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Exposing eyewitness fallibility

9/6/03

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Abstract

The eyewitness offers the sort of testimony most highly esteemed by juries, yet paradoxically, by any objective standard, is perhaps the least reliable. The witnesses' disabling stress during crucial events, post-event contamination, cross-racial issues, and an undue weapon focus are just a few of the factors that explain why even highly confident and persuasive eyewitnesses often get things wrong. Jurors too must be disabused of misconceptions about eyewitness reliability if they are to put such testimony in proper perspective. In this paper, we detail ways of addressing eyewitness weaknesses and the use of an eyewitness expert to help jurors replace their "common sense" but erroneous beliefs with counterintuitive but scientifically valid evidence.

Exposing eyewitness fallibility

The eyewitness offers the sort of testimony most highly esteemed by juries, yet paradoxically, by any objective standard, is perhaps the least reliable. Time and time again cases are reported in which several eyewitnesses positively identify a criminal defendant at the scene of the offense and in subsequent mug shots, and juries convict -- *in the face of the defendant's iron-clad evidence that he was miles away at the time of the crime*. Recent studies by the Department of Justice and others reveal that 80-90% of incarcerated felons freed by DNA evidence had been convicted largely through testimony from sincere, persuasive but hugely mistaken eyewitnesses. Only on that rare occasion when the true culprit -- bearing resemblance to the man wrongly convicted -- is belatedly apprehended might an eyewitness be able to admit uncertainty, albeit grudgingly, and sometimes, not even then.

Given the questionable reliability of eyewitness testimony, defense counsel historically has been unduly handicapped by yet another paradox: until quite recently, in many jurisdictions judges had consistently allowed eyewitnesses to testify freely, yet denied defense counsel's motion to use experts knowledgeable about studies on eyewitness fallibility on grounds that the proposed testimony lacked scientific standing or invaded the jury's province. As a result, many defendants have been forced to rely on hopes that cross-examination might repair any damage the witness (and the court's recalcitrance) had done to their case.

But even the best cross often cannot cure deeply ingrained bias. Jurors were still left ignorant of all the ways an eyewitness can get things wrong, and would retire to their deliberations believing them to be intrinsically accurate. Thus, the impact of eyewitness testimony has been greatly disproportionate to its probative value.

Consider the following cross-examination excerpt:

- Q. And so you have no doubts that the defendant is the man who committed the robbery?
- A. If a man with a gun stood three feet away from you, you'd remember him, too.
- Q. Are you saying he held a gun on you?
- A. Yes. Well, not exactly.
- Q. What exactly did you see?
- A. He had the gun pointing out from his pants pocket.
- Q. You could see his pockets?
- A. I know I saw the gun.
- Q. How high is the teller's window?
- A. About four feet.
- Q. Wouldn't that cut off any view of the man below his belt?

- A. [No response]
- Q. Do you understand the question?
- A. I know he had a gun.
- Q. How do you know?
- A. I saw it -- other people saw it, too.
- Q. But from where you stood, a gun would have been held too low for you to see it.
- A. It must have been as he approached the window.
- Q. "It must have been" -- is that when you saw it?
- A. I don't know.
- Q. Who else saw the gun?
- A. Mr. Rogers.
- Q. The manager?
- A. Yes.
- Q. Is he your supervisor?
- A. Yes.
- Q. You stated the robber was a large man -- "a big black dude." How did you make that determination?
- A. The guy was standing right in front of me!
- Q. Did you have a chance to study him?
- A. I studied him plenty.
- Q. And you had the presence of mind to judge his size?
- A. I could tell he was big the way he reached through the window all the way across my counter and grabbed the money.
- Q. So -- you *concluded* he must have been big.
- A. Yes.
- Q. You don't see any way for a small man -- say a smaller man in a hurry -- to reach across the counter?
- A. I don't know if he could or not.
- Q. In any event, you *figured* he must have been big?
- A. Yeah.
- Q. But if, hypothetically, a small man could do what the man who robbed you did, then you wouldn't be so sure that the man who held up the bank was large?
- A. I guess not.
- Q. What?
- A. No. I wouldn't be so sure.
- Q. Now, earlier, you said that Mr. Rogers is your boss?

