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What The Heck Happened?

The Eyes Don't Have it!

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WHAT THE HECK HAPPENED? THE EYES DON'T HAVE IT!

"I WOULD NOT HAVE CHOSEN TO MAKE THIS MISTAKE…. I DON'T KNOW WHAT SCREWED UP IN MY MIND THAT CAUSED ME TO CONFLATE ONE AIRCRAFT WITH ANOTHER."
-- BRIAN WILLIAMS IN 2015 EXPLAINING EARLIER STATEMENTS HE HAD MADE CLAIMING HE WAS IN A HELICOPTER WHEN IT WAS HIT BY RPG FIRE IN 2003.

"I MADE A MISTAKE. I HAD A DIFFERENT MEMORY. I MADE A MISTAKE – THAT HAPPENS – THAT PROVES I'M HUMAN WHICH FOR SOME PEOPLE IS A REVELATION."
-- HILLARY CLINTON IN 2008 EXPLAINING MISSTATEMENTS SHE HAD MADE CLAIMING SHE ARRIVED IN BOSNIA IN 1996 UNDER SNIPER FIRE.

"MY SISTER AND I HAVE VERY DIFFERENT 'MEMORIES' OF OUR CHILDHOOD. IT MAKES IT EXTREMELY DIFFICULT TO COMMUNICATE."
-ANONYMOUS POST

I. Introduction[1]

No evidence is more compelling than the testimony of an eyewitness – someone who was at the scene, on the ground, watching people and objects moving, hearing curses and whispers, wiping sweat, tasting panic, dodging arrows. An eyewitness who recounts a story vividly and emotionally can be extremely convincing, whether the story comes out in an interview with a police officer, in a book or a movie, or in testimony before a jury. As every trial lawyer knows, one credible and convincing witness can make or break a case.

Whether the story represents what actually happened really does not matter. An eyewitness with a "creative memory" can persuade jurors to believe in events that are

[1] Materials prepared by T. Thomas Singer, Axilon Law Group, PLLC, Billings, Montana. Tom would also like acknowledge the contributions of ALFA International attorneys Edward George, Monica Garcia, and Brett Cowell to this session.

not physically possible,[2] or to ignore an ironclad alibi. As Justice Felix Frankfurter said in 1927, "identification testimony[,] even when uncontradicted …. is proverbially untrustworthy. The hazards of such testimony are established by a formidable number of instances in the records of English and American trials."[3]

Untrustworthy though it is, eyewitness testimony is ubiquitous in our courts. In criminal cases, where faulty eyewitness testimony has led to wrongful convictions, courts have been taking steps to reduce the risks associated with creative memories for some time. Almost forty years ago, the United States Supreme Court started requiring trial judges to assess the reliability of any eyewitness identification testimony by applying a five factor test.[4] More recently, many courts have allowed criminal defendants to call expert witnesses to educate jurors on the fallibility and malleability of human perception and recall.[5] And since 2011, trial judges presiding over criminal cases in New Jersey have been required to assess in a pre-trial hearing any evidence that an identification was obtained improperly and, when they admit such evidence, to instruct the juries in great detail about the ways in which eyewitness testimony can be tainted by events subsequent to the alleged crime.[6]

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[2] See Elizabeth F. Loftus, James M. Doyle & Jennifer Dysart, *EYEWITNESS TESTIMONY: CIVIL AND CRIMINAL* § 1-1 (5th ed. 2014).

[3] Felix Frankfurter, THE CASE OF SACCO AND VANZETTI 30 (1927), quoted in United States v. Wade, 388 U.S. 218, 228 (1967).

[4] *See Manson v. Brathwaite*, 432 U.S. 98 (1977).

[5] *See generally*, George Vallas, *A Survey of Federal and State Standards for the Admission of Expert Testimony on the Reliability of Eyewitnesses*, 39 AM. J. CRIM. L. 97 (2011).

[6] *State v. Henderson*, 208 N.J. 208, 27 A.3d 872 (2011).

Even while the risks of eyewitness evidence have drawn scrutiny in criminal cases, courts have ignored the implications of admitting such evidence in civil litigation and have actually widened the door that is open to such evidence in a variety of ways. Perhaps it is time to change that.

II. A Brief History of Eyewitness Testimony in American Courts

The common law that the United States inherited from England was extremely suspicious of eyewitness testimony. That suspicion was (and still is) reflected in legal doctrines such as laches[7] and the parol evidence rule[8], in corroboration requirements for crimes such as accountability and defamation, and in statutes of limitations that are shorter for claims on oral contracts than for contracts that are written. The courts' suspicion of eyewitness testimony also was reflected in the rules of evidence governing competency of witnesses. For example, at common law, courts barred testimony by any person – including a party – who had a financial stake in the case.[9] Even a disinterested witness could not testify until the offering party had presented proof to show the witness possessed the four testimonial qualities: (1) perception – the ability to

[7] Laches means "neglect to assert right or claim which, taken together with lapse of time and other circumstances causing prejudice to adverse party, operates as bar in court of equity." BLACK'S LAW DICTIONARY 787 (5th ed. 1979).

[8] The rule "seeks to preserve integrity of written agreements by refusing to permit contracting parties to attempt to alter import of their contract through use of contemporaneous oral declarations." BLACK'S LAW DICTIONARY 1006 (5th ed. 1979).

