Introduction

Eyewitness Behavior

The Alberta Conference*

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The criminal justice system must deal with human memory and human perception on a daily basis. The memories and perceptions of eyewitnesses constitutes a major form of proof regarding innocence or guilt in the administration of criminal justice. How reliable is eyewitness memory? There is no simple answer to that question. Eyewitness memory may be exceedingly reliable under certain conditions and notoriously invalid in other settings. On three days in June 1980 the contributors to this special issue met in Edmonton, Alberta, Canada to discuss recent research on eyewitness memory.

Contributions to this special issue of *Law and Human Behavior* deal exclusively with the problems of eyewitnesses whose memorial accounts are influenced by non-motivational factors rather than the cases where an eyewitness may have something to gain through intentional distortions. In many ways it is the nonmotivational errors of eyewitnesses that are most problematic in the psychology of criminal justice. Motivational distortions on the part of eyewitnesses are something to which the

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criminal justice system is already sensitive. How adequately motivated distortions are handled is not clear, but at least the criminal justice system is aware that an eyewitness account should be questioned to the extent that the account favors the eyewitness, relatives of the eyewitness, friends of the eyewitness, and so on. “Pure errors” in memory, however, are far more likely to go undetected. Why should we ever fail to believe an eyewitness who gives us a detailed and confident account of a witnessed event and has nothing to gain from that account?

Psychologists have over 95 years of highly sophisticated experimental research that clearly shows that the visual system is not like a camera. The camera has no expectations whereas the human observer is influenced by expectations and other higher-order thought processes. Through selective attention, only certain features of an event are recorded by an observer, leaving gaps in memory. Through processes of which the observer may be largely unaware, gaps in the memorial image are filled by idiosyncratic plausibilities which may or may not match the characteristics of the original stimulus event. Time introduces room for psychological processes to distort memory for the characteristics of the event to which the observer originally attended. Whereas the camera records all light patterns incident on the film, human memory is not directly related to the light passing through the eye. Instead, our recording system tends toward intermittance as our attention varies from thought to thought, sometimes inwardly directed and sometimes outwardly directed, but always dynamic.

Despite psychology’s illustrious history in studying the nature of human memory we claim a certain infancy in the psychology of eyewitness testimony. Excepting some notable works by Hugo Munsterberg and G. Whipple early in this century, it was not until the 1970s that a sufficient number of experimental psychologists began conducting the type of experiments that could give us relatively direct evidence about how people perform in their recollections of complex events. For the most part, our recent experiments have corroborated the findings of experimental psychologists over the past century that human memory is not like a camera. In addition, we have found that certain things were not answered by the standard memory experiment. The standard memory experiment, for example, led us to believe that memory for faces was excellent. However, this turns out to be primarily true only to the extent that the observer is instructed to remember the faces or the faces in a test set do not resemble one another. In staged crime experiments we have found that people make false identifications from pictures or lineups as infrequently as 15% of the time or as frequently as 85% of the time, depending on the various conditions of the crime and testing situations. Still other issues were not addressed by standard memory experiments because they have not been particularly relevant to the questions of interest to psychologists in the past but are highly relevant to eyewitness researchers (e.g., the relationship between confidence and accuracy in memory or the influence of lineup structure on memory).

Early experiments and writings on the psychology of eyewitness testimony centered on the shocking fact that eyewitness memory can be extremely unreliable. Much of the thrust of the 1970s research can be attributed to the counterintuitively large magnitude of false identifications made by eyewitnesses to staged crimes. (After years of experiments, most of us must admit that we are still impressed with the extent to which eyewitness reliability is well below what we all intuitively expected it to be.) Continuing to belabor the unreliability of eyewitness testimony, however, does not
solve any of the real problems confronting us today and fortunately we have progressed from studies with titles like “1000 Eyewitnesses Can be Wrong” to titles like “Effects of Mugshot Displays on Witnesses’ Later Abilities to Pick a Suspect from a Lineup.” In other words, we have progressed from the point of simply documenting a shocking problem to the point of exploring ways to reduce the magnitude of the problem.

Experimental psychologists have a special advantage over the intuitions of the criminal justice system. This advantage is contained not only in our knowledge of how human memory operates, but also in our experimental methods. In our experiments, the event observed by an eyewitness is meticulously staged and recorded so that the adequacy of an eyewitness’s account can be definitively documented and scored. Unlike the criminal justice system, we can compare and correlate the accuracy of an eyewitness’s account with the confidence that the witness has in his or her account. Because we can stage the same event for literally hundreds of eyewitnesses, we can examine how the type of questioning influences the nature of the eyewitnesses’ recollections or how one form of a lineup may produce more false identifications than some other form of a lineup.