- A. Yes, he is.
- Q. Do you look up to him?
- A. What do you mean?
- Q. Do you respect him?
- A. Sure.
- Q. You know he positively identified the defendant?
(The prosecution objects and is overruled.)
- A. Yes.
- Q. Did he make a positive identification *before* or *after* you did?
- A. Uh, before.
- Q. Might that have influenced your opinion in any way?
- A. Absolutely not!
- Q. You were not sure of your identification at the lineup, were you?
- A. No.
- Q. But you are sure now?
- A. Yes.
- Q. Did knowing that Mr. Rogers picked out the same man influence your degree of certainty?
- A. I don't know what you mean.
- Q. Did Mr. Rogers clinch the identification for you in your mind?
- A. We kind of confirmed each other.
- Q. Was your boss positive?
- A. He's always positive.
- Q. And then you became positive?
- A. Yes.

Admissibility of expert testimony

With a uniquely instructive 1984 opinion¹, the California Supreme Court joined the small number of jurisdictions that hold a refusal to allow use of expert testimony on the accuracy of eye-witness identification to be prejudicial error.²

Ruling unanimously on in a case of first impression, the Court threw its considerable jurisprudential weight behind what has become a trend³ in narrowly expanding the right of the

¹ People v. McDonald (1984) 37 Cal 3d 351, 208 Cal Rptr 236, 690 P2d 709, 46 ALR4th 1011, appeal after remand (2nd Dist) 191 Cal App 3d 569, 237 Cal Rptr 597, review gr, reprinted for tracking pending review (2nd Dist) 203 Cal App 3d 925, transf (Cal) 264 Cal Rptr 824, 783 P2d 183.

²E.g., United States v. Smith (1984, CA6 Ohio) 736 F2d 1103, 15 Fed Rules Evid Serv 1398, cert den 469 US 868, 83 L Ed 2d 143, 105 S Ct 213.

criminal defendant by upholding the trial court's exercise of discretion to admit testimony as to how "certain aspects of everyday . . . experience can affect human perception and memory. . ."⁴ 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 understood by the jury, *it will ordinarily be error to exclude their testimony.*⁵

Writing for the majority, Justice Stanley Mosk emphasized that expert opinion as to the accuracy of a *particular* witness' memory is not probative; what would be inordinately useful to the jury, however, are explanations of: how such recollections are conceived, stored, organized, and subsequently expressed; the contextual factors influencing and potentially distorting each of these components; and contradictions between "common sense" assessments of eyewitness reliability and scientifically determined probabilities.

Mosk found exclusion of this scientific evidence to be erroneous because such clinical and laboratory data go well beyond the jury's common knowledge or experience. "The jury need not be wholly ignorant of the subject matter of the [scientific] opinion in order to justify its admission; if that were the test, little expert opinion would ever be heard."⁶ By the same token, scientific evidence need not (and probably will never) be unanimous to be of value.

He furthermore opined that such testimony in no way usurps the jury's traditional role and function as the arbiter of credibility, "but is limited to exploring the potential effect of circumstances on the powers of observation and recollection of a typical eyewitness. The jurors retain both the power and the duty to judge credibility and weight of all testimony in the case . . . [footnote omitted]."⁷

The possibility that a jury could be confused by admittedly complex psychiatric data is foreclosed by the trial court's unimpaired power to set limits on the presentation of evidence. And certainly, "evidence that is relevant to the prime theory of defense cannot be excluded in wholesale fashion merely because the trial would be simpler without it."⁸ It would be equally

³In the wake of McDonald, other jurisdictions seem to be recognizing the unfairness of relying on unreliable testimony. "To the extent that a mistaken witness may retain great confidence in an inaccurate identification, cross-examination can hardly be seen as an effective way to reveal the weaknesses in a witness's recollection of an event." *United States v. Downing* (1985, CA3 Pa) 753 F2d 1224, 1230 N.6, 17 Fed Rules Evid Serv 1, on remand (ED Pa) 609 F Supp 784, 19 Fed Rules Evid Serv 1305, affd without op (CA3 Pa) 780 F2d 1017. For a listing of federal courts that have refused to adopt this view, see McDonald, *supra*, page 725, note 4.

⁴McDonald, *supra*, at page 725

⁵Id. at page 727 (emphasis added).

