Eyewitness testimony research: Current knowledge and emergent controversies

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ABSTRACT

Psychological research on eyewitness testimony has flourished over the last decade and there are now a number of findings that appear relevant to police and courts. We review some of the major eyewitness research findings regarding such things as the relationship between accuracy and confidence, the identification of perpetrators from lineups, and the influence of misleading information on eyewitness memory and reports. Next, we discuss a controversy over the application of eyewitness research in the courtroom, namely expert testimony. The debate regarding expert testimony has sharpened researchers’ conceptions of generalization problems and the quality of jurors’ knowledge about eyewitness accuracy, as well as raising concerns about the proper role of experimental psychologists in the legal system. We propose that the confusion and controversy over expert testimony stems largely from the fact that expert testimony represents an attempt to provide services to the judicial phase, rather than the evidence-production phase, of the fact-finding process.

EYEWITNESS TESTIMONY RESEARCH: CURRENT KNOWLEDGE AND EMERGENT CONTROVERSIES

Courtroom testimony by an eyewitness is preceded by a varied and dynamic set of psychological processes. Given the complex interaction of perception, memory, judgement, social influence, and communication processes that lead up to an eyewitness’s story of what happened, it should hardly be surprising that such testimony often is a faulty version of the original event. Nevertheless, courts of law have relied heavily on eyewitness testimony and they will continue to do so.

What do psychologists know about eyewitness testimony that could aid its understanding, prediction, and control? In this article we discuss several of the major findings in eyewitness-testimony research in recent years.¹ Included is a

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¹Canadian readers might be interested in the fact that Canadian-based research programmes have played a disproportionately large role in the eyewitness literature. Active eyewitness research programmes exist at the Universities of Alberta, British Columbia, Calgary, Guelph, Lethbridge, and Queen’s University and each of these research programmes has received major research grants. The first research conference devoted entirely to eyewitness testimony was held in Canada and two of the five major books on eyewitness testimony involved Canadian authors (i.e., Wells & Loftus, 1984; Yarmey, 1979). Finally, the most comprehensive set of guidelines for police on eyewitness testimony was produced by the Law Reform Commission of Canada, based primarily on consultation with Canadian researchers (Brooks, 1983).

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discussion of a major theoretical controversy that exists today regarding the cog-
itive processes that are involved in the well-known misleading question effect.
In addition, we describe the ways in which psychologists have tried to apply the
findings of eyewitness research and the concomitant difficulties associated with
these attempts at application.

Before discussing some of the major conclusions regarding eyewitness testi-
mony that have been reached in recent years, it might be fruitful to consider the
context in which this research has been conducted. First, although eyewitness
research often is considered a nascent area in psychology, it is neither an "area"
nor is it "nascent." Areas of research in psychology typically are limited to
labels such as social psychology, developmental psychology, cognitive psychol-
ogy, neuropsychology, perception, and so on. Within these general areas are
specializations such as attitudes, moral reasoning, memory processes, hemi-
spheric asymmetry, illusions, and so on. Eyewitness testimony is neither a spe-
cialization within these areas nor an area in and of itself; instead, it cuts across
areas. Thus, it is not surprising that eyewitness researchers have come from
several areas of basic psychology, primarily social psychology and cognitive
psychology, but more recently perception and developmental psychology. In this
sense, eyewitness testimony is not an area in psychology but a topical, real-
world concern that involves the interests of several established areas in
psychology.

Eyewitness testimony is not a new concern of psychologists; numerous
researchers were involved at various levels in eyewitness research as far back as
the early 1900s. Hugo Munsterberg's (1908) book *On the Witness Stand*, for
instance, was an excellent attempt to use basic research in perception and mem-
ory to convince the courts that psychologists could better evaluate the validity
of eyewitnesses than could the judge or lay juror. In Europe, a relatively large
group of German and French psychologists (Jaffa, Cramer, Lobsien, Lipmann,
Borst, Bogdanoff, Rodenwalt, Oppenheim, Kosog, Gunther, Gottschalk) were
contributing to Louis William Stern's *Beitrage zur Psychologie der Aussage*
during the period of 1903-1906 with empirical and theoretical articles on what
people can remember from complex scenes and events. Far removed from the
more staid memory experiments of their American counterparts, the *Aussage*
researchers were interested in direct applications of eyewitness reliability to legal
settings. Several articles later appeared in traditional American journals by Guy
Montrose Whipple, who translated the *Aussage* researchers' findings into Eng-
lish (e.g., Whipple, 1909, 1912). This early research on eyewitness testimony
waned by 1915 and, except for sporadic studies such as Cady (1924), Marston
(1924), Whitely and McGeoch (1927), Burtt (1931), Stern (1939), and Snee and
Lush (1941), did not come back in force until the mid to late 1970s. It is not
clear why eyewitness research experienced a relative hiatus for this long period
of time (see speculation by Wells & Loftus, 1984), but eyewitness research is
nascent only in the sense that it has been rediscovered, rather than being newly discovered, by psychologists.

SOME MAJOR FINDINGS IN EYEWITNESS RESEARCH

It is tempting for people who are not familiar with research on eyewitness testimony to ask the straightforward question, “How reliable is eyewitness testimony?” It is not a perturbing question to eyewitness researchers (in spite of its apparent naivete) in part because some eyewitness researchers framed the issue in that simple-minded way only a decade or so ago. In fact, as recently as 1974 an eyewitness researcher claimed in a major article that “eyewitness testimony is unreliable” (see Wells, 1978 for a critique of this notion). We now know, of course, that eyewitness reliability depends on a great number of factors and that it is sometimes quite reliable and sometimes not. A more meaningful question, then, is “Under what conditions is eyewitness testimony reliable and when is it unreliable?”

The reader should not infer that the major findings described in this section are also the major variables that affect eyewitness testimony in actual cases. As pointed out recently by Pachella (1986), most of the studies we describe derive from “fixed effects” experimental designs rather than from computations using relevant population parameters. In other words, the experiments that gave rise to these findings were based on a logic of testing whether or not one fixed-level of a variable produces different amounts of eyewitness accuracy than does a second or third fixed-level of that variable. The experiments do not necessarily attempt to represent the distribution of these variables as they occur in the real world and these experiments typically control all non-manipulated variables rather than let those variables serve as background noise as they would in the real-world. Because of the fixed-effect nature of this research, we cannot make meaningful conclusions about the robustness of these variables in actual cases. (Other concerns about real-world application are discussed later in the section on Expert Testimony.)

