INTRODUCTION

During August, 1994, McKinley Cromedy was sentenced to 60 years in jail for the rape of a young Rutgers University student. The case was really one of little question—despite the noticeable lack for forensic evidence, the victim was able to consistently pick Cromedy out of line-ups and was able to describe distinctive features of Cromedy, such as his distorted walk. However, only 5 years later, Cromedy was released from prison due to DNA evidence proving his innocence. Despite the fact that Cromedy was clearly not the person who had committed the crime against the young woman, she was convinced that he was her attacker. There had never been any record of the victim having memory or cognition issues, either. If Cromedy was innocent, though, why would she be so insistent that this man had been the attacker whose image had been burned into her mind? While eyewitness testimony plays an irreplaceable role in the judicial process, research has proven that memory is far from what we think it is and is, consequently, extremely prone to error in our current system. However, through a complete understanding of how and why memory can fail, it is possible to implement simple changes that assure that eyewitnesses remain sources of truth and not merely the best approximations.

WHAT IS MEMORY?

Before attempting to understand how and why memory fails us, it's critical to have at least some sort of understanding on what memory is and how it works. Despite the belief of many that memory is just a simple process of “taking a snapshot in time” and bringing up said snapshot at will, memory is a very active process designed for assistance in comprehension, categorization, and overall understanding of the world and its parts. Like many things, it has its limits, and is thus forced to cut corners and group memories as frequently as it can. These two rules of memory, while seemingly simple, are vital to our study and can be found in every step in the memory process, from the original encoding through storage to a memory’s eventual retrieval.

ENCODING

Memory is all about context. After all, if something doesn’t fit within a significant context, much less any context at all, what’s the point in keeping it around? It’s as if you stored every piece of mail you got in the same drawer, including advertisements and scams you doubt you will ever use—it’s just inefficient. Therefore, memory, adhering to this rule of context, processes information in an active way, storing only semantically important and/or unique information and placing said information into very definite categories in a process known as chunking.

The phenomenon of semantic and categorical encoding was first noticed by Delos Wickens in 1972 in his release from PI experiments. In these experiments, Dr. Wickens would ask his subjects to remember three items of a similar category, such as flower names. When asked to repeat the items, recall rates were understandably high, hovering around 90 percent. As Dr. Wickens repeated the experiment with different items of the same category, however, recall rates plummeted, dropping to
around 47 percent on the second trial, 40 percent on the third trial, and 30 percent on the fourth trial. Dr. Wickens then repeated the experiment. This time, however, he changed the items’ category in the fourth trial, switching from flowers to automobiles. Due to this change in category, recall rates skyrocketed, moving all the way back to the 90 percent of the first trial.

Dr. Wilkins was not the only one to notice the significance of meaning, however. In fact, so many experiments have been performed on the link between encoding and meaning that their conflict has been dubbed the *Stroop effect*. Take this example. If someone wrote down the words yellow, red, and blue in different colors (matching yellow with yellow but switching around red and blue) and then told a subject to name the colors each word was written in, the subject would say yellow almost instantly but take a significantly longer time on red and blue. Since red and blue are each written in colors contrary to their meaning, the brain has a tougher time processing them and must spend extra time trying to comprehend the conflicting meanings.

While meaning and categorization are very important in the encoding process, there’s one last factor that plays an extremely significant role: emotion. In fact, emotion plays such a significant role that memory due to emotion requires a whole new section of the brain to operate. While most memories rely on binding from the *hippocampus*, emotional memories include the activation of the *amygdala* and chemical messengers like *norepinepherine* and tend to be much more powerful than average memories. In fact, when studying persistence, a special state in which a memory keeps reappearing against one’s will, it was discovered that high activity in the amygdala led to higher hates in persistence.