⁶Id at page 720.

⁷Id at page 722.

⁸Id at page 723.

gratuitous to exclude such testimony out of fear it might unduly impress jurors, who, in fact, “are far more likely to be unduly impressed by the eyewitness testimony itself.”⁹

The vulnerability of eye witness testimony

Memory is a composite of retrieved actual perceptions (“I felt the rain, I heard tires squeal, I saw a Volkswagen under a big red truck”) and unconscious reconstruction (or invention) of events *not* actually perceived, so as to form a coherent logical whole: (“This Volkswagen skidded on the west street and crashed under a big red truck.”)

Often what an eyewitness “remembers” is largely a product of how a question is asked. Compare “How fast was the Volkswagen going when it smashed into the truck?” versus “What was the speed of the Volkswagen when the two vehicles met?”

“The eye is not an instrument like the mirror . . . it is always self-conscious, always conditioned by some purpose -- it is a sieve that allows many things to filter through in the process of seeing. The eye looks, it searches, and whatever it does not understand it does not see. A hunter does not see like a sailor. And somebody who never hunts may not see a rabbit even if it is sitting right next to him. . .” (Imiela, 1968, p. 122)

The accuracy of an eyewitness’ recollection is suspect when: there was little time for observation; the witness was under the influence of alcohol or drugs; the witness was in a highly emotional state; the witness would have had no reason to take particular notice of the incident (e.g., did not know a crime was taking place); there was a substantial time lapse between observation and first identification; there was a marked discrepancy between the identifying witness’ *original description* and the *actual appearance* of the defendant; the witness initially expressed doubt he could make an identification, or first made a patently erroneous one, or reported other details that later proved incorrect; there is steady “improvement” of memory and confidence from first identification through subsequent statements, grand jury testimony, and trial; the witness fails to recognize the defendant when next encountered; the witness and the defendant are of different ethnic groups/races;¹⁰ the witness demonstrates bias or prejudice;¹¹ the

⁹Id at page 724 (indicating the irony of excluding such testimony on Frye grounds).

¹⁰The pejorative cliché “they all look the same to me” is, unfortunately, based on fact; studies demonstrate that members of one race have great difficulty discerning subtle distinctions between members of another race. “The effect is strongest when white witnesses attempt to recognize black subjects; in such circumstances the impairment . . . is substantial.” [citation and footnote omitted].” Id. at page 720. See also *People v. Dixon* (1980, 2d Dist) 87 Ill App 3d 814, 43 Ill Dec 252, 410 NE2d 252.

¹¹E.g., “Blacks can be awfully violent;” “women are such careless drivers;” etc.

witness has an emotional need to see what s/he expects to see or report; and/or the witness manifests a high need to conform to, defer to, or please authority figures.¹²

Standard mug-shot and lineup procedures unfortunately provide good illustration of how memory is commonly distorted. Typically, photographs (or lineup participants) shown to a prospective witness are all of persons suspected of the same crime as the offense under investigation, rather than of persons fitting descriptions originally given by witnesses. Thus, there tends to be a wide discrepancy in appearance among the suspects viewed, heightening the probability that the witness will identify the *one* face (relative to the others) that at least somewhat *resembles* the witness' original perceptions. The police frequently use the photograph of the one *they* believe to be the perpetrator again and again in different displays, whereas the other faces reappear far less often; repetition alone can increase the witness' conviction that the suspect's face is familiar.

If an eyewitness *erroneously* chooses a mug shot after the initial lineup viewing, he is likely to choose that very same incorrect face once again at a later time, even though the correct face is also available for choosing. That is, a witness is much more likely to identify in a real lineup that face he or she may have previously seen in a mug-shot lineup, than that actually seen at the time of the initial identification, and in a subsequent recall is likely to remain committed to his or her error.

Lineups may be much smaller functionally than they appear if they contain many persons who can be easily ruled out as suspects. (To make my point, let me create an improbably obvious example of the raped woman who reports that her assailant was a black man but who is then shown a lineup wherein three of the men are white. This trio of poorly fitting individuals would thus contribute to the nominal, but not the functional, size of the lineup group.)