IDENTIFICATION FROM LINEUPS AND PHOTOSPREADS

One of the richest domains in eyewitness research involves the identification of criminal suspects from photo arrays or live lineups. These identification procedures are relied upon heavily by police as a means to determine the perpetrator of a crime. Though it seems a relatively simple task, eyewitness identification is a complex procedure and vulnerable to a number of sources of error. The mere wording of the police instructions to the witness, for instance, can influence not so much who the witness selects from the lineup, but whether or not the witness chooses to make an identification in the first place. Malpass and Devine (1981a)
demonstrated that the probability that a witness will make an identification is greatly increased if the instructions imply that the offender is one of the lineup members. In their study, half of the witnesses to a staged event were given biased instructions, indicating that the offender was present in the lineup, and no option for a “not present” response was provided. When the offender was present, 100% of the witnesses in the biased condition made an identification, 75% of which were accurate. When unbiased instructions were given (i.e., witnesses were told that the perpetrator might not be present and were given the possibility of rejecting the entire lineup), 83% chose someone from the offender-present lineup and all were correct identifications. The interesting difference, however, is that 78% of the witnesses in the biased condition also made an identification when the offender was absent from the lineup — all in error — whereas only 33% of their counterparts in the unbiased condition made the same mistake. It is clear from this study that extreme care must be taken by the officer supervising a lineup; he or she must ensure that witnesses do not assume that their task is merely to determine which member of the lineup most closely resembles the alleged offender, but to make an identification only if they recognize someone as the person they believe committed the offence.

Recent analyses indicate that lineup identifications are governed at least in part by a process whereby people identify the person who most resembles the offender (relative to other lineup members) even though they realize that the true offender might not be in the lineup (Wells, 1984a). This might account for why Malpass and Devine (1981a) continued to obtain 33% false identifications in offender-absent conditions even though they explicitly told the eyewitnesses that the offender might not be in the lineup. The idea that eyewitnesses tend to use a “best choice” strategy, rather than some absolute criterion, has led recently to research on alternatives to the traditional lineup procedure. Wells (1984a) has shown that it is possible to effectively “screen out” eyewitnesses who are likely to make false identifications by presenting them with a “lure” lineup which is composed totally of known-innocent persons. Eyewitnesses who survive this lure (i.e., who do not identify someone) can then be trusted. Another alternative to the traditional lineup was tested recently by Lindsay and Wells (1986). They reasoned that the traditional lineup might foster a best-choice strategy by the fact that all lineup members are presented simultaneously. A sequential procedure, in which lineup members are presented one at a time and to which the witness must respond yes or no, however, does not allow a best-choice strategy (i.e., who looks most like the offender?). Instead, the witness must reserve judgment based on mere similarity (the next member might look even more like the offender) and rely on a more absolute criterion (is that the offender or not?). Their data show that the sequential-lineup procedure produces fewer false identifications in offender-absent lineups than does the traditional simultaneous-lineup with no significant reductions in accurate identifications.
Recently, an important distinction has been drawn between lineups that are composed entirely of suspects and lineups that are composed of one suspect and a number of "foils" (Wells & Turtle, 1986). A foil is a known-innocent member of a lineup. Using a Bayesian statistical analysis, Wells and Turtle demonstrated that an all-suspect, six-person lineup could be expected to yield much higher overall (lineup-wise) rates of false identification than are yielded by single-suspect lineups, even though the probability of a given suspect being falsely identified is largely unaffected by the single versus all-suspect lineup distinction. This kind of mathematical/theoretical analysis of lineups helps illustrate the unique contributions of experimental research in that this analysis makes explicit the assumptions that underlie the techniques used in police lineups. In the case where police use an all-suspect lineup, for instance, there is no opportunity for the eyewitness to make a "known error," whereas a lineup that contains foils has the possibility of discovering an eyewitness who is mistaken or guessing.

Two types of research have been directed at the question of lineup fairness with respect to the composition of the lineup. One type of research has been concerned with how to measure fairness and the other type has been concerned with how or whether breaches of fairness affect the accuracy of eyewitness identifications. Doob and Kirshenbaum (1973) first proposed that lineup fairness could be measured by examining the extent to which mock witnesses (i.e., people who had never seen the perpetrator) could pick the suspect from the lineup based only on a general description of the perpetrator. The general logic behind Doob and Kirshenbaum's approach has been accepted by subsequent researchers who have tried to refine this approach. Wells, Leippe, and Ostrom (1979), for example, argued that the critical unit of measurement describing a lineup was "functional size" (number of lineup members who match the perpetrator's general description) rather than nominal size (the number of lineup members per se) because the eyewitness would never consider non-functional lineup members to be suspects in the case. In the extreme, a lineup might nominally have 6 or 10 members but functionally have only one. In such a case, a witness who has no diagnostic memory, other than recalling his or her original description, could readily co-operate with police by choosing the person who obviously is their (i.e., the police's) suspect. A similar measure has been proposed by Malpass (1981) which he calls "lineup bias." Lineup bias and functional size are not identical measures and sometimes yield quite different empirical estimates, but critical experiments have not been conducted to show one or the other measure to be more useful. Malpass has also proposed a separate index called "effective size" which turns out to be useful for lineup analyses in which all lineup members are suspects. Effective size and lineup bias are not independent measures because effective size is one of the parameters that is used to calculate lineup bias.

In order to appreciate the importance of lineup fairness measures as they relate
to eyewitness identification accuracy, it is critical to be mindful of a fundamental consideration: it is not known whether or not the perpetrator (target) is in the lineup in a given real-world case. The importance of this observation as it relates to the issue of the functional size of a lineup should be apparent. If we could assume that a given suspect in the lineup is also the perpetrator, then a low functional-size lineup might be desirable as it would make the witness’s choice of the suspect more likely. Because this state-of-the-world cannot be presumed, however, it is important to study the effects of functional-size manipulations under both presumed states (i.e., when the perpetrator is present in the lineup and when the perpetrator is absent from the lineup). Lindsay and Wells (1980) found that a high versus low functional-size lineup had little effect on accurate identifications when the perpetrator was present in the lineup, but the high functional size lineup significantly reduced false identifications when the perpetrator was absent. It should be noted, however, that Lindsay and Well’s conclusions about the value of higher levels of functional size rests on the assumption that the lineup is composed of one suspect and a number of known-innocent foils. This assumption is necessary because the effect of higher levels of functional size in perpetrator-absent lineups is one of shifting eyewitnesses’ choices from the innocent suspect toward the foils rather than increasing the eyewitnesses’ reluctance to make a choice.