So what does this mean for retention for witnesses? First and foremost, it brings to light the fact that, while lawyers and juries would like to believe otherwise, the brain doesn’t remember every little detail, choosing to overlook features that appear insignificant (a state of affairs that worsens as the memory goes through storage and retrieval). These insignificant features can even include parts of faces, as the tops of faces have been shown to not only be more easily remembered, but more often recalled and described, while the bottoms of faces are extremely neglected. Uniqueness also plays a vital role in memory and eyewitness testimony, as demonstrated by studies showing that pleasant and unpleasant faces are more easily remembered than average faces, which can be confused in a sea of sameness. Finally, it appears that emotional memories are extremely powerful, but caution is necessary around memories like these due to what is called *weapon focus*, where victims of an extreme emotional shock will remember what caused that shock. For example, a victim of a bank robbery will more likely remember what the gun looked like than the gunman’s face, as the gun is the far more threatening item.

*STORAGE*

Once a memory makes it past the gap-inducing stage of encoding, it continues to the storage stage. While storage in long-term memory has many facets, the matter of decay and whether time can hinder (or even remove) memory is of primary significance to this discussion.
The first question in the study of storage is often, “can we permanently lose memories?” This matter as a whole is quite controversial, with main proponents of the non-permanent memory theory suggesting that, over time, memories can be overridden or modified to a point where they become unrecognizable. And while I agree that memory can be altered (something I’ll explain later in the section titled Memory Mistakes), the brain shows a surprising resistance to actual loss of memory. The most convincing piece of evidence here is what is known as savings in relearning. In one convincing experiment, a toddler was read separate Greek passages for 3 months at a time from 15 months of age until he turned three years old. He was then told to relearn some of the old passages and learn some new passages when he was 8.5, 14, and 18 years old. The results showed surprising sustainability of these old memories, with the old passages being relearned at an extremely fast pace (comparatively) at 8.5 years old, pretty fast pace at 14, and moderate pace at 18 years old, beating out speed of comprehension for the new passages each time.

As you can see, though, with each passing year the rate of relearning became slower and slower, which brings us to the memory decay hypothesis. The memory decay hypothesis, also known as transience, claims that, with the passage of time, unused memories become fainter and harder to reach. It seems to be a convincing claim – after all, you probably remember what you ate for dinner yesterday, but you’d probably find it considerably more difficult remembering what you ate for dinner last week or last month. However, question has been placed on whether time itself makes memories fainter or if something else is in play. On the small scale, at least, time seems to be irrelevant. In a large majority of studies, subjects were shown to recognize faces for up to five weeks, holding on to pleasurable and distressing faces even longer. In one particular short-term study, subjects who were given a night to sleep were frequently better at recognizing faces than subjects who reviewed the faces an hour after learning them. But if time is not hindering memory, what is?

The answer lies with interference. Take the above experiment, for example. The subjects who waited an hour didn’t merely sit around and do nothing. Instead, they were shown even more faces after the experiment, faces the sleeping subjects did not see. The phenomenon shown here was later dubbed proactive interference, where new memories take up storage space and interfere with the retrieval of old memories. This idea works its way into many experiments, from the release from PI experiments mentioned earlier to an experiment in which two vocabulary lists were taught to one group of subjects and just one list was taught to the second group. Unsurprisingly, retention of the first list was remarkably higher in the set of subjects with just one list to learn. The effect of interference is of extreme concern to witnesses, who are bombarded with line-ups of similar-looking suspects and books worth of related information, all of which can make the witnesses’ actual memories hard to reach.

RETRIEVAL

So I’ve shown by this point how little memory actually takes in and how interference can often make the truth extremely hard to reach. Thankfully, retrieval isn’t as restricting as the other two aspects of memory – if it’s done correctly, that is. Unfortunately, beyond similarity in context, how to properly extract a memory is still largely a mystery.
While recall and recognition are vital in understanding the retrieval of memory, the significance of context cannot be ignored. As the context and meaning of a particular memory is extremely important in accurate encoding, it would be only natural to assume that context would be equally as important in extraction. Luckily, studies actually support this assumption. For example, it was found that if the media by which a witness identified a suspect was the same as the media in which the witness first encountered the suspect, accuracy rates would increase significantly. When a subject was also in a similar emotional state or in the same location as they were when taking in the observation, they would remember events much more vividly than if in a non-matching location or emotional state. This context-specific link, known as the encoding specificity effect, is arguably the most important facet of retrieval.