[9] 1 John Henry Wigmore, A TREATISE ON THE SYSTEM OF EVIDENCE IN TRIALS AT COMMON LAW § 488 (1904); William Holdsworth & John Burke, HISTORY OF ENGLISH LAW 177-197 (7th ed. 1964).

observe; (2) memory – the ability to remember; (3) narration – the ability to relate or communicate; and (4) sincerity – the ability to recognize the duty to tell the truth.[10]

In the 19th century, courts also shared the "widely held belief that a willful violation of the oath to tell the truth would expose a witness 'at once to temporal and to eternal punishment.'"[11] At that time, many courts also recognized a presumption that any witness who passed the tests for competency and took the oath would necessarily "speak the truth."[12] Statutes codifying a "presumption of truth" were adopted in California and other states. As late as the 1960s, those statutes remained law and instructions incorporating the presumption of truth were also included in two early editions of the influential treatise that is now known as Devitt & Blackmarr.[13]

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[10] Edward J. Imwinkelreid, EVIDENTIARY FOUNDATIONS, § 3.01 (9th ed. 2015).

[11] *Cupp v. Naughten*, 414 U.S. 141, 153-54 n.3 (1973) (Brennan, J., dissenting) (quoting T. STARKIE, LAW OF EVIDENCE 29 (10th Am. ed. 1876)).

[12] *Id.*

[13] In California, at least until 1946, courts were citing and applying Section 1847 of the Code of Civil Procedure for the proposition that "[a] witness is presumed to speak the truth." *See Berry v. Chaplin*, 74 Cal. App. 2d 652, 661, 169 P.2d 442, 449 (1946). Section 1847 apparently was the genesis for an instruction published by Judge William Mathes of the Southern District of California in Judge William Mathes, *Some Suggested Forms for Use in Criminal Cases*, 20 F.R.D. 231 (1957). A decade later, Judge Mathes collaborated with Judge Edward Devitt to publish a treatise: William Mathes & Edward Devitt, FEDERAL JURY PRACTICE AND INSTRUCTIONS (1965 & Supp. 1968). They included a general instruction on presumptions that appears in § 9.01 Credibility of Witnesses – Discrepancies in Testimony:

> Unless and until outweighed by evidence to the contrary, the law presumes that a person is innocent of crime or wrong; that a witness speaks the truth; that official duty has been regularly performed; that private transactions have been fair and regular; that the ordinary course of business has been followed; that things have happened according to the ordinary course of nature and the ordinary habits of life; and that the law has been obeyed. 20 F.R.D. at 241.

However, at least as far back as 1905, other courts and commentators had been saying it was error to instruct a jury that "the law presumes an unimpeached witness has spoken the truth."[14] By 1970, Judge Devitt dropped the presumption from his treatise and most federal courts of appeal had condemned the instruction, particularly in criminal cases.[15] Today, the instruction seems to have been extinguished completely from criminal cases and from civil cases everywhere except in Montana.[16] Of course, since courts no longer enforce the rules of incompetency or expect God to punish perjurers on the spot and for all eternity, "the rationale underlying the presumption [of truth] has been substantially undercut," as Justice Brennan said in 1973.[17]

Justice Brennan made that comment in a dissent where he argued a presumption of truth instruction given in a criminal case was unconstitutional. The majority opinion had described the presumption of truth as merely a way "to get the jury off dead center and to give it some guidance by which to evaluate the frequently confusing and conflicting testimony which it has heard."[18] Justice Brennan disagreed with the majority, arguing the presumption of truth could not be reconciled with the presumption of innocence.

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[14] 1 A. H. Reid, BRANSON'S THE LAW OF INSTRUCTIONS TO JURIES IN CIVIL AND CRIMINAL CASES § 37, at 123 (3d ed. 1960) (citing the Illinois case of Chicago Union Trac. Co. v. O'Brien, 76 N.E. 341 (1905)). The first edition of the treatise was published in 1914 by Edward R. Branson.

[15] Edward J. Devitt & Charles B. Blackmar, FEDERAL JURY PRACTICE AND INSTRUCTIONS: CIVIL AND CRIMINAL § 12.01 & accompanying note (2d ed. 1970).

[16] The only exception seems to be Montana, where a presumption of truth instruction is still part of the pattern jury instructions for civil cases. MONTANA SUPREME COURT COMMISSION ON CIVIL JURY INSTRUCTION GUIDELINES, MONT. PATTERN INSTRUCTION (CIVIL) 1.02 (2d ed. 2003); see also, T. Thomas Singer, **Error! Main Document Only.***To Tell the Truth, Memory Isn't That Good*, 63 MONT. L. REV. 337 (2002).

[17] *Cupp*, 414 U.S. at 153-54 n.3 (Brennan, J., dissenting).

[18] *Id.* at 149.