CONFIDENCE/ACCURACY RELATIONSHIP

The relationship between an eyewitness’s expressed confidence in identifying someone and the accuracy of that identification has been a focus of considerable research in recent years. It is intuitively appealing to believe that an eyewitness who is certain regarding his or her identification is also accurate regarding that identification. Research evidence indicates that the confidence expressed by an eyewitness is indeed a strong determinant of whether or not people will believe that the eyewitness’s testimony is accurate (Lindsay, Wells, & Rumpel, 1981; Wells, Ferguson, & Lindsay, 1981; Wells, Lindsay, & Ferguson, 1979). The experiments on eyewitness identification, however, have not found consistent evidence to link eyewitness confidence with eyewitness identification accuracy (see reviews by Deffenbacher, 1980; Wells & Murray, 1984).

Although the majority of studies have not shown significant confidence-accuracy correlations (see Wells & Murray, 1984), some studies have found significant correlations and the nonsignificant correlations are almost always on the positive side of zero. Thus, the research literature as a whole indicates that the relationship between eyewitness confidence and accuracy is probably positive but non-robust.

The surprising prevalence of eyewitness identification studies that have yielded little or no relationship between accuracy and confidence has led to attempts to
identify the factors that control the accuracy-confidence relationship. Leippe (1980) proposed that the type of variables that affect eyewitness accuracy are not isomorphic with the type of variables that affect eyewitness confidence. Accuracy is determined primarily by memorial factors (such as encoding, storage, retrieval) whereas confidence is affected primarily by social and individual-difference factors (such as reinforcement and self-esteem). Support for this differential-determinants hypothesis is found in two types of experiments: experiments that have manipulated eyewitness identification accuracy and experiments that have manipulated eyewitness identification confidence. There is some evidence that manipulations of encoding conditions (opportunity to view the perpetrator in a staged crime) that strongly affect identification accuracy do not necessarily affect the mean confidence of the eyewitnesses who make an identification (Lindsay et al., 1981). This kind of result, which tends to support Leippe’s hypothesis, may be less surprising when one considers that the identification process is self-selective; that is, a proper eyewitness identification experiment (like a properly run real-world lineup) allows the eyewitness to make no identification. Therefore, people who lack confidence in their abilities to identify the correct person are less likely than confident witnesses to make an identification; these witnesses, in turn, do not constitute part of the data base for comparing the confidence of accurate identifiers with that of inaccurate identifiers. An eyewitness experiment that forces all eyewitnesses to make an identification is more likely to find a significant confidence-accuracy correlation, but such a procedure is ecologically invalid and creates a worse problem (an increase in false identifications).

The other type of experiment bearing on Leippe’s hypothesis is designed to test whether or not eyewitness confidence is manipulable independently of eyewitness accuracy. Support for this is found in a study in which eyewitnesses to staged thefts were “briefed” or not following their identification (Wells et al., 1981). Eyewitnesses who were briefed, merely by being told that they were going to be cross-examined regarding their identification and that they should prepare themselves, became considerably more confident and were much more persuasive under questioning than their non-briefed counterparts. This effect held more strongly for witnesses who had previously made a false identification than it did for witnesses who had made an accurate identification. Thus, eyewitness confidence appears to be malleable and this malleability can be independent of accuracy.

There are some inconsistencies across studies regarding the confidence-accuracy relationship; some studies have found an appreciable relationship (e.g., Brigham, Maas, Snyder, & Spaulding, 1982) whereas others have not (e.g., Malpass & Devine, 1981a). Wells and Lindsay (1985) have argued that these inconsistencies are due in part to whether or not the target is in the lineup. Wells and Lindsay (1985) have argued that ecological validity requires that the lineups
used in eyewitness experiments should sometimes not include the target because the actual perpetrator is not always present in real-world lineups. An analysis of previous experiments indicates that targets and their look-alike replacements in target-absent lineups are identified with equal confidence (Lindsay, 1986). On the other hand, when the target is present in the lineup, identifications of the target usually are associated with higher confidence than are identifications of foils. Interestingly, these recent data show that absolute levels of confidence are determined by the similarity of foils to the target (Lindsay, 1986). This latter observation suggests that biased lineups (i.e., lineups in which the target "stands out" as the only viable choice) will result in an elevation of the eyewitness's confidence even if the true target is not in the lineup.

Although we cannot claim that eyewitness identification accuracy and eyewitness confidence are unrelated, it does appear that those who would strongly advocate using confidence to judge accuracy will find little support in the research literature. Given the data to date, Lindsay's (1986) conclusion seems appropriate: "A confident identification does not assure accuracy but rather suggests [that] the identified person probably resembles the true criminal more than does any other lineup member" (p. 237).

MISLEADING POSTEVENT INFORMATION AND THE FATE OF MEMORY

The conclusion from early research that eyewitness testimony is generally unreliable led to the investigation of several specific factors that might distort a witness's testimony. One of the first potential sources of error to be examined was the influence of suggestive questions, or misleading information, to which a witness is exposed between the occurrence of an event and his or her subsequent testimony in court. As is the case with a number of eyewitness issues, however, misleading information was not a new topic for the researchers who began investigating its effect in the mid-1970s. At the beginning of this century, Munsterberg (1908) demonstrated that people's responses regarding details of pictures they had recently viewed could be distorted by subtle suggestions contained in questions about the event. For example, when asked, "Did you see the stove in the room?", the majority of witnesses not only responded "Yes" when in reality no stove existed, but they also located the stove's position relative to the other objects in the picture.

The revival of research on the misleading information, or misinformation, effect is credited to Elizabeth Loftus and her colleagues at the University of Washington (e.g., Loftus, 1975; Loftus & Palmer, 1974; Loftus, Miller, & Burns, 1978). Loftus has developed a procedure to assess the impact of misleading information on testimony, one which she and several other researchers have used in numerous variations of the phenomenon (e.g., Loftus et al.). In the event phase, participants are presented with a series of slides depicting an event
sequence (e.g., an auto-pedestrian mishap). In the postevent phase, each "witness" to the event sequence completes a questionnaire. Half of the witnesses, however, read a question in which a fact is implied to be different from what had actually been seen. For example, in the case of the auto-pedestrian mishap, half of the witnesses who saw a YIELD sign might be asked, "Did another car pass the red Datsun while it was stopped at the STOP sign?" After completing the questionnaire, each witness's memory for the event is tested in a recognition task; witnesses are presented with two slides simultaneously, one of which they have viewed originally and one of which conforms to the misleading information contained in the questionnaire. The extent to which respondents give answers in the test phase that are consistent with the postevent information is a measure of the malleability of their testimony.