Even with perfect context, however, how to best retrieve memory is still under great dispute. As previously mentioned, memory is a very active experience, one designed for learning and comprehension. Thus, even if a memory is perfectly encoded and not victim to interference in storage, it’s still not possible to simply retrieve a memory like a piece of data from a recording device. Despite this, recall is still frequently used in eyewitness testimony, as it’s oftentimes still the best and/or only way to gain an idea of what exactly happened. In fact, recall isn’t that terrible at its job, either – the main issue lies less in remembrance and more in verbalizing what one remembers. After all, few people verbally analyze another person’s facial features (with the possible exception of deformities and other abnormalities). Instead, they store the memory of the face visually, only verbally storing the “feeling” the face elicits. Due to the extreme difficulty in retrieval by recall, many police forces have instead switched to retrieval by recognition. After all, when placed in the same context, the face shouldn’t be that hard to recognize. However, despite its seeming perfection, recognition, when coupled with the lack of information in encoding and the interference in storage, can create disastrous effects, as we will see in the next section.

FREQUENT MEMORY MISTAKES

Back in the 1980s, scientists, caught up in another surge of interest in memory research, decided to see how significantly eyewitness error affected criminal trials. The results were chilling. When evaluating cases in which DNA evidence had proved the suspect innocent, the scientists noticed that, in 36 of the 40 cases, eyewitness identification was a major factor in creating a guilty verdict. And while this statistic on its own might not be completely alarming, when put in light of the statistic that approximately 75,000 criminal cases were decided each year primarily on eyewitness testimony (a statistic that rings true today), the error of eyewitness took on a whole new significance. Clearly, not enough research had taken place on the actual reliability of eyewitnesses, and when scientists started to piece together previous research and perform experiments of their own, a portrait of problems sprung to life.

While the individual ways in which memory can fail are numerous, memory mistakes tend to fall into two common categories. The first is misattribution, where a memory is, in some shape or form,
conjured up or changed to the point where it is rendered unrecognizable. The second is *bias*, which, while creating many of the same effects as misattribution, is created less by a lack of memory and more by the failure of a memory to fit into a mold.

**MISATTRIBUTION**

Misattribution stems from a failure of the brain to perform *memory binding*. Memory binding occurs during the processing of information, when the brain takes individual details of an experience and fits them together to form one collective context. However, scientists have noticed that, despite the importance of context in encoding, this process is temperamental at best and, especially when a particular event is not very out of the ordinary, very prone to error. As an example, Daniel L. Schacter, Psychology chair at Harvard University and author of the book *The Seven Sins of Memory: How the Mind Forgets and Remembers*, asks his readers to recall the all-too-common incident in which you can’t remember whether or not you shut the door before you left the house.

> Fretting in the car about whether you’ve left your basement door wide open, you carry out a frantic mental search, trying to recall some specific object or action that proclaims that you indeed carried out what you had thought about doing. Your mind eases as you remember seeing a cat running away when you closed the door. But if you hadn’t bound together the perception of the frightened animal with the act of closing the door, you might still be trying to sort out imagination from reality.

Dr. Schacter’s main point in this hypothetical is to enforce the fact that, unless bound together with abnormal or otherwise memorable details, many real events will be extremely difficult to differentiate from imagined events. However, memory binding often only links significant details to details vital in their understanding – it adheres to cause and effect, in essence. This effect can be seen most commonly in *source misattribution*, when irrelevant details like time of an event or who told you a particular fact aren’t actually remembered and are instead imagined to fit the most logical explanation.

By this point, however, the only issue explicitly linked to memory binding deals with simple matters like whether or not you shut a door. While this issue alone could raise issues in many civil cases, failure to properly administer memory binding can create far darker side-effects, primarily those associated with *unconscious transference*.