Before giving a short overview of each article in this issue, I would like to note that my choice of these particular researchers was based on their eminence in the area and/or the promise of their current work in shaping this area. Funds for the conference were provided by the Social Science and Humanities Research Council of Canada and the University of Alberta in the form of grants to the current author.2 Attending the conference were numerous individuals from law schools and psychology departments as well as three criminal investigators from a major police department. These individuals were active and full participants in the discussions that took place.

THE PAPERS

The first paper, by Kenneth Deffenbacher, deals exclusively with the relationship between confidence and accuracy in eyewitness identifications. This is an issue of paramount import, especially given the ruling in Neil vs. Biggers (1972) that specifically lists eyewitness confidence as a valid criterion upon which to judge the trustworthiness of eyewitness testimony. Dr. Deffenbacher reviews the available literature and concludes that there may be a confidence-accuracy relationship under certain “optimal” witnessing conditions, but that at present we cannot precisely specify optimal conditions in real-life situations.

The confidence-accuracy relationship problem tended to dominate the first day of the conference, and its importance is further marked by a second paper by Michael R. Leippe which further addresses the confidence-accuracy issue. Dr. Leippe notes how the unreliable relationship between eyewitness confidence and accuracy may be part of a larger problem in human mental functioning wherein people may have little or no awareness of the mental processes that lead to their decisions. Dr. Leippe notes that the accuracy of one’s memory and confidence in one’s memory can be independently influenced by external events so that the correspondence between con-

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fidence and accuracy in memory can be high or low depending on the amount of external intrusion.

The importance of the confidence-accuracy issue becomes increasingly obvious as we begin to consider the implicit theories of triers of fact. My own paper with R. C. L. Lindsay and J. P. Tousignant, reports experiments that show how potential jurors rely heavily on an eyewitness's confidence in determining the credibility of an eyewitness. It seems clear that jurors make a strong assumption that a highly confident witness should be believed. In fact, up to 50% of the variation in jurors’ decisions regarding the believability of an eyewitness may be based on the perceived confidence of the eyewitness. There are other errors that the juror seems to be making, including the tendency to believe eyewitnesses a greater proportion of the time than is warranted by the actual accuracy of eyewitnesses, and the tendency to take too little account of the conditions under which the witnessing occurred. An experiment is reported that attempts to correct these errors via the use of expert psychological advice to the jurors.

Harmon Hosch, E. Link Beck, and Patricia McIntyre report a study that makes a further attempt to assess the impact of expert psychological testimony on jurors’ treatment of eyewitness testimony and jurors’ verdicts. Research on the impact of expert testimony on jury decisions is a nascent experimental question and its importance should not be underestimated. Eyewitness researchers have provided and will continue to provide expert testimony on eyewitness matters and it is imperative that we evaluate the effects of various forms of expert testimony on the resultant adequacy with which triers of fact subsequently treat eyewitness evidence. Although eyewitness researchers have an intuitive understanding of how their expert testimony in court should affect triers of fact, studies such as those conducted by Dr. Hosch can give us a more precise and scientific basis for clarifying the role of eyewitness experts in the courtroom.

Dr. Hosch follows this with a second paper that makes a comparison of three studies, two of which are reported in this issue, each of which assessed the impact of expert testimony on jurors’ decisions. Hosch points out that the three studies yield similar conclusions in spite of the fact that they were conducted independently. That is, each study was conducted in a different laboratory, in a different location in North America, without knowledge of the other study, with a different subject population, with a different approach to the problem, and so on. The fact that these three studies yield some common conclusions should give us considerable encouragement that the common results are reliable.

R. C. L. Lindsay’s paper deals with the question of how to optimally structure a lineup or picture array. It is well within experimental psychology’s technical skills to test this issue by using a staged crime and testing identification accuracy of eyewitnesses under various lineup structures. Dr. Lindsay reviews the issues and presents the first solid experimental evidence on the matter. The outcome of this research suggests that increasing the physical similarity of the lineup members to the suspect reduces choices of the innocent suspect more than it reduces choices of the guilty suspect. This results in an increased protection of the innocent suspect and more reliable (diagnostic) information being obtained from lineup identifications and non-identifications. Dr. Lindsay’s question of “What price justice?” refers to the fact that
these advantages of high-similarity lineups must be weighed against the loss (albeit relatively small) in identifications of the guilty party.