The results of the Loftus, Miller, and Burns (1978) study, and of several others conducted by Loftus and other researchers, indicated that the majority of people responded in a manner consistent with the false information provided in the postevent questionnaire: only 41% of the witnesses who received misleading information correctly chose the slide they had seen in the original presentation, whereas 75% of the witnesses who received information consistent with the original event chose the appropriate slide. Loftus has interpreted the misleading information effect as the result of new information replacing the original memory (e.g., Hall, Loftus, & Tousignant, 1984; Loftus & Loftus, 1980; Loftus, Schooler, & Wagenaar, 1985).

Research on the misinformation effect has revealed a number of interesting factors that influence whether or not and to what extent misinformation is incorporated into eyewitness reports (e.g., see Read & Bruce, 1984). One important factor, demonstrated by Loftus et al. (1978), is the timing of the postevent information relative to the original event and the subsequent test. In general, postevent information has a greater impact on people's reports if it is administered at a later time, relatively distant from the original event, rather than immediately following the original event; as well, postevent information has more impact if it is administered just prior to the test of the person's memory than if it is administered at an earlier point (Loftus et al., 1978).

Several other factors that determine whether or not misleading information will be incorporated into witnesses' testimony have been investigated. For example, Distas and Hamilton (1977) demonstrated that people's memories for peripheral details of witnessed events are more susceptible to the deleterious effects of misleading information than are memories for more salient or central components of the incident.

Subtle wording changes can influence people's responses, as well. Recall Munsterberg's "stove" example discussed earlier: the presence of the object was implied by referring to it with the definite article "the" as opposed to the indefinite article "a." Loftus and Zanni (1975) demonstrated this effect in one
of the earliest modern eyewitness studies. Another wording manipulation concerns the gravity or magnitude of an event as implied by verb phrases. Loftus and Palmer (1974) influenced witnesses' estimates of a vehicle's speed by asking witnesses, "How fast was the car going when it hit (or smashed into) the other vehicle?" Witnesses' speed estimates were significantly greater when the question was worded with the more dramatic verb "smashed" as opposed to the less emphatic verb "hit" (but see Read, Barnsley, Ankers, & Wishaw, 1978). The complexity of the question in which misleading information is embedded also influences the impact of the misleading information. Loftus and Greene (1980) demonstrated that a misleading supposition embedded in a complex sentence proved to be more effective in changing witnesses' recollections than was the same supposition cast in a more transparent phrase.

Another misinformation phenomenon demonstrated by Loftus (e.g., 1977) is the apparent tendency for people to create compromise responses, or "blend memories." A blend memory results when a witness's experience with an original detail (like a colour) is inconsistent with information encountered after the event has occurred. So, for instance, if a witness initially views a blue car involved in an accident and later is led to believe that the car was green, the predominant response when asked the colour of the car is bluish-green. This phenomenon has especially important implications for the situation in which multiple witnesses to an incident exchange descriptions of the event before their official statements are recorded. Varying recollections among witnesses are likely to gravitate toward a common description if each person tries to incorporate aspects of the others' reports.

The question of whether a witness's memory for an event is irreversibly distorted by exposure to misleading postevent information, or whether that memory remains intact but is not accessed, is somewhat controversial. In their discussion of the memory-representation controversy, Loftus and Loftus (1980) noted that many laypeople, philosophers, and researchers in human cognition believe that a piece of information, once it is stored in long-term memory, is there to stay. For the layperson, this belief is supported largely by anecdotal accounts of startling context-reinstatement effects, heresay regarding the miraculous recovery of lost memories through hypnosis, and perhaps a vague notion of Penfield's (e.g., 1969) findings indicating that people can recall long-lost memories when certain areas of their brain are electrically stimulated during open-brain surgery.

The view that, once placed in a long-term store, all memories are permanent, does not imply that all memories are easily retrievable. Instead, the memory-permanence view posits that all memories are permanently stored and remain intact and that retrieval can sometimes require extraordinary circumstances or more sensitive retrieval tasks such as perceptual identification (see Jacoby & Witherspoon, 1983). The reason why the brain stimulation studies, hypnosis demonstrations, and spontaneous recall are so impressive as "evidence" for
memory-permanence theorists is that these observations are consistent with the notion that the seemingly lost memory merely was a problem of retrieval. Caution is required in making such an interpretation, however, because (a) spontaneous recall does not mean that the recalled event is recalled accurately or that other events previously observed, but not recalled, are present in memory, (b) hypnosis facilitates false reports at times, fails to uncover many memories, and can even be used to make people report on future events, and (c) the validation of the events that Penfield's (e.g., 1969) subjects recalled has not been made independently of the subjects' reports. Readers are referred to Loftus and Loftus (1980) for a more extensive discussion of the lack of definitive evidence for the permanent memory hypothesis.

Although there is no definitive evidence supporting the memory permanence theory, it also remains unclear whether subjects' memories are actually altered by misleading questions or whether their reports are altered while their memories remain intact and unaltered. For instance, subjects might incorporate misleading information into their reports merely because it was provided by a credible source (e.g., the investigating officer, an attorney, etc.) without really having their memory altered. Loftus maintains that the misleading-question effect is evidence that an original memory for an event is distorted, replaced, overwritten, or somehow altered by information acquired later. In support of this view, Loftus (1979) reports that incentives to subjects to report what they really believe have not eliminated the misinformation effect. Thus, it might be argued that a stop sign in an eyewitness's memory becomes, or is replaced by, a yield sign in such a way that the stop sign no longer exists in that person's memory. No retrieval conditions will uncover the stop sign in the person’s memory because the stop sign has been erased.

An alternative view of the misleading-question effect is that a misleading question about a yield sign results in two memories; one memory of a stop sign and one of a yield sign. This "co-existence" idea speculates that one or the other memory will be retrieved by the person depending on the relative availability of one or the other as determined by such things as recency or context. Consistent with the co-existence view, Bekerian and Bowers (1983; Bowers & Bekerian, 1984) reported that the misleading-question effect was eliminated by the use of a sequential retrieval test that matched the sequence of the originally-witnessed event. This finding suggests that the original memory is undisturbed by the misinformation and instead is a problem of retrieval. However, subsequent research based on larger samples has failed to confirm this finding (McCloskey & Zaragoza, 1985).

An examination of existing data on the misleading-question effect indicates that there is no solid evidence that the witnesses who remembered the original event were also the ones who misreported on that event following the misinformation. Consider, for example, a condition in which eyewitnesses view a stop
sign and are given a misleading question suggesting that it was a yield sign versus a control condition in which eyewitnesses are not misled. Suppose that the percentage reporting (correctly) that it was a stop sign was 40% in the misleading-question condition and 70% in the control condition. The data in the control condition indicate that only 40% of these subjects actually knew that it was a stop sign and the other 60% did not encode the sign information and were guessing (half of whom guessed correctly). Therefore, it is possible that the 40% who had encoded the stop sign were unaffected by the misinformation and only those who had no memory for the sign were influenced by the misleading information.