In the four decades since Justice Brennan's dissent, hundreds of criminal defendants were convicted based on identifications by eyewitnesses who were wrong, as DNA testing later proved.[19] Alerted to the hazards of eyewitness testimony by such cases and by a vast body of social science research that will be reviewed in the next section, the Supreme Court of New Jersey in 2011 established a detailed procedure to be followed in criminal cases in which the prosecution intended to offer eyewitness testimony.[20] Now, when a defendant challenges eyewitness identification evidence, New Jersey courts must conduct an evidentiary hearing before trial to assess the reliability of the evidence. In addition, when the trial judge finds the evidence sufficiently reliable, the court must instruct the jury in considerable detail about the ways in which eyewitnesses are prone to err.[21]

Curiously, during the same decades that courts hearing criminal cases abandoned the presumption of truth instruction and grew increasingly skeptical of eyewitness testimony, those same courts when deciding civil cases have become more receptive to and have placed greater reliance on eyewitness testimony. By extending statutes of limitations,[22] by recognizing causes of action and defenses such as infliction of emotional distress, discrimination, and waiver, and by replacing traditional causation

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[19] Loftus, et al, *EYEWITNESS TESTIMONY: CIVIL AND CRIMINAL* § 1-2.

[20] *State v. Henderson*, 208 N.J. 208, 27 A.3d 872 (2011).

[21] *Identification: in-court and out-of-court identifications*, New Jersey Courts (July 19, 2012) http://www.judiciary.state.nj.us/criminal/charges/idinout.pdf.

[22] Gary Ernsdorff & Elizabeth Loftus, *Let Sleeping Memories Lie? Word of Caution about Tolling the Statute of Limitations in Cases of Memory Repression*, 84 J. CRIM. L & CRIMINOLOGY 129, 145-53 (1993).

principles with "market share" theories,[23] courts and legislatures have opened the doors to a wide array of testimony that would not have been relevant to any known civil claim or defense only a few decades ago.

Courts also have adopted rules of evidence that abrogated virtually all of the grounds for disqualifying witnesses as incompetent.[24] As a result, the foundation that is now required for testimonial evidence is less stringent than for any other kind of evidence.[25] In effect, courts hearing civil cases presume that every witness is competent to accurately observe, remember, and communicate events, and to recognize the duty to tell the truth.[26]

Courts have accepted these changes without giving much thought to the social science research regarding perception and memory that was gaining traction in criminal proceedings during the same period. The only civil case we can find in which any judge discussed the social science research at any length is *Kristi v. Eli Lilly & Co*.,[27] a 1990 decision of the Seventh Circuit by Judge Richard Posner affirming a summary judgment for a manufacturer of DES, a synthetic estrogen. The plaintiff's mother testified she had

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[23] *See Krist v. Eli Lilly & Co*., 897 F.2d 293, 300 (7th Cir. 1990).

[24] Jack B. Weinstein & Margaret E. Berger, WEINSTEIN'S FEDERAL EVIDENCE § 601 App. 01[2] (Mark S. Brodin ed., 1997).

[25] *See* FED. R. EVID. 601, 602. Documents must be authenticated, photographs must be shown to accurately reflect the scene depicted, and fingerprints and DNA samples must be proven to have been properly obtained, processed, and linked to the case, but a witness can testify to relevant facts without being first asked whether to establish that she is capable of and did accurately perceive and recall the relevant events. The rules presume all witnesses have the necessary capabilities, and leaves it to opposing counsel to question whether the witness actually exercised the capabilities at the critical time.

[26] See text at note 5.

[27] 897 F.2d 293 (7th Cir. 1990).

taken red DES pills in 1948, but plaintiff offered no proof the defendant had made red DES pills at that time. Plaintiff's counsel said "he would have asked the jury to disbelieve the mother's testimony about the color" but believe her testimony about taking pills and other attributes of the pills,[28] which led Judge Posner to delve into this fascinating tangent:

> An important body of psychological research undermines the lay intuition that confident memories of salient experiences (such as taking a red pill for many weeks during pregnancy in an effort to prevent a miscarriage) are accurate and do not fade with time unless a person's memory has some pathological impairment. ….
> The basic problem about testimony from memory is that most of our recollections are not verifiable. The only warrant for them is our certitude, and certitude is not a reliable test of certainty. Many people are certain that God exists. Many are certain that He does not exist. The believer and the nonbeliever are equally certain, but they cannot both be correct. Similarly, the mere fact that we remember something with great confidence is not a powerful warrant for thinking it true. It therefore becomes an empirical question whether and in what circumstances memory is accurate. Cognitive psychologists … have tried to answer this question. The answers … certainly are not definitive, [but] they are suggestive. The basic findings are: accuracy of recollection decreases at a geometric rather than arithmetic rate (so passage of time has a highly distorting effect on recollection); accuracy of recollection is not highly correlated with the recollector's confidence; and memory is highly suggestible -- people are easily "reminded" of events that never happened, and having been "reminded" may thereafter hold the false recollection as tenaciously as they would a true one.[29]

Judge Posner's observations are no less true today than they were a quarter century ago.

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[28] 897 F.2d at 296.

[29] 897 F.2d at 296-97 (citations omitted).

III. A Primer on Human Memory

In court, jurors are asked to decide which of the witnesses' memories are complete and accurate. Of course, no one has a perfect memory. But most of the time, the imperfections are never revealed. People seldom get a chance to compare their own memories of an event with a videotape or other accurate and objective record of the event. "[W]ithout independent verification, the accuracy of memory cannot be evaluated."[30] Even with independent verification, though, we know that memory is often inaccurate.