Unconscious transference is probably best-known for its role in the search for John Doe 2 in the wake of the 1995 Oklahoma City bombing. To provide some background, the Oklahoma City bombing, which starred a van filled with explosives and a government building, was the masterpiece of Timothy McVeigh, who was referred to as John Doe 1 before his quick apprehension. While there was no actual evidence indicating that McVeigh hadn’t worked alone, the public became enamored with the idea of not only a second accomplice, but one that fit a very precise description. This description came from a worker at Elliott’s Body Shop (where McVeigh rented the van), who seemed sure that McVeigh had rented the van with another man. Because the worker was able to describe both men accurately, his memory seemed valid and the search for John Doe 2 began. However, the investigators had extreme trouble tracking John Doe 2 and, upon re-evaluation of the original testimony, eventually uncovered
revealing information about the worker’s story. As it turns out, two men fitting the worker’s description did rent a van from Elliott’s Body Shop. However, instead of McVeigh and an unknown accomplice, these men were an Army Sergeant and Private who had shown up two days before and just had the bad luck of looking like McVeigh.⁴

While cases of unconscious transference like the one above seem too extreme to be real, think about the process of memory for a moment. As I’ve already stated, encoding is far from a specific process and only takes in the general details, and interference like the appearance of McVeigh’s could easily hinder source memory. Research also supports this claim in that similar faces can be easily mistaken for each other. In fact, it takes the claim one step further, adding that a face comprised of familiar faces will evoke a sense of familiarity, which is often all one needs to “recognize” a face.¹,³

BIAS

Bias is interesting in that, even if memory functioned perfectly, it would probably still exist. For while misattribution is caused by memory trying to “fill-in-the-blank,” bias is the brain’s response to cognitive dissonance, or, in layman’s terms, memories that don’t fit well together.⁴ Take, for example, hindsight bias.⁴ Hindsight bias can be most frequently found after sports games and elections, when fans you could have sworn were certain their team was going to win seemed unsurprised about the later loss. It was also present in the O.J. Simpson trial, when students who were uncertain about the fate of O.J. mere hours before the verdict suddenly claimed to always have known he was going to be acquitted two days after the verdict.⁴ Hindsight bias, the belief that you “knew it all along,” stems from the brain trying to remove the cognitive dissonance caused by a strong contradiction between what was expected and what actually occurred.⁴ This phenomenon was most notably studied in the story of Jack and Barbara. The story of Jack and Barbara was a fairly neutral romance tale with two different endings. After telling Barbara he loves her, Jack either proposes marriage or, if the subject was in a different reading group, rapes her. Despite the fact that neither ending could be predicted by the provided text, after the reading was finished each group was insistent that their ending could be the only plausible one. Even more interestingly, each group, when trying to justify their opinion, didn’t draw their examples from the neutral source material. Instead, they changed and/or added minor details that would have given the ending away, such as “Barbara and Jack dined by candlelight” or “Jack was unpopular with women.”⁴ This kind of bias can be extremely dangerous in criminal cases, as a witness who knew the suspect could easily change their opinion based of the fact that the suspect is on trial.

Hindsight bias, however, isn’t one-of-a-kind, and there’s one more bias type that plays an extremely big role not only in court cases, but in day-to-day interactions: stereotypes.⁴ Stereotypes have been around as long as man, and, despite society’s sincerest efforts to remove them, they’re far from gone. Stereotypes come from the ingrained nature of memory to categorize, something that permeates the brain from chunking onward. While it has been proven that people of different races are more difficult to recognize and differentiate from each other, stereotypes extend far beyond people of different races, as well.⁵ In fact, stereotypes extend beyond people and can describe anything from a generation to a time period to a specific event. So long as something can fit into a general mold, the brain will try to the best of its ability to force information from a memory to fit that mold.¹ For example,
if a subject was told that Julian was creative, temperamental, generous, and fearless, the subject would remember all four traits fairly equally. However, if the subject was also told that Julian was an artist, they would remember the first two traits far better than the other two, as they fit the stereotype of an artist. However, if the subject was told that Julian was a suspected criminal, the effect would be very similar to what would happen with hindsight bias, even if the subject knew Julian fairly well.

THE CREATION OF A STORY: WHY MEMORY MISPLACES

As fascinating as the flaws of memory are, unless one can understand why they exist, one can’t hope to fight them to the best of one’s ability. And while many of the possible reasons behind memory failures are self-evident (indeed, I’ve described some of them already), it isn’t until they’re combined that they take true form. Interestingly enough, the answer for why memories change and disappear doesn’t lie within the errors themselves. The answer lies within the memories that won’t go away.