John Brigham’s paper highlights some of the points made by Dr. Lindsay but also raises a number of other concerns. For example, Dr. Brigham extends the notion of lineup similarity to point out that the race of a lineup constructor is likely to affect the composition of a lineup. Dr. Brigham gives some evidence that a Caucasian lineup constructor is likely to construct a lineup for a Caucasian suspect that is considerably fairer than one constructed for a Black suspect. By logical extension, a Black lineup constructor is likely to structure a fairer lineup for a Black suspect than she or he would for a Caucasian suspect. These differences are not intentional or the product of any racial bias, but, instead are perceptual effects having to do with the tendency for cross-racial faces to be perceived as looking more alike than do same-race faces. Dr. Brigham also points out that one can improve the reliability (or diagnosticity) of obtained evidence without necessarily improving the “fairness” to an innocent lineup member.

Elizabeth Loftus and Edith Greene’s paper deals with the influence of postevent information (i.e., information that the eyewitness confronts after observing an event) on eyewitnesses’ descriptions, composite reconstructions, and identifications of faces. This is an extension of Dr. Loftus’ earlier work which indicates that human recollections are highly malleable even after they are stored in memory. The studies she reports call into question the earlier view that there is something special about memory for faces which makes faces difficult to distort in memory. Instead, it appears that memory for faces is subject to considerable distortion as a function of verbal interference from external sources, and this distortion affects all three aspects of facial memory performance (i.e., descriptions, composite reconstructions, and identifications of faces).

John Yuille’s paper addresses several issues in eyewitness identification research. Dr. Yuille argues that the theoretical aspects of eyewitness performance are underdeveloped, especially with regard to the role that perception and attention have in eyewitness performance. Dr. Yuille also addresses the issue of how to best disseminate psychological knowledge about eyewitness testimony to the criminal justice system.

Roy Malpass and Patricia Devine’s paper deals with a fundamental issue in eyewitness experiments, namely, whether our results are comparable to what we might expect in real-world settings. Dr. Malpass and Ms. Devine are particularly concerned with the fact that eyewitnesses in previous experiments have known that the crime was staged shortly after the crime occurred and such knowledge could affect how eyewitnesses perform in lineup identifications. They report a study in which realism was maintained throughout the experiment and give some insights as to how the real eyewitness might differ from the laboratory eyewitness. Their results suggest that the strength of the tendency to avoid one type of error (e.g., choosing an innocent suspect) versus another type of error (making no choice when the criminal is present in the lineup) may be different in actual eyewitness settings than it is in the laboratory setting. Although this does not seem to affect the overall accuracy of eyewitnesses, it does seem to affect the type of error that they are likely to make.

A. D. Yarmey and Judy Kent’s paper deals with the issue of age and how age may affect eyewitness performance. Dr. Yarmey reports a study that challenges our
beliefs that there is some simple connection between age of eyewitness and eyewitness performance. Age differences seem to be modified by the type of memory measured (verbal recollections vs. visual identification) and by the characteristics of the to-be-remembered face. In general, the data warn us not to make lofty generalizations about the elderly as eyewitnesses.

Brian R. Clifford's paper deals with memory for voices and its parallel to the literature on visual memory. In general, it appears that the basic findings in eyewitness memory have counterparts in earwitness memory. Dr. Clifford's paper, therefore, gives us some confidence that the phenomena we have found in eyewitness experiments apply to more than just the visual system.

Throughout the conference several issues kept arising: How much longer can we leave issues of human memory up to the intuitions of the criminal justice system? What are the intuitions that the criminal justice system holds about eyewitness memory? What is the proper format for communicating our findings? What is the best balance between theory and data in our communication with criminal justice professionals and how do we avoid the unnecessary, but highly ingrained psychological jargon in such communications? To what extent should we be in the police departments and courtrooms versus the laboratory? Can we have a positive impact on the criminal justice system, whose sheer size, age, tradition, and diversification can frustrate even the most voracious scientists? Regardless of how we answered these questions among ourselves, one thing was clear: we all left the conference with new ideas, vigor, determination, and a feeling that our work is of value and our future work will be better.