> Distortion is inevitable. Memory is distortion since memory is invariably and inevitably selective. A way of seeing is a way of not seeing, a way of remembering is a way of forgetting, too. If memory were only a kind of registration, a "true" memory might be possible. But memory is a process of encoding information, storing information, and strategically retrieving information, and there are social, psychological, and historical influences at each point.[31]

Memory is an adaptive skill that evolved because it was useful to survival. "[T]he progenitor function evolved to register facts related to the discovery of food and the avoidance of danger."[32]

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[30] Ted Abel, et al., *Steps Toward a Molecular Definition of Memory Consolidation*, *in* MEMORY DISTORTION: HOW MINDS, BRAINS, AND SOCIETIES RECONSTRUCT THE PAST 298, 320 (Schacter ed. 1995).

[31] Michael Schudson, *Dynamics of Distortion in Collective Memory, in* MEMORY DISTORTION: HOW MINDS, BRAINS, AND SOCIETIES RECONSTRUCT THE PAST 346, 348 (Schacter ed., 1995).

[32] Marek-Marsel Mesulam, *Notes on the Cerebral Topography of Memory and Memory Distortion: A Neurologist's Perspective*, *in* MEMORY DISTORTION: HOW MINDS, BRAINS, AND SOCIETIES RECONSTRUCT THE PAST 379, 381 (Schacter ed., 1995).

Conscious recall resides in the limbic system, a phylogenetically ancient part of the brain.[33] Even single-celled animals demonstrate rudimentary perception and memory abilities. Of course, in humans, perception and memory are quite advanced.

> Fortunately, memory operates with a high degree of accuracy across many conditions and circumstances. Indeed, it is possible to create conditions in which people exhibit impressively accurate levels of recollection, recalling hundreds of previously studied words or recognizing thousands of previously viewed pictures. The fact that memory is often reliable makes a good deal of sense: just like other biologically based capacities, many features of memory are adaptations that help an organism to survive and prosper in its environment. Given the crucial role that memory plays in numerous aspects of everyday life, a memory system that consistently produced seriously distorted outputs would wreak havoc with our very existence. Nevertheless, everyday experience and laboratory research indicate clearly that memory is far from perfect, and that under certain circumstances it can be surprisingly inaccurate.[34]

Memory is inaccurate because it is not a recording process, like a video camera; rather, memory is primarily a reconstructive process. We do not have, or need, perfect memories. Our memories evolved to help us find food and shelter and function in social groups, not to testify accurately in court. "Our species seems best adapted for accumulating knowledge – for inference, approximation, concept formation, and classification – not for the literal retention of the individual exemplars that lead to and support general knowledge."[35]

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[33] *Id.*

[34] Daniel Schacter, *Introduction* to MEMORY DISTORTION: HOW MINDS, BRAINS, AND SOCIETIES RECONSTRUCT THE PAST 1-2 (Schacter ed., 1995) (citations omitted).

[35] Larry Squire, *Biological Foundations of Accuracy and Inaccuracy in Memory, in* MEMORY DISTORTION: HOW MINDS, BRAINS, AND SOCIETIES RECONSTRUCT THE PAST 197, 220 (Schacter ed., 1995).

In fact, one leading expert on memory distortion has suggested that "a superior talent for veridical [i.e., truthful or veracious] recall could constitute a sign of brain disease."[36] He points out that the mentally retarded individuals known as "idiot savants" are capable of remarkable feats of accurate recall but cannot reorganize facts creatively and their memory skills do not translate into job or life skills.[37]

A. The Three-Stage Process

There are three stages of memory – perception, retention, and retrieval.[38] At each stage, "a host of factors may introduce error into the subject's memory."[39]

1. Perception

Memory errors occur at the perception stage for the same reason that photographic errors result when we let our finger fall in front of the camera lens; an event not accurately recorded cannot be accurately retrieved. Just like the mistakes that occur when shooting photographs, errors in perception (and thus, in memory) occur more frequently when the perceiver "experiences an event for a short time, or is unfamiliar with the subject, or is under a great deal of stress during the event."[40] For most people

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[36] MESULAM, *supra* note 32, at 382.

[37] *Id*. at 382-83.

[38] ERNSDORFF & LOFTUS, *supra* note 22, at 155.

[39] *Id.*

[40] *Id*. at 156.

"[s]tress enhances the recall of salient stimuli in the environment, but impairs recall of peripheral details."[41] If stress impairs the perception of peripheral details, those details can never be accurately recalled because they were never perceived.

2. Retention

Soon after we perceive an event, we enter the second stage of memory, in which part of what we perceived is retained in memory. "[M]emory is not fixed at the time of learning but takes time to develop its permanent form."[42] "[R]ecently learned material remains vulnerable for a time to interference by the presentation of similar material."[43] Our memories are overlaid by new information as it is received.[44] If the subsequent events involve repetition and rehearsal of the memory, it will be strengthened.[45] However, when we are exposed to new information that is incorrect or misleading, it produces a "misinformation effect."[46] By supplying misinformation to test subjects, psychologists are able to induce erroneous memories easily.[47]

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[41] John Krystal, Steven Southwick & Dennis Charney, *Post Traumatic Stress Disorder: Psychobiological Mechanisms of Traumatic Remembrance*, *in* MEMORY DISTORTION: HOW MINDS, BRAINS, AND SOCIETIES RECONSTRUCT THE PAST 150, 157 (Schacter ed., 1995).