In a series of experiments designed to be critical tests of whether or not a witness’s original memory is impaired by misleading questions, McCloskey and Zaragoza (1985) used slide presentations in which an item (e.g., a hammer) was suggested to witnesses as a substitute for the item they had actually seen (e.g., a screwdriver). Some witnesses were then given the test procedure that traditionally has been used in misleading information studies; the witnesses were presented with a forced-choice task involving the original item and its misleading counterpart and asked which one they saw previously. The usual finding resulted from this procedure; fewer witnesses chose the original item in misleading than in control conditions. Using an alternative test procedure in which the original item was paired with a new item (e.g., a wrench), however, resulted in no reduction in choices of the original item compared to that obtained in a control (no misleading information) condition.

The McCloskey and Zaragoza (1985) studies make a fairly strong case for the view that misleading postevent information does not impair the original memory. Loftus, Schooler, and Wagenaar (1985), however, have made two arguments against McCloskey and Zaragoza’s thesis. Loftus et al. point out that the non-impairment view fails to explain “blend memories,” a phenomenon that has been demonstrated in studies involving memory for colour at the level of the individual witness. This phenomenon is difficult to reconcile with McCloskey and Zaragoza’s explanation for the misleading question effect, but fits nicely with the idea that the original memory has somehow been compromised or altered. The other argument offered by Loftus et al. is that McCloskey and Zaragoza’s test for impairment of the original memory was not sensitive enough to detect impairment. Loftus et al. have reported data using the McCloskey and Zaragoza procedure with more sensitive scales and these results seem to reveal some impairment of the original memory.

The question of how the misleading postevent-information effect occurs and whether or not a memory (once it is placed in long-term store) is permanent, remains equivocal. Although there seems little doubt that misleading postevent information distorts the testimony of many respondents, it is not clear if it actually alters the respondents’ original memories.
OTHER FINDINGS

The previous sections on postevent information, lineups and photospreads, and the confidence-accuracy issue, are by no means exhaustive of the major findings from eyewitness-testimony research. Nevertheless, with the possible exception of research on people’s perceptions of and intuitions about eyewitness testimony, these are the most heavily researched questions to date. Research on how people perceive and judge eyewitness testimony is something that we discuss later in the section called Expert Testimony because such research tends to be used in the context of the expert-testimony controversy.

A less heavily researched but promising question for eyewitness research concerns the eyewitness capabilities of young children (e.g., Yarmey, 1980, 1984). A recent book (Ceci, Toglia, & Ross, 1987) on children versus adults as eyewitnesses represents a significant advance toward a better understanding of the capabilities and limitations of children as eyewitnesses. Recent research seems to converge on three replicable findings. First, young children generally give less complete free-narrative accounts of a witnessed event than do older children or adults (e.g., see Goodman, Aman, & Hirschman, 1987; Saywitz, 1987). Second, although children’s free-narrative reports are less complete than adults’ reports, the proportion of accurate recall to total recall is roughly equivalent for children versus adults (Goodman et al.; Saywitz). Finally, the research generally supports the contention that young children are more susceptible to suggestion in the form of misleading questions than are older children or adults (Ceci, Ross, & Toglia, 1987; Goodman et al.; King & Yuille, 1987).

Some recent research shows promise for using context-reinstatement instructions to facilitate eyewitness memory retrieval (e.g., Geiselman, Fisher, MacKinnon, & Holland, 1985; Krafka & Penrod, 1985; Malpass & Devine, 1981b). Hypnosis, on the other hand, does not appear to enhance memory retrieval above and beyond what is expected from appropriate control conditions (see Orne, Soskis, Dinges, & Orne, 1984; Smith, 1983; Yuille & McEwan, 1985).

In addition to theoretical controversies in eyewitness research, there are some controversies over how, and whether or not, eyewitness research findings should be applied to legal contexts. Central to this controversy has been the use of expert psychological testimony in court regarding the reliability of eyewitnesses. Many psychologists are quite concerned about whether or not expert testimony should be given on eyewitness matters and argue from a variety of perspectives that such testimony is ill advised. Others argue that the triers-of-fact need help in evaluating eyewitness testimony and that the scientific literature is mature enough to provide meaningful statements about eyewitness reliability so as to assist the trier-of-fact.
EXPERT TESTIMONY

Perhaps the most obvious way to apply eyewitness research is to inform jurors and judges about the conditions in which eyewitness testimony tends to be unreliable. In recent years, many eyewitness researchers have served this role by giving expert testimony in criminal cases. Almost always, the expert in these cases has been hired by the defence counsel rather than the prosecution; this probably reflects a belief in legal circles that the psychological literature on eyewitness testimony tends to show surprising levels of inaccuracy in eyewitnesses. This belief, along with the fact that eyewitnesses typically testify for the prosecution, leads defence attorneys to see expert eyewitness testimony as something that is likely to help the case for the defence.

Expert testimony on matters of eyewitness accuracy raises a number of basic concerns. We have divided these concerns into four categories and framed them in the form of questions: What is the generalizability of the empirical eyewitness literature on which the expert testimony is based? To what extent, if any, does the trier-of-fact (judge or jury) need aid in judging eyewitness testimony? What are the effects resulting from expert testimony? What is the proper role of the psychologist (i.e., educator versus advocate)?

ARE EYEWITNESS EXPERIMENTS GENERALIZABLE?

Numerous arguments have been made about the quality of the eyewitness literature regarding the extent to which the findings are generalizable to real-world cases. Wells (1978) argued that eyewitness researchers might have a bias toward the use of experimental designs and procedures that help assure that the accuracy of their subject-witnesses is low. Research that obtains low levels of eyewitness accuracy may tend to be more interesting and make the experimental outcome seem more important and socially relevant than would research that obtains high levels of accuracy. This is similar to Berkeley and Humphrey's (1982) argument that psychological researchers in the area of human judgment are probably guided by a "bias heuristic" that leads them to see biases and errors in all forms of human judgment. The general argument is that research that makes people look rational or accurate is pallid and uninteresting in contrast to research that makes people look irrational or inaccurate. Eyewitness researchers might be similarly biased.

A more specific criticism of the experimental literature with regard to its real-world generalizability concerns the extent to which it manages to capture some of the important social dynamics of actual eyewitnessing. Wells (1978) and Yuille (1980) have argued that eyewitness experiments often fail to capture the "volunteerism" phenomenon. Specifically, not all real-world witnesses to crimes are willing to come forward and tell what they saw; many eyewitness experiments,
however, test *all* of their witnesses. If the reluctance of non-volunteers stems at least in part from their judgment that they had a poor view or somehow have a poor recollection, then the experiments that do not allow volunteerism might represent an exaggerated picture of inaccuracy.