Witnesses may further be influenced by an unconscious wish to please the police and/or by the police's unconsciously directing identification towards a suspect they are sincerely convinced is the guilty party. Thus, while the *confidence* of the eyewitness improves with the passage of time, *recollections are fading and becoming ever less reliable*.

Data given an eyewitness *after* his viewing on participating in the event in question can systematically bias previously stored information. In one study, subjects who learned after an incident that the offender, upon conviction, might be treated severely, were much more likely to make an identification of *someone* in a police lineup than those who were told the offender might receive lenient treatment. The biasing effect of this "impetus to be helpful" in cases of serious

¹² Law enforcement agencies will sometimes use hypnosis to enhance the recollection of eyewitnesses. Unfortunately, controlled studies show that while hypnosis may increase the *degree of confidence* the subject feels in recollections, it does nothing for accuracy. Instead, it provides the subject a sense of security to make guesses he might not otherwise make, and provides subtle, unconscious incentives to incorporate any interviewer bias he may discern from the questions put to him.

crime was apparent in the increased incidence of identification, *even when the perpetrator was not in the lineup.*

By contrast, when the crime was not considered serious, as evinced by the possibility of only mild punishment, viewers of a lineup appeared far less eager to “nail” *someone* as a criminal; such caution was reflected in their pronounced disinclination to make an identification, *even when the perpetrator was in fact present.*

Let us now study the seven factors that I find most commonly confound the eyewitness in a criminal trial.

Eyewitness vulnerability

Stress

The more stressful an event, the more likely that *the event occurred* will be remembered; but the accuracy of remembered details *within the event* still remains inversely proportionate to the stress involved. Thus, the fact of a double homicide occurring right before the witness' eyes is likely to be remembered forever, but such *discriminating details* as subtle facial characteristics of those parties involved are far *less* well-remembered. So dramatic an event is likely to be further ingrained as the witness goes over it again and again in his or her mind, but such rehearsal does not increase the accuracy of details that were initially perceived incorrectly; unfortunately, all that rehearsal does is increase *confidence*.

Attention To the Unusual

Essentially, one perceives and remembers items or events that draw out attention. Few of us can recall which three letters go with which numbers on a telephone dial, even though we have seen them together many times because we've never paid attention to them. Further, rarely can we attend to more than one thing at a time, so that if there are many things happening at once, attention is divided and as a consequence, nothing is remembered very well.

Attention is drawn to the unusual. Thus, a witness will readily remember that a perpetrator had a large scar or a tattoo, or that he or she was of a different race, e.g., “a big black dude,” yet recall little about the myriad facial details. In a sense, the odd feature robs the many usual ones of their share of attention.

Cross-race

Many, though not all, studies indicate that cross-racial identifications are 10-15% less accurate than same-race ones. This phenomenon has been studied most extensively for black

versus Caucasian identifications, but has been found with other race mismatches as well. Disparity is less in adults who have close friends of the other race involved.

Resemblance

Unsurprisingly, miscarriages of justice are most likely to occur when a hapless but innocent defendant does in fact resemble the perpetrator. The tendency to select from a photo lineup the face that merely most *resembles* the perpetrator can best be countered by replacing the typical simultaneous presentation of photographs with a sequential one. The latter promotes *absolute* judgments wherein the witness must compare each photo with his memory of the *actual* perpetrator's face as opposed to simultaneous presentation which promotes *relative* judgments amongst numerous faces, none of which may belong to the perpetrator.

Post-event Contamination

Information acquired after the fact may then be inadvertently integrated into memory for the event itself. Once this happens it may be impossible to tease them apart. Newspaper reports, the comments of other witnesses, and leading questions are typical sources of such contamination. The more impoverished the original information, the more remote the event in time (relative to that point in which new information is acquired) and the more "reasonable" the new information, the more likely post-event data will be integrated into memory.