[42] Squire, *supra* note 35, at 211.

[43] *Id.*

[44] Morris Moscovitch, *Confabulation, in* MEMORY DISTORTION: HOW MINDS, BRAINS, AND SOCIETIES RECONSTRUCT THE PAST 226, 244-46 (Schacter ed., 1995).

[45] James McGaugh, *Emotional Activation, Neuromodulatory Systems, and Memory, in* MEMORY DISTORTION: HOW MINDS, BRAINS, AND SOCIETIES RECONSTRUCT THE PAST 255, 265 (Schacter ed., 1995).

[46] Ernsdorff & Loftus, *supra* note 22, at 156.

[47] *Id.*

> Two decades of research leave little doubt that misleading information can produce errors in what subjects report that they have seen. In some studies, the deficits in memory performance following exposure to misinformation have been dramatic, with performance differences exceeding 30%. With a little help from misinformation, subjects have recalled seeing stop signs when they were actually yield signs, hammers when they were actually screwdrivers, and curly-haired culprits when they actually had straight hair. Subjects have also recalled nonexistent items such as broken glass, tape recorders, and even something as large and conspicuous as a barn in a scene that contained no buildings at all.[48]

Researchers have been able to implant entire false memories into the minds of both children and adults.[49] Some subjects have generated detailed stories about being lost in shopping malls and insisted that the stories were true, even after being told by the researchers and the other family members who were involved that no such event ever occurred.[50]

Recent memory tends to be more vulnerable to disruption by misinformation than remote memory, but permanent memories also change and fade over time in a process that appears to be physiological. Both remembering and forgetting "are best understood in terms of synaptic change."[51] Synapses in the brain change when a memory is created, and those changes apparently are literally reversed as the memory

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[48] Loftus, et al., *The Reality of Illusory Memories*, *in* MEMORY DISTORTION: HOW MINDS, BRAINS, AND SOCIETIES RECONSTRUCT THE PAST 48, 49 (Schacter ed., 1995).

[49] *Id.* at 62-65.

[50] *Id*. at 65.

[51] Squire, *supra* note 35, at 219.

is forgotten.[52] "[A]s time passes, memory becomes increasingly malleable and susceptible to new information."[53]

What we remember permanently can depend on how we feel about an experience. For example, individuals who do not make it through boot camp are more likely to remember the experience negatively than the soldiers who did.[54] Permanent memory also is more susceptible than recent memory to "inferential errors" or "memory illusions."[55]

> Memory "illusions" may result from the basic human need to make sense out of events. …[W]hen people see effects (a student toppling onto the floor) without also seeing its cause (a student leaning back in a chair), they automatically "fill in the blank" with that probable cause -- even if they haven't actually seen it with their own two eyes. The result: a memory that seems real, but isn't. The inference may be correct, but it's not based on actual perception, suggesting that memory helps us to make sense of the world, perhaps at the expense of a complete reliability.[56]

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[52] *Id.*

[53] *Id*. at 157.

[54] A study of French bakers found that those who rose from apprentice to master tended to forget the humiliations of apprenticeship, while those who remained workers tended to recall them vividly. *See* SCHUDSON, *supra* note 31, at 352.

[55] Press Release: *People Make Sense out of Stand Alone Effects by Thinking They 'Remember' Seeing Their Probable Causes*, Am. Psychological Ass'n (July 1, 2001) http://www.apa.org/news/press/releases/2001/07/illusions.aspx (last visited December 8, 2015), summarizing Sharon Hannigan & Mark Reinitz, *A Demonstration and Comparison of Two Types of Inference-Based Memory Errors*, 27 J. EXPER. PSYC. - LEARNING, MEMORY, AND COGNITION 4 (2001).

[56] *Id*.

Such inferences are useful in everyday life, because they are often correct.[57] But the inferences may be incorrect, and if the witness does not realize it is an inference rather than a memory, then errors will occur. The implications for trial lawyers and judges are significant:

> [I]nferential processing by jurors can influence their memories. [When p]articipants [in a study] were asked to reach a verdict in a complex legal case consisting of conflicting arguments[, t]he results indicated that as participants made inferences to reconcile conflicting information in those arguments, their memories for their original positions regarding guilt or innocence shifted. Memories of eyewitnesses may also contain inaccuracies that are the result of inference. For instance, if a witness views a person involved in a bar fight, she may infer the cause of the fight and later mistake that inference for an actual experience. Note that our findings are particularly relevant to courtroom situations because we have shown that the likelihood of inferential errors increases substantially as the retention interval increases. Cases typically go to trial many months after the event occurred; as a result, eyewitnesses may be especially prone to making inference-based errors.[58]

To put it simply, what witnesses and jurors remember isn't what really happened.