Another social dynamic that is not well represented in eyewitness experiments is the consequences of the eyewitness’s responses (Malpass & Devine, 1980). This is perhaps most apparent in tasks of eyewitness *identification*. In an experiment, the subject-witness might place equal weight on the two possible errors resulting from a lineup identification, namely the error of misidentification and the error of false rejection. An actual eyewitness, however, might be much more cautious about identifying anyone because a misidentification would not only cause injustice for the identified suspect, but also allow the actual perpetrator to go free; a false rejection, however, has only the latter consequence.

Thus, there are numerous reasons to suspect that the published eyewitness literature may be unrepresentative of the levels of accuracy that characterize actual eyewitnesses: prevalent errors may be a desirable feature of successful eyewitness research; eyewitness experiments often fail to capture the phenomenon of volunteerism; and real eyewitnesses may be more sensitive than experimental witnesses to the consequences of their responses. These concerns about generalizability to an applied setting are not unique to the area of eyewitness research. Virtually every experimental-based literature has difficulty in making a case for real-world generalization.

On the other hand, these concerns about generalizability are not without counterargument. The counterargument against researchers “favouring” eyewitness errors is that this research is not directed toward *absolute* levels of accuracy or inaccuracy of eyewitness testimony; instead, the research is directed toward *relative* levels of accuracy or inaccuracy in one condition versus some other condition. Thus, for example, an experiment that shows 35% accuracy for cross-racial identifications and 55% accuracy for within-race identifications might underestimate the accuracy of actual eyewitnesses by using exposure durations that are unusually short. But this would merely mean that the accuracy rates in the real world are perhaps 55% and 85%, respectively, in these conditions. Therefore, the expert testimony would not be misleading if it focused on the effects of the cross-racial variable even if the experiments are somewhat biased toward low levels of accuracy overall.

The issue of volunteerism also might not be a serious problem. Experiments by Wells, Lindsay, and Ferguson (1979) and Lindsay, Wells, and Rumpel (1981) indicate that a witness’s reluctance to testify has little or no relationship to the quantity or quality of information that the eyewitness can recall. Thus, although it is wise for eyewitness researchers to allow their eyewitnesses to refuse to testify, thereby calculating testimony accuracy scores on the remainder, it is probably not unrepresentative to test all eyewitnesses.
Finally, recent research indicates that it makes little difference whether or not witnesses think that their identification has real versus hypothetical consequences for the identified person. Murray and Wells (1982) conducted a staged-crime experiment in which the eyewitnesses were debriefed (i.e., told that the crime was staged) prior to attempting to identify the perpetrator or were led to believe that the crime was real even while they attempted their identifications. This manipulation did not produce differences in the overall accuracy of the witnesses nor did it qualify the effects of other manipulated variables.

Perhaps the most serious problem with generalizability is the tendency of some researchers to rely on slide and videotape presentations using undergraduate subject-witnesses in the laboratory setting. Yuille and Cutshall (1984) compared videotaped presentations of a crime to a staged, live event and found that the live event resulted in subject-witnesses reporting more action details, but not more descriptive details, than did the video version of the event. More recently, Yuille and Cutshall (1986) investigated the accuracy of eyewitnesses’ recall for an actual shooting incident for which there were 21 bystander-witnesses. Importantly, attempts to affect the eyewitnesses with misleading questions were successfully resisted by these actual eyewitnesses. This failure to replicate the basic laboratory finding on misleading questions suggests that there might be some important limiting features of laboratory experiments that are not generalizable to real-world eyewitnessing. In summary, the generalizability of laboratory experiments that use slide or videotape presentations has not been unequivocally established at this point. Yuille and Cutshall’s (1984) comparison of live versus videotaped events and Yuille and Cutshall’s (1986) analysis of eyewitnesses to an actual crime seem to suggest problems for generalization.

DO THE TRIERS-OF-FACT NEED THE EXPERT?

The idea of expert testimony on eyewitness matters carries the implicit assumption that the triers-of-fact (i.e., judge and/or jury) need help in their assessments of eyewitness accuracy. When this question was raised less than a decade ago (Wells, 1978) there were no data for directing an answer. Since that time there have been dozens of studies directed at the question, albeit there remains some doubt about the answer. The most common approach to the question of whether or not triers-of-fact need help in assessing eyewitness accuracy has involved a reframing of the question; to wit, “Are the phenomena discovered by eyewitness researchers intuitive to people?”

Wells (1984b) summarized research bearing on this question by placing the research into four categories or methods: the questionnaire method, the prediction method, the full-trial method, and the staged-event and testimony method. The questionnaire method, usually administered in a test format (e.g., multiple choice), attempts to estimate the knowledge that people have about the variables
that affect eyewitness testimony. For example, people might be asked to indicate whether they think that eyewitnesses are likely to (a) overestimate, (b) under-estimate, or (c) accurately estimate the duration of a crime that lasted 15 sec. Studies using the questionnaire method have produced results that suggest discrepancies between research findings and people's intuitions regarding a host of eyewitness variables such as estimates of the duration of short events, the rate of forgetting with regard to faces, the effects of false mugshot identifications on later identifications, the relationship between eyewitness confidence and eyewitness accuracy, and the relationship between an eyewitness's age and identification abilities (see Deffenbacher & Loftus, 1982; Loftus, 1979; Rahaim & Brodsky, 1981; Yarmey & Jones, 1983).

The prediction method has attempted to assess intuitive knowledge by describing an actual eyewitness experiment and asking respondents to predict the experimental outcome. Respondents' predictions can then be compared to the data obtained in the original experiment. Data from the prediction method indicate that people intuitively believe there to be a strong, useful relationship between an eyewitness's confidence and the eyewitness's accuracy. As well, the prediction method provides data indicating that people believe that hypnosis is beneficial to eyewitnesses' recall accuracy, that leading questions have little or no effect on eyewitnesses' recall accuracy, that the seriousness of a staged theft has no effect on a person's ability to identify the thief, and that biased lineup instructions will not have detrimental effects on eyewitnesses' identification performance (see Wells, 1984b for a review of these studies).