A common form of such post-event contamination in criminal proceedings occurs when the witness erroneously identifies a defendant on a photo lineup. With that photograph now clear in the witness' mind, he then identifies the defendant with great certainty and conviction at the preliminary hearing and trial. Here, the photo lineup itself is actually a form of contaminating post-event information.¹³

Familiarity (Unconscious Transference)

Contrary to trier expectations, past or subsequent familiarity with a suspect may *disable*, rather than *enhance*, the accuracy of an eye witness identification. A witness may unconsciously transpose a face familiar for mundane reasons to someone at the scene of a crime (especially if the perpetrator in fact resembles the more familiar face. That is, the witness has the *right face*,

¹³“For example, if the witness was 95% certain of an identification after a show up but 100% certain after a line up, it is important to know to what specific event the witness attributes this increase in confidence. For example, did the police confirm the identification? Did other witnesses? Was the witness asked to confirm the identification before the grand jury in a way that made apparent the prosecution's belief that the eyewitnesses' opinion was consistent with the prosecutor's? Resolutely pursuing these facts can ultimately fuel an argument that the witnesses' confidence is evidence of the witness' environment more than evidence of the witness' accuracy.” (Loftus & Doyle, 1997)

but the *wrong place*. Or, a witness may identify at lineup persons whose faces were seen only in a book of mug shots one week later, but were not at the crime scene.

Special difficulty arises in cases involving multiple perpetrators; witnesses may have a strong bias to label *any* person they recognize as not just being in some way involved, but as having been the *principal assistant*.

Psychological Pressures

To reduce uncertainty

In matters of great importance most of us would be far more comfortable with certainty than with doubt. And so it is that as time passes, the eye witness tends to reassure himself by going over the index event in his mind, filling in gaps, and reconstructing details, thus inadvertently altering the original recollections so as to eliminate conflicts and inconsistencies between information in memory, and that acquired from other sources.

The very act of explicitly making an identification in itself appears to augment certainty, with witness confidence increasing with each subsequent report, though he may be merely confirming himself in his error. That is, the very process of attempting to recall can generate the illusion of familiarity, a phenomenon utterly independent of accuracy; with each rehearsal and report, the witness becomes increasingly committed to his judgment.

To choose

Studies have shown that many witnesses feel obliged to identify *someone*, and may do so even though the individual *known* to be the perpetrator is not present in the live lineup or photo array, and despite admonitions that they need not select anyone. Demonstrably false identifications have also been observed in laboratory studies and in staged crime experiments simulating a criminal investigation. Thus, a sincere desire to be useful may cause some witnesses to be entirely too helpful.

To meet one's expectations

If a witness has reason (however unfounded) to believe that the person he is now identifying is in fact the perpetrator, *his actual memory of the perpetrator will start to change* so as to more resemble the person being identified, particularly if the original perception was brief, incomplete, or hazy. That is, exposure to a new face which one has been persuaded is that of the perpetrator can have the effect of making memory of the perpetrator's face "better," when in fact, it is being rendered less correct, i.e., a weak correct memory is being replaced by a stronger incorrect one.

Juries' misconceptions

Of course, it is often insufficient to present “the facts.” One must also address directly juries' common misconceptions (here italicized) about eyewitness reliability:

The more detailed the account, the more reliable the witness.

In fact, witness attention to peripheral detail (clothing, make of car) may be at the expense of critical elements, e.g., the perpetrator's face.

Law enforcement personnel are better witnesses than the average person.

The studies do not bear this out.

You're not likely to forget the face of a man who's holding a gun on you.

No study to date suggests that the presence of a weapon enhances useful witness performance, though doubtless the fact of having been held at gun point will remain an indelible memory.

Witness confidence is a measure of accuracy.

There is no statistical relationship between confidence and accuracy, as each is derived from different elements of memory construction.

Horrendous, traumatic events are more likely to be remembered accurately than benign situations.

As affirmed in earlier paragraphs, the mere *fact* that the event occurred, most certainly. But useful details may be *less* well perceived and preserved because of stress and other confounding factors.¹⁴

Flashbulb” memories of singular or traumatic life events which persist over an unusually long period of time are more accurately remembered than ordinary events.

Flashbulb memories, however vivid and persistent, are no less fraught with error consequent to the usual factors such as forgetting, rehearsal, stress, etc.

¹⁴A study of 59 National Guard reservists who were veterans of Operation Desert Storm found that vivid, traumatic memories of combat were no less susceptible to distortion and elaboration with the passage of time than were less traumatic memories. (Southwick, Morgan, Nicolaou, & Charney, 1997)

Laboratory studies have little relevance to witness performance in actual crimes because they are artificial, contrived, and invariably involve paid students as subjects.