3. Retrieval

The third stage of memory is retrieval. "The factors which influence the retrieval of a memory include the environment in which the memory is retrieved, expectations created in the subject's mind, the techniques used to retrieve the memory, and the persons

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[57] *Id.*

[58] Hannigan & Reinitz, *supra* note 55, at 939.

present."[59] When called on to remember an event or series of events, our minds retrieve available memories and organize them into a sequence and context.[60]

> The recall of an experience results from specific temporal and spatial activity patterns across groups of neurons. Each neuron is likely to belong to a very large number of such groups and to be engaged by large numbers of new experiences. Each new experience is written on top of existing experiences. Consequently, each new memory is likely to be altered by previous memories and to alter existing memories. The distributed storage of memory also enables the same experience to be recalled in many different combinatorial forms and as a result of many different associative approaches.[61]

Unfortunately, "the more heavily recollection depends on reconstruction, the greater the possibility for distortion [or confabulation]."[62]

Scientific or pseudo-scientific attempts to improve our ability to recall events by using hypnosis or drugs have not been successful. Hypnosis may help people "unearth additional correct information" about a memory, but may also make people more willing "to report fantasies as memories."[63] Hypnotically-enhanced memories are not admissible in a majority of American courts because of "scores of studies demonstrating

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[59] Krystal, *supra* note 41, at 158.

[60] Moscovitch, *supra* note 44, at 244.

[61] Mesulam, *supra* note 32, at 382.

[62] Moscovitch, *supra* note 44, at 245.

[63] David Spiegel, *Hypnosis and Suggestion, in* MEMORY DISTORTION: HOW MINDS, BRAINS, AND SOCIETIES RECONSTRUCT THE PAST 129, 140 (Schacter ed., 1995).

the unreliability of hypnotically refreshed memories."[64] The drugs sometimes described inaccurately as "truth serums" produce similar effects.[65] "Modification of memory" results even when we simply think back occasionally on a favorite memory of childhood. Thinking back makes the memory stronger and more vivid, but also may change it.[66]

The memory process is complex and, like most human traits, varies from person to person. Some people suppress traumatic memories, while others do not.[67] People who suffer anxiety disorders tend to "continuous[ly] monitor ... the environment for signals of potential threat," while people suffering from depression are "adept at remembering vital information concerning loss and failure to facilitate reflection."[68] Some people remember names, while others are better at remembering numbers. Many of us cannot recall what we ate for dinner last night or the names of acquaintances we see on the street. We forget the plots of books or movies, the order in which everyday events occurred, and what we did on a given day. Many of us forget information that is pleasant and important, such as the birthdays of our children and the date of our anniversary, despite the fact that remembering those details may be critical to surviving in the environment of our own homes.

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[64] Ernsdorff & Loftus, *supra* note 22, at 162.

[65] *See* Krystal, *supra* note 41, at 162.

[66] Ernsdorff & Loftus, *supra* note 22, at 157-58.

[67] *See* Abel, *supra* note 30, at 318-19.

[68] Susan Mineka & Kathleen Nugent, *Mood-congruent Memory Biases in Anxiety and Depression, in* MEMORY DISTORTION: HOW MINDS, BRAINS, AND SOCIETIES RECONSTRUCT THE PAST 173, 187 (Schacter ed., 1995).

> The question to be asked, given that the memory system is organized this way, is why memory is as good as it is. Why don't we all confabulate? There are two answers to this question. One is that we do confabulate – all the time, but the distortions are sufficiently small so as not to matter. For most occasions our memory is good enough, though we may wish it were better. When precision of content and sequence is demanded, as it is in eyewitness testimony, our memory is notoriously poor and distorted.[69]

Even though both research and everyday experience teach us that human memory routinely fails at all three stages – perception, retention, and retrieval – it would make sense for courts to continue to rely on memory-based testimony if we could be confident that jurors could distinguish truth from confabulation. Unfortunately, there is no reason to think they can.

B. Jurors Cannot Tell Fact from Fiction.

It is not uncommon to hear leaders of the bar and judiciary make public statements extolling the "uncanny ability" of jurors to reach the correct result or to discern the truth.[70] One wonders if the comments reflect their own experience or if they have evaluated jurors who rejected their own arguments differently. If all lawyers shared such confidence in jurors, settlements and plea bargains presumably would be rare.

Good trial attorneys know not only that memories are weak and malleable, but also that finders of fact actually "have a great deal of difficulty discriminating between memories

[69] Krystal, *supra* note 41, at 246 (citation omitted).

[70] *See, e.g.*, Franklin Delano Strier, *Through the Jurors' Eyes*, 74 A.B.A. J. 78, 81 (Oct. 1, 1988) (quoting statement of P. Terry Anderlini, President of the California State Bar).

that are a result of suggestion and memories that are a result of a true perception or experience."[71] We know that "[j]udges and juries are impressed with witness testimony delivered with confidence and containing concrete details."[72] But we also know that "a subject's confidence in a specific memory is not necessarily related to the accuracy of that memory."[73]

Researching whether jurors can assess credibility is difficult because no one (with the possible exception of the witnesses) ever really knows who told the truth at trial and who did not. However, there is research that sheds some light on the subject. There are studies showing that juries wrongfully convicted dozens of criminal defendants of sexual assault based on eyewitness testimony.[74] Those defendants were finally exonerated through DNA testing. There are also studies that assessed the ability of the experts who conduct research on children's testimonial competence, who provide therapy to children suspected of having been abused, and who carry out law enforcement interviews with children. Those studies find that even highly trained professionals "failed to detect which children were accurate and which were not, despite being confident in their mistaken opinions."[75] If highly trained professionals cannot distinguish fabricators from truth-tellers, it is folly to believe jurors can do better.

