the level of understanding of the lawyers who must request them, the judges who give them, and the jurors who must understand and apply them. Because lawyers and judges are not experts in the psychology of eyewitnesses, they are unable to give the jury all of the information necessary for an intelligent application of such an instruction.\textsuperscript{125} Also, the jury may choose to ignore the instruction, especially if the lawyers and the judge have not given them sufficient information to apply the instruction intelligently.\textsuperscript{126} Expert psychological testimony is seemingly necessary for an instruction to be effective because the jury must be apprised of what factors in the case are likely to have affected eyewitness reliability and how those factors might have affected it.\textsuperscript{127}

The effectiveness of oral argument as a safeguard is lessened by the same factors as is that of cautionary instructions—unless the attorneys have adequate understanding of the factors affecting eyewitness reliability, they may not be as persuasive as they could be. The admission of expert testimony would increase the potential effectiveness of oral argument in conveying to the jury the problems inherent in eyewitness evidence.

Thus, it could forcefully be argued that expert psychological testimony would be of significant help, both directly and as an aid to the traditional features of the adversary process. However, this does not mean that such an expert could not be of help without testifying. There seem to be several points in the course of a criminal case at which the expert cognitive psychologist could be of service to the defense.

\textit{The Cognitive Psychologist and the Defense}

When the defense is faced with potentially unreliable eyewitness evidence, there are three major occasions on which the assistance of a cognitive psychologist might be used, including (1) pretrial investigation and discovery, (2) cross-examination of the prosecution's eyewitness(es), and (3) direct testimony by the psychologist to impeach the eyewitness(es)' testimony.\textsuperscript{128}

\textsuperscript{125} Note, supra note 68, at 1005.
\textsuperscript{126} Id.
\textsuperscript{128} See, e.g., F. Bailey & H. Rothblatt, Fundamentals of Criminal Advocacy §§ 160-
1. Pretrial Investigation and Discovery. An expert psychologist should be very helpful in analyzing eyewitnesses' pretrial statements obtained directly through interviews or through other avenues of discovery. Generally, the expert should be present during any interviews of eyewitnesses or, should he not be able to attend, he should assist the defense attorney in designing questions to be asked. Either of these types of assistance should allow the interview to focus on those circumstances of the case which are most significant for the reliability of the eyewitness's account. Information thus obtained should prove very useful at trial during cross-examination of the eyewitness and during the expert's testimony, should he be allowed to testify. By focusing on a few key variables it might be possible to reduce the scope of the potential expert testimony, thus weakening the force of any objection on the ground of undue consumption of time.

If possible, the expert should visit the scene of the crime under conditions identical or highly similar to those of the crime itself. These activities should give the psychologist some firsthand knowledge of the case and thereby reduce the need to rely on, and thus avoid problems associated with, hypothetical questions during direct examination if the expert is allowed to testify. This visit may also increase the chances of convincing the court to admit the expert testimony since it would increase its probative value.

If the eyewitness is a potential defense witness, there should, of course, be no discovery problems in procuring an interview. In this case, the participation by the psychologist may aid defense counsel in assessing the reliability of the eyewitness's testimony and in identifying any weak points that the prosecution might key on. Also, this participation should aid in developing a rehabilitation strategy should the prosecution be allowed to use a similar expert to impeach the defense eyewitness's testimony.

If the eyewitness is a prosecution witness, discovery problems must be overcome before an interview can be obtained. Article 723 of the Louisiana Code of Criminal Procedure states that prosecution reports, memoranda and other similar materials are not discoverable by the defendant. These include statements made to the prosecution by witnesses or prospective witnesses other than the defendant. However, the

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162 (1974). Such an expert might also be of use in preparing oral arguments or in drafting cautionary instructions to be submitted to the court. On cautionary instructions see supra notes 124-27 and accompanying text.

129. For a discussion of hypothetical questions and the associated problems see McCormick on Evidence §§ 14 & 16.

130. In pointing out the deficiencies of expert psychological testimony as offered at trial, some courts have noted that the expert did not intend to testify as to the unreliability of the particular eyewitness testimony and offered only a description of the general unreliability of eyewitness evidence. See cases cited supra note 81.