In fact, rates of misidentification appear to be lower in laboratory studies than in more realistic crime enactments, possibly because of the relative difference in stress levels.

Little weight should be given to scientific laboratory studies because they lack unanimity, and may even be contradictory.

While there is no field of science in which studies are unanimous (in fact, unanimity is suspect), differences may be more apparent than real. By way of example, let us look more closely at a statistical finding (Yuille & Cutshall, 1986) that witnesses who were most stressed about having observed a shooting appeared to be *more* accurate in their perceptions than those experiencing *less* stress. In this particular study, however, it turns out that the most highly stressed witnesses were those who were *closest to the scene of the crime*, and thus, simply had much better visual access to events. This greater physical proximity would cancel out any adverse stress effects.

I might add my recollections of seemingly impressive psychological research from the 1960's which concluded that antidepressant drugs, then available for the first time, didn't work. But over the years many more subsequent studies and the testimony of thousands of formerly depressed patients once again made clear that you cannot rest scientific conclusions on a few studies, however initially persuasive. Indeed, through the 1950's the tobacco industry was still able to come up with "scientific data" proving that cigarettes were therapeutic. The lesson is clear: one must look at the entire body of scientific literature. There will *always* be exceptions.

In summary, expert testimony can help juries understand the common sense processes by which a witness' original perceptions are fashioned and contaminated by factors having little to do with recollection. The expert can get the jury to start thinking *counter-intuitively* -- intuitively the juror may believe that if the victim/witness saw what happened with his own eyes, he or she must have it right; but counter-intuitively, the victim-witness is often dead wrong. (The juror might well intuitively conclude as he looks about that the world is flat and that the sun revolves around the earth. It certainly looks that way. But science compels a different conclusion.)

Often it may be possible to show how and why a witness' memory appears to improve from the time of the initial fuzzy identification to the crisp declarations at trial, which of course is contrary to the physiology of memory -- memory is best during the first 24 hours and decays rapidly thereafter. Simple examples, such as the virtue of taking a school exam right after one has crammed for it rather than weeks later, may be

drawn from the juror own experience. Similarly, the expert can explain how widely divergent descriptions offered initially by several disparate witnesses may mysteriously converge with time and repeated inquiries.

Given such corrective testimony, juries have little difficulty understanding the psychology of perception and memory, and are usually able to put aside their initial long held biases in favor of such evidence. Finally, item by item comments about specific factors in a particular case vitiating the reliability of eyewitness evidence, or discussion of a hypothetical embodying the weaknesses and inconsistencies in a particular witness' observations and recollections are also useful for making expert opinion meaningful and clear to the trier of fact.

Direct examination to qualify the eyewitness expert and ensure testimony admissibility

In my experience, direct examination for the principal purpose of educating juries about perception and recollection (and distortions thereof) work best and is most likely to be admissible when constructed along these lines:

- Q. Doctor, one area of your work as a psychiatrist consists of focusing in on patients' perceptions and memory, is that not so?
- Q. Is it not so that "a lot can go wrong" with both?
- Q. Is it fair to characterize your professional life as focused primarily upon the functions of the mind?
- Q. And problems with those functions?
- Q. You have had training in the areas of perception and memory?
- Q. And you are familiar with the relevant literature?
- Q. And with studies of eyewitness identification -- both studies of reliability and sources of error?
- Q. Have you qualified as an expert in this field in this and other courts?
- Q. Now doctor, I take it that there is nothing in either your training or experience that enables you to say precisely how accurate any particular eyewitness is, isn't that true?
- A. Quite true. I can speak in general terms about the factors which *affect* eyewitness reliability. But there's no way I can tell you whether or not any specific witness is reliable or unreliable, nor just how much weight should be given to his or her observations.
- Q. Doctor, thorough what mental processes does an eyewitness make an identification -- how does that work?

A. It's a three-part process consisting of *perception* -- what the eye (aided by the other senses) takes in; *retention*, wherein those perceptions are integrated and stored within the brain; and *retrieval*, whereby we move those perceptions out of storage and into consciousness.

Q. Are all three stages necessary for each and every identification?

A. Yes.

Q. I'd like to look at these three stages, one at a time, starting with perception. What factors can affect the quality of the data the eye initially takes in?