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[71] Ernsdorff & Loftus, *supra* note 22, at 163.

[72] *Id*. at 162.

[73] *Id*. at 163.

[74] *See* **Error! Main Document Only.**Warren Wolfson, *"That's the Man!" Well, Maybe Not: The Case for Eyewitness Identification Expert Testimony*, 26 LITIG., Winter, 2000, at 5.

[75] Stephen Ceci & Maggie Bruck, JEOPARDY IN THE COURTROOM: A SCIENTIFIC ANALYSIS OF CHILDREN'S TESTIMONY 281 (1995).

To assess whether a specific memory is real rather than a product of suggestion or imagination or deceit, cognitive scientists have developed techniques that focus on groups of memories that are reported, while police and lawyers generally use techniques that focus on the person reporting the memories.[76] "Unfortunately, neither approach presently can assess whether a particular memory is true or false."[77] Memory researchers also have explored a third approach that focuses on the details of a single memory because research indicates that the amount of detail is the factor that is most likely to differentiate true from false statements.[78] However, research has shown clearly that "*rich false* memories—detailed memories for individual events that never occurred"—can be formed easily, so focusing on a single memory also is no help in distinguishing memories that are true from those that are not.[79]

In other words, in the absence of corroborating evidence, no one knows how to tell fact from fiction.

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[76] Daniel M. Bernstein & Elizabeth F. Loftus, *How to Tell If a Particular Memory Is True or False*, 4 Perspectives on Psychological Science 370 (2009).

[77] *Id.*

[78] *Id. at 372.*

[79] *Id. at 373.*

IV. Eyewitness Testimony Taints Civil Litigation Too.

There is no good reason that the scrutiny courts are now giving to uncorroborated eyewitness testimony in criminal cases should not be applied in civil cases. Unjust outcomes are equally likely, as the verdict in the paternity case Joan Berry filed against Charlie Chaplin illustrates:

> Joan Berry's mistake, her lawyers said, had been to fall for Charlie Chaplin. She was a naive young woman of modest means. He was a wealthy and famous movie star, reputed to have had many affairs. Sometime in December 1942, she became pregnant. Not long after, she demanded that Chaplin pay child support for her new daughter, Carol Ann. It was a scandalous trial. Berry claimed she had slept with Chaplin on December 10, 23, 24, and 30. Chaplin was required to parade in front of the jury beside Joan and her infant child. Chaplin's butler agreed there had been a meeting on December 23. Chaplin himself admitted a liaison with Berry before March 1942, but denied all the December trysts.
>
> It emerged, however, that in November, and again the following January and April, Joan has traveled to Tulsa, Oklahoma, where another male companion had wined and dined her, taken her to the theater, and then joined her at her hotel. She had also spent time with another man in Los Angeles, twice visiting his apartment. And in the spring of 1943 she told Chaplin's butler that she had married an army captain and was going to bear a child. The jurors nevertheless sided with Joan and Carol. Chaplin would have to pay.[80]

Chaplin had to pay because the jury decided to believe Joan's testimony and to disbelieve Chaplin's testimony about the dates of their liaisons. The jury's verdict ignored the weight of the testimonial evidence, which is the jury's prerogative.

[80] Peter W. Huber, GALILEO'S REVENGE: JUNK SCIENCE IN THE COURTROOM 148-49 (paperback ed. 1993).

Unfortunately, the jury ignored more than testimony. It also ignored evidence of blood tests that proved Chaplin was not the father.

> [A]mid all the confusion about just who had slept with whom in which cities on which days, amid the Madonna-and-child staging of the unwed mother and the randy movie star, the scientific evidence presented by Chaplin's lawyers was not in any serious doubt. Joan Berry had Group A blood. Her daughter, Carol Ann, had Group B blood. This meant that the father's blood must have been either Group AB or Group B. Charlie Chaplin's was Group O. As three physicians testified at Chaplin's trial, to no avail, Chaplin was not in fact Carol Ann's father.[81]

Whether Joan Berry lied or confabulated does not matter. What matters is she sued the wrong man, and the jury (as well as a trial judge and an appellate court) christened her faulty memory as truth.

The appellate court invoked the presumption of truth to justify the jury's reliance on Joan Berry's testimony while also affirming an instruction saying the jury was "not bound" by the medical opinions unequivocally refuting Chaplin's paternity because the doctors' opinions were not "conclusive or unanswerable."[82] Had the court paid less heed to the disputed eyewitness testimony and more to the undisputed scientific evidence, Chaplin would not have been forced to support another man's child.

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[81] *Id*. at 168.

[82] *Berry v. Chaplin*, 169 P.2d 442, 449, 452 (1946).

Regardless of whether Chaplin could afford it, the outcome was unjust. Truth matters. By giving inordinate credence to eyewitness testimony, the California courts encouraged and endorsed an unjust outcome.

There is reason to think similar unjust outcomes are common in many kinds of civil litigation.

A. Childhood Sexual Abuse.

In the 1990s, many adults who claimed they had recovered repressed memories of childhood sexual abuse pursued claims against their alleged abusers. The memories were most often recovered during therapy and uncorroborated. The memories were detailed, emotional, and compelling, so juries found them convincing. Yet scientific studies show many common therapy techniques will induce recovered memories.[83] If courts are going to allow such claims, juries should hear expert testimony or be instructed about the failings of human memory.