Persistent memories, which were briefly mentioned before, are memories that, due primarily to a large amount of activity in the amygdala, won’t decay over time and will be frequently triggered against one’s will. While persistence can ruin lives, as it did in the case of Red Sox player Donnie Moore, whose misplaced pitch in the American League Championship cost him and his wife their lives, its evolutionary significance is pretty much undisputed. After all, persistence occurs only for the worst memories, the ones with the greatest danger or biggest mistakes. And while the persistence of terrible memories might seem like a curse, it constantly reminds whoever holds the memories which situations have the greatest costs. In essence, persistence assures, to the best of its ability, that our worst memories won’t happen again.

But how exactly does that apply to forgetting, misattribution, and bias? The answer here, while not as clear, might lie in what is and isn’t remembered. Earlier, I used an example of how one frequently forgets what one had for dinner just days later. However, if one adds a unique observation to that dinner (for example, the last dinner had with a friend you don’t see often), the chance of that event being remembered exponentially increases, no matter its age. The reasoning behind this is that the mind might have an “unlimited” storage capacity, but the more it stores, the harder it has to work to find the memory it’s looking for. Thus, anything that looks remotely the same is usually placed into one giant category, making management and movement within the brain considerably easier and, more importantly, the disruptions of the status quo more noticeable. After all, if something destroys the status quo, it’s bound to be something one will want to emulate or avoid in the future.

However, while this explanation accounts for “lost” memories, why does the brain need to fill in the blanks it voluntarily makes? Again, it all comes down to context. Without proper context, for example, the memories of a mugging victim might still be as vibrant, but they won’t be nearly as useful. However, if the account of one’s day is completely coherent, important facts will inevitably drown under unimportant details. The mind needs context, but it can’t have insignificant details, so it strikes the best bargain it can and makes a story.

While this explanation makes sense with bias (after all, I’ve already explained how bias is caused by a lack of continuity), misattribution is a bit trickier to understand. In order to explain how
misattribution is used to make a story, I want to take a closer look at the case of John Doe 2. As Elliott’s Body shop doesn’t rent out vans for the purpose of car bombs, it’s reasonable to believe that McVeigh’s original visit was of little consequence to the worker who later “identified” John Doe 2. Therefore, since many parts of McVeigh’s visit weren’t considered significant until after-the-fact, when prompted to recall events of that day, the worker probably had a very vague memory of what actually happened. In order to cope with this, the worker combined his memory of McVeigh’s visit with other related memories, allowing him to create a comprehensive and usable memory of that day. Without this synthesis of memory, it’s doubtful the worker would have been able remember any relevant details of the visit at all.

While this might seem to be all speculative, neuroscientists actually consider this creation of a story, known as elaboration, to be a vital step in the memory process. During elaboration, the most useful parts of a new memory are used to supplement similar memories. It’s very similar to the editing process of a novel, actually – the most useful parts of the memories are added and/or used to replace irrelevant details and create the most effective story. While this might destroy the reality of memory, it maximizes the amount one can learn from it. That, after all, is the purpose of memory – not to perceive the past exactly how it was, but to perceive the past in a way that will build the greatest future.

SUGGESTIBILITY AND COMMON CATALYSTS

Thankfully, this process isn’t instantaneous and takes a considerable amount of thought to occur. Unfortunately, the law system as it exists not only allows for the revision to occur, but accidentally promotes it and even adds false memories.

Take this example. In an experiment, a red car stops at an intersection at a stop sign but hits a pedestrian as it turns. Later, test subjects are asked questions like “did another car go through the intersection as the red car was stopped at the yield sign?” By the end of the experiment, the subjects are shown two pictures – one of the car at a stop sign, and an identical picture with the car stopped at a yield sign. Despite the fact that the car in the original video was at the stop sign, a large amount of subjects will choose the picture with the yield sign, as that was the picture implied in the questions. Not only is this experiment extremely viable, it’s one frequently mentioned by psychologists concerned about the effects of suggestibility, where a witness is intentionally or unintentionally provided with memories of things that didn’t exist.

The examples for suggestibility are undeniable and many, ranging from subjects convinced that they had witnessed an event they had only heard about to subjects recalling vivid memories of their early childhood, memories that took place long before the subjects were biologically able to develop them. The question, in fact, is not if suggestibility can occur. The question instead is how often it occurs.