A. Well, after the obvious physical factors, such as how close one is to the event, the quality of lighting, the amount of time one has in which to make an observation, and so on, most important would be the concurrent *state of mind of the observer* and the *nature of the events being observed*. We find, for example, that an individual who is very anxious -- say, because he's witnessing a violent crime -- is a much less accurate observer than one who is calm and has his wits about him. But at the other end of the spectrum, one may not make good observations if events are so routine that there is no reason for the witness to take particular note. In other words, being either emotionally *over-involved* or *under-involved* in an event can adversely affect how reliably a witness will perceive things.

As another example, all ethnic groups are relatively more accurate in identifying members of their own than of *another race*. The racist cliché that "all Orientals look alike" is no less physiologically true than an Asian-American's perception that "all Caucasians look alike." Both are scientifically supportable in that a dissimilar skin color is a far more arresting feature than, say, the shape of the nose. When the object's skin color is unremarkable, however, the observer can spare attention for more subtle distinguishing features. (This may be so, irrespective of how much experience a witness has had with members of other races and how relatively free of prejudice he may be.)

During the commission of a crime, the presence of a weapon tends to greatly narrow the observer's focus, often to the exclusion of other important identifying details. The nozzle of a gun will always capture attention at the expense of far more useful attention to important facial features of the gun owner.

People's *expectations* tend to influence *perception*, which is why we have so many hunting accidents -- if you're looking for a deer out there in the trees, you may become convinced you actually see one, even though, in fact, you're looking at another hunter wearing a plaid jacket. People often see only what they know. Far less often do they know what they see. That eyewitnesses tend to perceive what they expect has been illustrated by an experiment in which subjects who were asked to study some photographs showed a marked inability to detect objects such as a *red* ace of spades, or exhibited a predilection for seeing blue eyes in what were in fact brown-eyed individuals -- but who happened to have blond hair.

People may inadvertently incorporate old recollections into new ones. Memory doesn't have a digital clock ticking off in the background like you see in TV sporting events. So, if shown a police photograph of someone with whom you last had casual contact two long years ago but who is now a possible suspect in a robbery you've just witnessed, you may place him at the robbery scene merely because he looks familiar, and *not* because he was actually present at the time of the crime. That is, *familiarity* may be mistaken for *perception*.

Q. All right. What about retention, doctor? How may this second stage of memory be impaired or distorted?

A. Here we're talking about that interval of time between an event and the witness' attempt to retrieve it. On its face, it seems like dead time, a sort of passive period, but in point of fact, many things are going on which can greatly affect what the witness thinks he has perceived. For one thing, during this phase he will quickly lose a lot of what he saw -- very rapidly during the first 24 hours, more slowly thereafter. Studies have shown that somebody who has 100 percent recognition two *hours* after an event will perform little better than were he simply guessing if quizzed two *months* later. That's why it's a good idea to take a test right after you've studied for it rather than weeks later. I think most of us know that. But what people are surprised to learn is that things that happen during this supposedly inert retention interval can greatly alter what they believe they initially saw. For example, there are studies showing that subjects subsequently given erroneous information about the colors of an object or the number of people they had earlier observed will incorporate this misinformation into the form of a compromise "recollection." If told after the fact that the car they saw was black when it was in fact white, they may then "remember" it as gray. Told the room in which they saw a couple standing alone was actually filled with people hidden here and there may cause them to sincerely report seeing a few others, when in fact the room was otherwise empty.

Similarly, the casual mention of misleading or nonexistent details during the course of interrogation can cause witnesses to absorb erroneous data into their own "recollection;" the form and clarity of these false details, when "remembered," will be no less than that of those actually perceived. In short, new information received during this retention phase can create unwarranted enhancement or distortions of memory, and even cause incorporation of wholly fictitious items.

Q. Could police questioning inadvertently have this effect?

A. Yes. Oftentimes the expectations of an interrogator can be unconsciously implanted in a witness' memory and become part of that witness' own "perception." And certainly, as I indicated earlier, a witness' apparent perception is profoundly affected by his *own* beliefs. The nature of mental functions is such that we tend to change what we have perceived according to our expectations, rather than the reverse. If, for example, one believes blacks to be more

“criminal” than whites, any ambiguities of perception will always be resolved in the white man’s favor.