B. Discrimination.

Discrimination claims frequently rest on disputed allegations about racist, sexist, or other inappropriate remarks made by supervisors, lenders, landlords, and others.[84]

[83] Ernsdorff & Loftus, *supra* note 22, at 158-62.

[84] *See, e.g.*, *Crockett v. City of Billings*, 234 Mont. 87,761 P.2d 813 (1988).

When the alleged remarks are oral, and uncorroborated, the jury must decide whether or not the remarks were made – whether to believe the plaintiff's allegations or the defendant's denials. The exact wording of the alleged remarks can be critical to the determination of liability. An instruction or expert testimony cautioning jurors that human beings are prone to misperceive details of stressful events, and to overwrite their recollections of events with misinformation, certainly could prompt a jury to be more skeptical about a plaintiff's recollection, and to reject discrimination claims that might otherwise be treated favorably.

C. Interference with Prospective Economic Advantage.

Like discrimination, interference with business relations rests on a claim that some act by the defendant was intended to harm the plaintiff or motivated by animus toward the plaintiff. Often, the plaintiff testifies the defendant made an oral statement of intent or animus.[85] The precise words used and the context in which they were used are significant. Liability can turn on the use or meaning of a single word, or on the speaker's inflection. Opportunities for misinterpretation abound. A sarcastic remark might be seen as an honest expression of opinion. A word spoken softly can be missed, or misunderstood.

Reminding jurors that human beings do not perceive everything that goes on around them accurately, and may draw incorrect inferences about the things they missed,

[85] *See, e.g.*, *Morrow v. FBS Ins.*, 230 Mont. 262, 749 P.2d 1073 (1988).

should help jurors evaluate these claims and avoid placing undue reliance on questionable testimony.

D. Defamation.

The law has long wrestled with the challenge of distinguishing between mere insults and actionable slander.[86] Some people are easily offended and will construe any criticism or slight as defamatory. Such people may be prone to exaggerate the offensiveness of the remarks they hear, or even hear offensive remarks when none were spoken. That a person takes offense does not prove that anything offensive was done. The law of defamation does not and should not impose liability for every statement that causes some subjective pain, but only for those that are objectively false and cause actual harm. Reminding jurors the plaintiff's subjective perceptions may or may not match objective reality could encourage them to protect freedom of speech in a close case.

E. Contract Defenses.

In contract cases, defenses such as waiver, fraud, misrepresentation, or mistake often are based on testimony about comments or pledges made during negotiations. Sometimes, those defenses are also plead as counterclaims and result in substantial

[86] For example, courts rely on the "basic tenet of the law of defamation ... that an expression of opinion is generally not actionable" when dismissing claims that seem frivolous. *Board of Dentistry v. Kandarian*, 268 Mont. 408, 417, 886 P.2d 954, 959 (1994) (*quoting Frigon v. Morrison-Maierle, Inc.*, 233 Mont. 113, 121, 760 P.2d 57, 62 (1988)). However, the distinction between facts and opinions is anything but obvious.

awards. Instructions or evidence cautioning the jury about the ways in which humans can fail to accurately perceive, retain, and retrieve memories may curb some of the most outrageous outcomes in those cases, particularly when the testimony is self-serving.

F. Assumption of Risk and Comparative Fault.

Product manufacturers and distributors that are sued for selling allegedly defective products often defend those claims by asserting the plaintiff assumed the risk of using the product. That defense may be based on something the plaintiff said before being injured about how the danger associated with the product, and the plaintiff's statement may be uncorroborated. In negligence cases, defendants sometimes assert comparative fault based on similar evidence. Defendants could find it more difficult to prevail on those defenses if jurors are warned, either by experts or in instructions, to be skeptical about uncorroborated testimony.

V. Conclusion

All of us at some time have been convinced to believe a falsehood of some magnitude, however trivial, by a salesperson, con artist, sociopath, actor, practical joker, or lawyer.[87] Sometimes we even deceive ourselves, as Hillary Clinton and Brian Williams

[87] Lawyer jokes imply that lawyers are con artists or worse, which is not true, at least of most lawyers. However, it is at least partially true that all "[g]ood courtroom lawyers are super salesmen and consummate actors..." John T. Malloy, NEW DRESS FOR SUCCESS 295 (1988), *quoted in* Richard A. Posner, OVERCOMING LAW 517 (1995). Mr. Malloy meant that statement as a compliment to lawyers, but Judge Posner seemed to construe it as an insult. *Id*. at 516.

apparently did. Recognizing that people confabulate, and that human beings cannot reliably differentiate lies or confabulations from reports that are factually correct, criminal courts have become appropriately wary of eyewitness testimony. Yet in civil cases, our law still assumes jurors and judges can tell fact from fiction. It is an absurd assumption, and we should discard it. We should be telling jurors in criminal and civil cases, either through instructions or expert testimony, that their everyday experiences may not adequately prepare them to evaluate the truth of memory-based testimony, that human memory is vulnerable to error at each of the three stages of memory, and that testimony based on uncorroborated memories is not worthy of trust.

If truth matters, our courts should pursue it, whether the case is criminal or civil.