Right after witnessing a trial-worthy event, most witnesses are understandably quite confused. Not only have they probably just experienced something completely new, most trial-worthy events are rather emotionally heavy. Nevermind that witnesses rarely possess enough evidence to have a comprehensive understanding of what it was they just experienced. So when, for example, viewing a
lineup, it’s not uncommon for witnesses to be unsure of their decision. This confusion, coupled with the mind’s need for context, makes it remarkably easy for someone’s memories to be influenced by an image of authority. In fact, even an act as simple as saying “okay” when an eyewitness identifies a suspect will further convince the eyewitness that that version of their story is true, regardless of reality.\textsuperscript{3,4} Of course, suggestibility doesn’t stop there. Estimates claim that 1/6 of all police questions support suggestibility in some way.\textsuperscript{4} In fact, police suggestibility can be influential enough to cause \textit{memory distrust syndrome}, a syndrome frequently associated with false confessions.\textsuperscript{4}

The danger of suggestibility is only worsened by the answer-seeking nature of the trial process. In the system as it currently exists, witnesses feel pressured into give some sort of answer, regardless of whether or not they have one. This phenomenon reaches dangerous levels when, for example, a witness can’t recognize anyone in a lineup specifically and just picks the one that looks most familiar to them, a practice that is surprisingly common.\textsuperscript{5} The highly suggestive, yes and no nature of cross examination takes this already perilous state of affairs and magnifies it to cataclysmic levels, as can be seen by this interview between prosecutor Susan Kelley and a child witness.

KELLEY: Did the clown touch you? 
CHILD: No… 
KELLEY: You said the clown took your clothes off. 
CHILD: Yeah 
KELLEY: And then what happened? 
CHILD: Well, nothing, really. 
KELLEY: Did the clown touch any… Will you show me if the clown touched any part of you? 
CHILD: No, he didn’t touch me any – 
KELLEY: Now, pretend this was you. Did the clown touch you? Where did the clown touch you? 
CHILD: Right there [indicates foot]. 
KELLEY: Did he take your underpants off? 
CHILD: [No response] 
KELLEY: Then what did he do? 
CHILD: Nothing else. 
KELLEY: No? Did he touch you? 
CHILD: I want to wear that now. 
KELLEY: Oh, but I want you to tell if the clown touched you. 
CHILD: Yeah.\textsuperscript{4}

\textbf{SOME SIMPLE SOLUTIONS}

Attempts at minimizing the bad effects of eyewitness testimony have been attempted for decades. They range from hypnosis (which has been proven to raise recall of real and fake memories by the same degree) to brain-scanning machines (which can’t tell the difference between real and fantasy) to the Gudjonsson interrogative suggestibility scale (which is actually quite effective in revealing how easily one’s memories can be influenced).\textsuperscript{1,4} While I have little doubt that there are radical changes and methods that could be used to minimize error, I lack both the expertise and the space to fully explain
those changes and do them justice. However, I do believe that there are many small changes that could be easily implemented to significantly lower the dangers of eyewitness testimony.

The first is to remove unrealistic expectations of memory. Due to the nature of memory, many witnesses will not know a wide range of minuscule details. Instead, they will either have a general idea of the way things were or a very specific knowledge of one thing. They cannot be expected to know both. While it has been proposed to show juries the ways eyewitnesses can err, this technique frequently causes the jury to radically shift their paradigm 180 degrees and not trust a single thing witnesses say. Instead, the burden of this task falls on lawyers, who could use this on a witness-by-witness basis to cast doubt on a specific witness’s claims.

The second change would be to place more focus on early interviews with law authority. Despite their initial confusion, as time moves on, witnesses tend to become increasingly confident in their interpretation of events. With all the outside influence they’re subject to, that comes as little surprise, as suggestibility is very likely to provide witnesses with very comprehensive, if inaccurate, interpretations of an event. Thus, the version of the story that jurors hear is often extremely skewed. However, if eyewitness testimonies were done right and recorded as quickly as possible with the proper authority, the amount of accuracy would increase significantly, getting as close to perfection as we can hope to get now.