131. "Except as provided in Articles 716, 718, 721, and 722, this Chapter does not
courts have created some exceptions to this rule and have held that the defendant may not be denied access to exculpatory statements by other witnesses as long as those statements are material, and that where the defendant seeks discovery of prior statements by a chief prosecution witness whose testimony bears directly on the defendant's guilt or innocence, the trial court should make an in camera inspection of the statements to determine whether the information is favorable to the defendant and, if so, whether it is material to the defendant's guilt or punishment. Such an in camera inspection of the statements may provide another opportunity for the defense to benefit from an expert psychologist's expertise. Even if not allowed to testify at trial, the expert could prove useful if he can give the trial judge specific information, orally or in brief, pointing out particular factors which might render the eyewitness evidence unreliable, and thus make it essential that the defense have access to the statements in order to make out an adequate defense.

Before the defense can interview prosecution witnesses, it must obtain their names and addresses. The courts have held that while the defendant is not entitled to the names and addresses of prosecution witnesses, Article 723 does not prohibit their discovery and that the trial court has discretion to order their discovery where failure to do so would jeopardize the defendant's fundamental rights, specifically, his right to prepare an adequate defense. The defendant must show that "there exist peculiar and distinctive reasons why fundamental fairness dictates discovery" of names, addresses and telephone numbers of prosecution witnesses. Also, the defendant's request must be specific as to why the information is essential. Having to overcome this burden presents yet another opportunity for defense counsel to benefit from the assistance of an expert psychologist who may be able to strengthen counsel's arguments that the potential for misidentification is great enough to justify discovery of the identity of the prosecution's eyewitnesses so that the defense can interview them, thus allowing the defense an opportunity to prepare an adequate defense. In this context, the defense could authorize the discovery . . . of statements made by witnesses or prospective witnesses, other than the defendant, to the district attorney, or to agents of the state." La. Code Crim. P. art. 723.

133. See State v. Ates, 418 So. 2d 1326, 1329 (La. 1982).
134. See State v. Walters, 408 So. 2d 1337, 1339-40 (La. 1982).
137. See Gregory v. United States, 369 F.2d 185, 187-89 (D.C. Cir. 1966), cert. denied, 396 U.S. 865 (1969) (Defendant was denied his right to a fair trial by prosecutor's preventing the defense from interviewing prosecution eyewitnesses.).
rely on *State v. Falkins*, where the supreme court concluded that where the defendant specifically requests information as to whether exculpatory identification evidence exists, it is reversible error for the trial court to uphold the prosecution’s failure to disclose it, especially if the state’s entire case depends on the eyewitness evidence. In that case, the prosecution failed to disclose, upon specific request by the defense, that two of the state’s eyewitnesses had misidentified one of the robbers. The court found this information to be sufficiently material to have created a reasonable doubt if brought to the jury’s attention, and concluded that the defendant had been denied a fair trial because the conviction was based solely on the eyewitness evidence. The court held the denial of defendant’s request to be reversible error.

2. **Cross-examination.** The next opportunity to benefit from the expert psychologist’s assistance is during the cross-examination of the prosecution’s eyewitness(es). To the extent that the defense is successful in discovering the eyewitness(es)’s pre-trial statements or in interviewing them, the psychologist may be able to assist counsel in preparing an effective cross-examination which focuses on the particular aspects of the case which suggest unreliability. If the expert is allowed to observe the eyewitness’s testimony on direct examination during the state’s case in chief, his assistance may also be useful in developing questions for cross-examination on matters brought out for the first time on direct examination.

3. **Direct expert testimony.** Ultimately, the most effective use of the expert psychologist would be direct testimony in the defense’s case-in-chief to impeach the prosecution’s eyewitness evidence. To be most effective, such testimony should concentrate only on those factors which are most likely to have affected the eyewitness(es) in the case. Extended treatment of eyewitness unreliability in general could cause undue consumption of time and confusion of the issues; a proffer of such broad testimony is much less likely to overcome an objection, as an examination of the cases indicates. Therefore, where there is sufficient information available about the particular eyewitness and the circumstances of his observations, the expert’s testimony should be as specific as possible and should relate only to those factors which affect the particular

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139. Id. at 417-19.
140. Id. at 418-19.
141. Id.
142. La. R.S. 15:280 (1981) allows cross-examination on the whole case once the witness testifies as to any aspect of the case. Thus, even if the prosecution declines to bring out aspects of the eyewitness evidence bearing on unreliability, the defense can do so on cross-examination.
143. See cases cited supra notes 81-82.
eyewitness's reliability. Such testimony is likely to have a better chance of surviving an objection if it can be based on the psychologist's own examination of the eyewitness and observation of the crime scene under conditions which approximate as closely as possible those conditions which existed at the time of the eyewitness's observations. However, if that is not possible, the testimony could be based on hypothetical questions or on information obtained from other sources. Ideally, the expert psychologist should be one who has done extensive empirical research on the particular unreliability-inducing factors present in the case. This would enhance the testimony's probative value as well as reduce the tendency to consume time and confuse the issues. In addition, it could be argued that the expert psychologist should also be allowed to base his opinion partly on the empirical research of other cognitive psychologists.