Q. Doctor, might a police lineup be an example of an event taking place during this retention interval that might distort a witness’ earlier perception?

A. Yes. For example, a witness may think somebody at a lineup “sort of” looks like the person she saw at the crime scene five months earlier; at trial, her recollection of this quasi-identification entirely supplants her original perception of the event itself. That is, the witness now misrecalls as a perception made way back in January what is in fact little more than a guess made in May. And the more often called upon to report her “recollection,” the more strongly in her mind this subsequent construction becomes part of her original perception, irrespective of accuracy. Her “memory” becomes ever clearer, her confidence ever greater. But the witness is now unwittingly remembering more what she subsequently *said she saw* than what she *actually observed* at the scene of the crime. In short, there are many events concurrent with this retention interval that can profoundly influence and distort the original perception. The more time between the initial event and its recall, and the less time between the recall and the new and/or misleading information, the greater the distortion.

Q. How about *retrieval*, doctor? What kinds of things can go wrong when the witness sits down and tries to recall what he saw -- say during questioning by police?

A. Here again, how the witness’ perceptions are elicited can profoundly affect what he thinks he remembers -- the wording used by the police in their questions, their expectations, the witness’ desire to please -- all can significantly alter outcome.

Q. For example. . .?

A. Asking a witness “how *long* a period of time did you observe the robbery?” will elicit a much greater estimate than if the question is asked as “how *short* a period of time. . .?” Asking “Did you see *the* knife?” Will produce far more affirmative answers than “Did you see *a* knife?” How fast was the truck moving when it *hit* the fence?” leads to far greater estimates of speed than “How fast was the truck moving when it *reached* the fence?” In other words, information contained in the question can be incorporated into the answer.

Q.. How may this be prevented?

A. You probably can’t eliminate interviewer bias entirely, but asking open-ended questions requiring narrative responses is much more likely to get accurate answers than a closed-ended structured enquiry. In other words, asking “What did you see?” is a much better question than “Did you see X or Y?”

Q. As a clinician, what features would give you concern when assessing the reliability of eyewitness testimony in a criminal case?

A. The accuracy of an eyewitness' determination may be suspect when: the eyewitness had little time for observation, was under the influence of alcohol or drugs, was in a highly emotional state or contrarily would have had no reason to take notice of the defendant; there was a weapon focus, a cross-racial identification, a substantial time lapse between observation and first identification or a marked discrepancy between the identifying witness' original description and actual appearance of the defendant; the witness himself initially expresses doubt that he could make an identification, or first makes a patently erroneous one, or reports other details which prove incorrect; there is a steady "improvement" of witness memory and confidence as he progresses from first identification through subsequent statements, grand jury testimony, and finally, trial; the witness fails to recognize the defendant when he next encounters him; the witness has an emotional need to see what he expects -- and indeed reports; the witness manifests a high need to conform to, defer to, or please authority figures; the witness has been exposed to contaminating information during the detention phase; or has been interrogated in a leading fashion.

[With the foundation now laid, the attorney can turn the expert's attention to the details of his particular case.]

Doctor, I'm going to give you a hypothetical set of facts. I will describe the commission of a crime as initially reported by several witnesses and then summarize the police inquiry of those witnesses. If you can, I should like you to explain to the jury where, at either the level of perception, retention, or retrieval, there were factors at work which might adversely affect the reliability or accuracy of these eyewitness reports.

A note on jury selection

The case that turns on the believability or credibility of the eyewitness might benefit from a special kind of voir dire that might include such questions as:

- Q. Do you deal with a lot of different people in your job? How do you keep them all straight?
- Q. Do you have any hobbies? Do you like playing cards? Are you any good?
- Q. May I ask where in the house you usually keep your car keys? Why do you always put them there in the same place?
- Q. Are you better at remembering faces or names?

People who are confident about their ability to remember faces easily and keep a great number of images in their mind, or who have confidence in their ability to remember hidden cards over the course of a game tend to be good prosecution jurors in the eyewitness case,

because if *they* can remember, they figure most *others* can as well, though the weight of scientific evidence clearly suggests otherwise. People -- such as the author -- who are always misplacing their keys or have trouble remembering faces are more likely to respond favorably to expert testimony about eyewitness fallibility.

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