On the subject of law authority, two changes could be made to reduce suggestibility, specifically during lineups. The first would be an interview where the witness is asked to repeat the scene in a multitude of ways, including chronologically, person-by-person, etc. This way, the maximum amount of information could be extracted with minimum suggestibility. Also, when presented with a lineup of suspects, witnesses often feel the pressure to identify at least one of them. However, if given a moment to recall what the criminal looked like before being shown each suspect one-by-one, the witness can gain the strongest image of the actual criminal in their mind and won’t have to judge based of familiarity.

Something that surprised me was how frequently eyewitness testimony, if only from one person, could change an entire case. While I still feel it would be erroneous to make the jury overly suspicious of eyewitness testimony, the jury should still be informed that eyewitness testimony by itself is extremely unreliable and should be viewed with immense scrutiny.

Finally, the last changes would deal with the witnesses themselves. As I stated, while witnesses will gain confidence while going through the legal process, they originally start with a fair amount of doubt. It is at this point when witnesses should be reminded of Daniel Schacter’s distinctiveness heuristic. In short, this heuristic claims that if you are absolutely certain you remember something from the outset, you probably do, especially if you can provide vivid details. Otherwise, chances are that any “renewed clarity” comes not from an actual increase in retrieval, but from suggestibility and misattribution. At all else, witness should be reminded that, if they need to, it’s perfectly acceptable to say “I don’t know.”
CONCLUSION

McKinley Cromedy spent 5 years in jail for a crime he didn’t commit due to the testimony of one person. Were it not for DNA evidence, he would have spent 60 years in there, practically assuring that he would have been wrongfully imprisoned until his death. While the degree of trust to be placed in eyewitnesses will always be debatable, there is no doubt that changes have to be made to the system. The issues with eyewitness testimony have been repeated for over a century, and the complaints raised back then are still raised now. And with the statistics provided, that means a haunting number of innocent people end up in jail each year. Unfortunately, we cannot yet remove eyewitness testimony from the courtroom, and, until a “miracle cure” is found, we cannot hope that it will be completely accurate. However, we can and must implement simple changes to the judicial process to lessen the negatives of eyewitness testimony. If we effectively do this, we can, at the very least, assure that one less McKinley Cromedy wastes 5 years of his life for something he didn’t even know about.
References

   Brief summary of the main issues in matters of eyewitness testimony. Provides many brief
   explanations of the problems plaguing eyewitness testimony and references sources that
   elaborate said problems. Written in a textbook format by an expert in the field – clearly
   intended for classroom use. Given to me by a Cornell Professor who uses the book in classes –
   trustworthy.

   While the article itself comes from a biased source, the details I used from it (McKinley
   Cromedy’s name, the eyewitness’s claims, and Cromedy’s eventual innocence) were confirmed
   by a wide variety of sources, all of which used the same facts that I did. That, plus the fact that
   the board of directors includes lawyers, politicians, and professors of law implies that, while the
   source is biased, the facts of the story are not. Finally, as I only used this source for the story
   and not any psychological science, the possibility for error without lying is very small.

   Wiley & Sons, Inc.
   Textbook on the basic tenants of cognitive psychology. Extremely helpful in looking up exactly
   how memory and its various variations work – in essence, makes for a very helpful base of
   understanding. Written in a textbook format by an expert in the field – clearly intended for
   classroom use. Given to me by a Cornell Professor who uses the book in classes – trustworthy.

   Book written in “layman’s terms” that discusses common issues in recovery of memory and then
   discusses the psychological processes and reasons said issues exist. Helpful in understanding
   possible problems and where exactly they fail, making it a valuable source in the search for
   solutions. Written by a Harvard professor who studies this topic with significant detail. Upon
   further research, his statements are agreed upon by other experts. Trustworthy

   Comprised of basically every which way memory can fail in eyewitness testimony and a general
   background of the issue as a whole, including three chapters deliberately contradicting each
   other to demonstrate all the arguments for a particular solution. Helpful primarily in the study
   of face memory and solutions to its common pitfalls. While older, the vast majority of
   statements made in this book are now considered commonplace in the scientific community.
   Trustworthy.