Conclusion

The foregoing suggests that cognitive psychologists can assist the defense in a criminal case in a number of ways. While it might be argued, as it has been by a number of psychologists and some legal commentators, that such assistance should take the form of expert testimony as a matter of law, such a result is undesirable for a number of reasons.

First, it is not obvious that such testimony will always be of any help. For instance, there may be many cases in which the witness or victim is well-acquainted with the perpetrator and had an excellent opportunity to observe the perpetrator. In those cases, the probative value would probably be more than offset by the extra consumption of time.
and confusion of the issues that admission of expert psychological testimony might entail, especially if there is also a significant amount of other evidence implicating the defendant. Indeed, in many such cases the help of a cognitive psychologist may not be necessary at all, while in others assistance in one or more of the other forms outlined above may be sufficient. The usefulness of a cognitive psychologist seems to depend on two factors: one, the significance of eyewitness evidence in the prosecution's case, and two, the likelihood of unreliability or misidentification. The greater the significance and the higher the likelihood of unreliability, the greater will be the number of ways in which the cognitive psychologist may be of help to the defense. It would seem that expert testimony would be called for only in cases where the eyewitness evidence dominates the prosecution's case and where misidentification is all but certain.\footnote{147}

Second, while the advances in experimental cognitive psychology have reached a stage at which that field may be of some help to the legal system, it has not been shown to have advanced sufficiently to justify the abandonment of the balancing test of admissibility. That the balancing test is adequate is suggested by the fact that even the four \textit{Amaral} criteria have been applied in one case to reverse a lower court's exclusion of such testimony. In \textit{State v. Chapple},\footnote{148} the Arizona Supreme Court found that the trial court had abused its discretion in excluding such testimony where there was no direct or circumstantial evidence to link the defendant to the murders other than the identifications made by eyewitnesses more than one year after the crime. The eyewitnesses

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147. See, e.g., \textit{State v. Chapple}, 135 Ariz. 281, 660 P. 2d 1208 (1983) and discussion of that case in text accompanying note 148 infra. See also \textit{People v. McDonald}, 690 P.2d 709, 208 Cal. Rptr. 236 (Cal. 1984) (in bank) a capital murder case in which six prosecution eyewitnesses identified the defendant as the murderer, one prosecution eyewitness testified that the defendant was not the murderer, and six defense witnesses testified that the defendant was out of the state at the time of the crime. The defense offered postcards and records of telephone calls to assist in establishing the alibi. The California Supreme Court reversed the conviction and held that the trial court's exclusion of expert psychological testimony offered by the defense was an abuse of discretion, stating that

\textit{When an eyewitness identification of the defendant is a key element of the prosecution's case but is not substantially corroborated by evidence giving it independent reliability, and the defendant offers qualified expert testimony on specific psychological factors shown by the record that could have affected the accuracy of the identification but are not likely to be fully known to or understood by the jury, it will ordinarily be error to exclude that testimony.}

The six prosecution eyewitnesses identifying the defendant as the culprit testified with varying degrees of certainty, and with numerous discrepancies. The opinion is silent as to whether the prosecution offered any other evidence to support the eyewitness testimony. In deciding that the error was not harmless, the court noted that the exclusion of the expert testimony undermined the defendant's principal defense.

148. 135 Ariz. 281, 660 P. 2d 1208 (1983).}
had failed to identify the defendant as either of the two assailants within one month of the crime, and the police had failed to pursue leads produced by a tentative identification of someone other than the defendant as the second perpetrator. This court applied the Amaral criteria and found that all of them had been fulfilled. This case at least suggests that the less onerous burden of the simple balancing test and the qualifications requirement could be overcome under less restrictive factual circumstances.

Defense counsel should be aware of the ways in which a cognitive psychologist can aid in preparing and presenting a defense, but given the expense and consumption of time involved, they should use care in deciding whether to seek such assistance.

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