Several studies have used the full-trial method (e.g., Fox & Walters, 1986; Hatvany & Strack, 1980; Hosch, Beck, & McIntyre, 1980; Loftus, 1980; Weinberg & Baron, 1982). One of the most useful of the studies using this method was conducted by Hastie (1980), who videotaped and content-analyzed subject-jurors' deliberations. The results indicated that the subject-jurors had a relatively poor understanding of the ways in which some variables relate to eyewitness accuracy. For example, the juries generally thought that confidence and accuracy were strongly related and sometimes even endorsed the idea that memory would improve with the passage of time.

Taken together, the questionnaire studies, prediction studies, and written or videotaped trial studies suggest that people's intuitions are not well aligned with results obtained in eyewitness experiments. On the other hand, these studies do not necessarily allow us to conclude that jurors are poor judges of eyewitness accuracy. Jurors' intuitions about the variables affecting eyewitness accuracy could be wrong in some instances or incomplete and yet they might still be able to discriminate between accurate and false eyewitness testimony without the aid of an expert.

The question of whether or not people can discriminate between accurate and inaccurate eyewitness testimony has been addressed in a series of experiments
by Wells and his colleagues (Lindsay, Wells, & Rumpel, 1981; Wells, Ferguson, & Lindsay, 1981; Wells & Leippe, 1981; Wells, Lindsay, & Ferguson, 1979; Wells, Lindsay, & Tousignant, 1980) using the staged-event and testimony method. This method involves two phases. In Phase 1, a crime is staged for unsuspecting witnesses who then attempt to identify the criminal and give oral testimony under cross-examination. In Phase 2, a separate set of subject-jurors view the cross-examination testimony and judge the believability of the eyewitness. The results obtained in these studies indicated that the subject-jurors relied primarily on the expressed certainty of the eyewitness (which was uncorrelated with accuracy) and could not discriminate between accurate and inaccurate eyewitnesses. However, when an eyewitness with low confidence gave testimony, the subject-jurors tended (appropriately) to discount the witness’s testimony if the witnessing conditions were poor and to believe the eyewitness if the witnessing conditions were good. Thus, the subject-jurors discriminated between good and poor witnessing conditions under some conditions, but could not discriminate between accurate and inaccurate eyewitnesses.

Do triers-of-fact need help? The four methods of assessing this question seem to converge on a positive answer. But this alone does not justify the use of expert testimony. There remains an important question of whether or not expert testimony actually benefits the juror. This is a question that is best assessed by examining the effects of expert testimony.

WHAT ARE THE EFFECTS OF EXPERT TESTIMONY?

Although it would be difficult to imagine that expert testimony is beneficial to the system if the research findings were not generalizable and/or the triers-of-fact did not need help in these matters, it does not follow that proof of generalizability and proof of need-for-help will result in beneficial effects for expert testimony. Expert testimony might confuse the trier-of-fact, for example, or it might make jurors overly sceptical of eyewitness evidence.

The question of what effects expert testimony on eyewitness matters has on the justice system is complex and unresolved. Opinions of leading researchers on this question have covered the spectrum from those who have argued that expert testimony is beneficial for the justice system to those who argue that it is detrimental. A major reason for the complexity of this issue revolves around the definition of “effects.” One of the most obvious domains of effects is that of expert testimony on jurors’ abilities to discriminate between accurate and inaccurate eyewitness testimony. However, it is not the only domain to consider. Wells (1986) proposed that there are at least three major domains of effects resulting from expert testimony: effects on specific case verdicts, effects on due process, and effects on police practices. The ways in which these effects are assessed and weighted almost certainly will vary from expert to expert. Much
has been written on this issue recently and a discussion of the possible effects of expert testimony is more than merely an interesting exercise; awareness of these factors is a way of assuring that the expert has given broad consideration to some important matters.

**Effects on verdicts.** There is no consensus about whether or not expert testimony regarding the eyewitness actually improves jury verdicts. Although jury simulation experiments tend to show that expert testimony increases the amount of time a jury spends on eyewitness matters during deliberation (e.g., Hosch, Beck, & McIntyre, 1980; Loftus, 1980) and that expert testimony tends to reduce jurors' reliance on eyewitness evidence (e.g., Fox & Walters, 1986; Loftus, 1980; Saunders, Vidmar, & Hewitt, 1983), there were no criteria in these experiments for what would constitute "benefit." Michael McCloskey and Howard Egeth of Johns Hopkins University have staunchly maintained that there is no evidence to justify the need for expert testimony on eyewitness matters (see Egeth & McCloskey, 1984; McCloskey & Egeth, 1983). An important criterion for them concerns the question of whether or not false verdicts are being reached in actual trials and, if so, whether or not these false verdicts are attributable to jurors' misunderstanding of eyewitness testimony. Unfortunately, the frequency of false verdicts is difficult or impossible to ascertain because it is only through rare, chance occurrences that fully exonerating evidence will reveal such errors after conviction. It should be noted that McCloskey and Egeth's argument suffers from a restricted focus on verdicts. Some of the most traumatic and unjust cases of mistaken identification have not resulted in convictions, but have disrupted the lives of the falsely identified person nevertheless (e.g., see the case of Father Pagano in Loftus, 1979, or the case of Robert Dillen in Wells & Loftus, 1984).

**Effects on due process.** The justice system does not define justice in the narrow sense of convicting the guilty and exonerating the innocent. Justice is a much broader concept in that it is concerned not only with justice as an outcome but also with due process and the appearance of justice. It would not be considered justice if the conviction of a guilty person were based on unreliable evidence. For example, suppose that a known-guilty perpetrator were convicted on the basis of a voice stress-detector test (which we know to be no better than chance for detecting guilt, see Horvath, 1978); it would not be just to convict any person, innocent or guilty, on the basis of such evidence. For similar reasons, we might be quite concerned about whether or not police used a biased lineup regardless of whether or not it leads to a false conviction. In summary, a consideration of the effects of expert testimony should not be restricted to verdict outcomes per se; we might also consider the effects of expert testimony on due process.

**Effects on police practices.** The effects of expert testimony are not restricted necessarily to the specific case in which the testimony is given. Wells (1986) argued that expert testimony that focuses on system-variable deficiencies (e.g.,
biased lineups) can send a message to police investigators in that jurisdiction; a message that stresses the importance of using new and better procedures for testing eyewitnesses' memories. In this sense, expert testimony can have effects on subsequent cases in that police investigators would be reluctant to use questionable eyewitness-interrogation practices for fear that they will be evaluated negatively by an expert in court. Sometimes, expert testimony can have direct effects on formally defined rules of evidence. This has happened in the case of "hypnotically refreshed" testimony which, because of unfavourable evaluations by experts, has resulted in significant changes to its admissibility in a large number of U.S. jurisdictions (see Orne, Soskis, Dingess, & Orne, 1984).

WHAT IS THE PROPER ROLE OF AN EXPERT?

Whether or not expert testimony is a proper role for an eyewitness expert has been debated extensively (see Goldman, 1986; Hastie, 1986; Loftus, 1986; Wells, 1986; Yarmey, 1986). Perhaps the main fear is that the courtroom forces the expert into an advocate role, which might compromise the expert's choice of variables to stress in his or her testimony. There is no simple solution to the potential problems associated with the fact that experts must operate within an adversarial system. The idea of eyewitness experts being hired by the court rather than by the prosecution or defence is an interesting possibility, but such a solution is most unlikely given the current structure and process of the justice system. We suggest that the problem is perhaps not as serious as some (e.g., Egeth & McCloskey, 1984) suggest when a broader view of the adversarial system is taken into account. Specifically, because the justice system is adversarial, the expert is subject to cross-examination (i.e., questioning by the non-hiring side). As long as we can assume competent cross-examination, we should be able to assume a relatively complete coverage of the variables that facilitate and inhibit the case for both sides. Thus, although we believe that the expert should frame his or her role as that of an educator rather than an advocate, we believe that the adversarial system (somewhat paradoxically) tends to elicit educational material from the expert.

SUMMARY AND CONCLUSIONS

There are no definitive arguments for or against expert testimony by eyewitness experts. There is empirical evidence that people's intuitions do not closely match the results and conclusions of research data on eyewitness variables and that they are not highly discriminating judges of eyewitness accuracy. However, there are not convincing data to support the argument that expert testimony improves people's abilities to judge eyewitness accuracy. We doubt that there will ever be sufficient data or arguments for or against expert testimony to resolve the debate one way or the other.
We propose that much of the confusion and controversy over the application of experimental psychology in the form of expert testimony stems from a mismatch of the functions of experimental psychology on the one hand and courtroom evaluation on the other. Experimental psychology is paradigmatically suited to the systematic isolation of causal variables and their direction of influence; courtroom evaluation, however, calls for postdictive evaluations of haphazard, complex combinations of variables unique to the case. In the following section we develop this argument and discuss what could be a better match between experimental eyewitness research and law.

EVIDENCE PRODUCTION VS. EVIDENCE EVALUATION

Imagine a well-developed program of botany research in which researchers isolate various causes of trees losing their leaves as autumn approaches. Although colder weather is the primary factor, soil conditions, amount of light, and other factors also affect the rate and timing of the loss of leaves. The knowledge generated by this research is well suited to creating conditions that prolong the period of time that a given tree will hold its leaves. However, this knowledge is not well suited for predicting when a specific tree will lose its leaves. The prediction will depend on too many uncontrolled, interacting factors such as temperature fluctuations, wind, rodents, insects, and so on. All that can be stated with certainty is that treatments (e.g., to the soil) can be applied that should generally prolong the duration of leaves staying on the tree over what would be expected without such treatment. Such is the nature of research findings that use the experimental method of inquiry.

Programs of research on eyewitness testimony also use the experimental method of inquiry. Analogous to the botany research example, eyewitness research is well suited to creating conditions that facilitate accurate testimony, but is not well suited for predicting when a specific witness is accurate or inaccurate. For example, eyewitness researchers can conclude with reasonable certainty that a misleading question asked of an eyewitness is a poor condition relative to a neutral question in terms of prospects for the accuracy of the witness’s subsequent testimony. However, the presence or absence of such misleading questions does not allow for precise predictions about the specific eyewitness because of the numerous uncontrolled, interacting factors that might also apply to that case such as the strength of the original memory, the witness’s perceptions of the credibility of the source of the misinformation, and so on.

The botanist would be much more useful and comfortable in specifying treatments for how to prolong the duration of leaves on a tree than in predicting when that tree will lose its leaves. Similarly, an eyewitness researcher would be much more useful and comfortable in specifying treatments for how to increase the accuracy of an eyewitness’s testimony than in predicting whether or not that eyewitness’s testimony is accurate.
In spite of the greater suitability of eyewitness research for controlling rather than predicting accuracy, the legal system has been calling on eyewitness researchers to perform primarily the prediction function. Most of the active eyewitness researchers have been called upon to give (or consider giving) expert testimony which is, in effect, an exercise in prediction (or, more precisely, postdiction). Few eyewitness researchers have been called upon to aid in the initial construction of conditions for testing the eyewitness's accounts. In this regard, it is important to keep in mind that there are two sources of error in eyewitness accounts: some errors are attributable to factors that are uncontrollable in actual cases (such as poor witnessing conditions) whereas other errors are attributable to factors that are controllable in actual cases (such as misleading questions or biased lineups).

We contend that eyewitness research findings ought to be applied to law primarily in the production of eyewitness evidence rather than the evaluation of eyewitness evidence. It seems to us that there should be little debate about the merit of applying eyewitness research findings to the task of improving the accuracy of eyewitness testimony. This contrasts with the controversy over the use of eyewitness experts for evaluating the accuracy of eyewitness testimony in court. Research reviewed in the previous section illustrated the difficulties associated with providing any proof that expert testimony in court improves the decisions of jurors, whereas there is ample proof that certain procedures for producing eyewitness testimony (e.g., questioning procedures, lineup instructions, photo-spread procedures) lead to more errors than do other procedures.

Ultimately, we see the development of the applied aspects of eyewitness testimony as shifting more toward research that can improve the accuracy of eyewitness reports rather than research that attempts to evaluate eyewitness testimony after the fact.

RÉSUMÉ

La recherche en psychologie sur le compte-rendu de témoins oculaires a prospéré au cours des dernières années et plusieurs résultats sont maintenant pertinents pour les milieux policiers et judiciaires. Dans cet article, nous recensons certains des principaux résultats de recherche sur le témoin oculaire concernant, entre autre, la relation entre la précision et la confiance, l'identification des personnes coupables à partir de séance d'alignement et l'influence d'informations erronées sur la mémoire et les comptes rendus des témoins oculaires. Ensuite, nous discutons de la controverse autour de l'application de la recherche sur les témoins oculaires en cour, plus spécifiquement les témoignages d'experts. Le débat concernant les témoignages d'experts a permis de raffiner les conceptions des chercheurs sur les problèmes de généralisation et sur la qualité de la connaissance des jurés sur la précision des témoins oculaires, en plus de soulever des questions concernant le rôle approprié des psychologues expérimentaux dans le système légal. Nous proposons que la confusion et la controverse quant aux témoignages d'experts sont issues principalement du fait que les témoignages d'experts représentent une tentative d'offrir des services à la phase judiciaire plutôt qu'à la phase de production de preuves du processus de recherche des faits.
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