

Chapter 1

The Challenge for Forensic Memory Research: Methodology

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The aim of this chapter is to describe a major challenge facing contemporary forensic psychology: the reliance on laboratory-based research at the expense of field research. I argue that the reliance on laboratory research has had a profound negative effect on the discipline, retarding our understanding of many psychological phenomena in the forensic field. My focus is on the area of eyewitness memory, although I believe that the arguments presented here are valid for a number of forensic areas of enquiry. This chapter begins with a review of some of the historical roots for the reliance on the laboratory. This is followed by an examination of the consequences of the reliance on the laboratory as the appropriate venue for the study of eyewitness memory. I conclude with some thoughts on how we can meet this challenge; how we can overcome our belief in the ultimate value of the laboratory and develop more appropriate methodologies for the study of eyewitness memory, as well as other aspects of forensic psychology.

In the title to this chapter I used the term “methodology.” I use this term to characterize the reliance among psychologists on the use of a standard experimental design in laboratory-based research (see Plante, Kiernan, & Betts, 1994 for a similar concern in educational research). This method—conducting research in a relatively sterile context and manipulating some factors while other factors are controlled—is the dominant method of conducting psychological research. When the focus of research is on some aspect of psychology that is context free—that is, that functions the same in all contexts—the controlled laboratory is the perfect venue for research. However, much of human behavior is context dependent—the way we think, feel, and act is deeply affected by the context we are in and our interpretation of that context. For context dependent aspects of psychology, the laboratory may be an inappropriate context to conduct research. However, researchers have such a deep

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seated belief in the appropriateness of the standard laboratory method that it can be caricatured as a worship of method: methodolotry. I argue in this chapter that this methodolotry has placed eyewitness research in the wrong context (i.e., the laboratory). It has blinded many psychologists to the need for unique methodologies to study eyewitness memory *in situ* rather than the artificial context of the lab. Making the method paramount has forced researchers to take the interesting questions about memory in the forensic context and distort them to fit the methodology.

A Brief History of Methodolotry

The origin of psychology as a science is usually dated to 1879. This is the year that Wilhelm Wundt (1832–1920) opened the first psychology laboratory at the University of Leipzig. Wundt was convinced that the success of the scientific method in such fields as physics, chemistry, and medicine also could be achieved in psychology (e.g., Wundt, 1904). That said, he felt that the unique aspect of psychology (i.e., the mind studying itself) required a mix of methods. He proposed that those aspects of the mind that were observable to a person (i.e., the contents of consciousness) could be studied using a modification of standard laboratory techniques. However, he was of the belief that more complex mental processes—those outside immediate observation—required a unique methodology (Wundt, 1912).

In effect, Wundt proposed that psychology needed two distinct methodologies: an experimental methodology for what he called the outer aspects of mind and a nonexperimental approach for the study of what he called the inner aspects of mind. The outer aspects of mind could be researched by training observers to report on the contents of their consciousness in the same way that trained physicists report on their observations of the physical world. However, Wundt argued that those aspects of mind not available to consciousness required a different method of study, one that he called Folk Psychology. Folk Psychology would study language, creativity, social behavior, etc., and would employ methods related to history, and what would later become sociology. Unfortunately, subsequent generations of psychologists were only interested in the laboratory-based part of Wundt's psychology. The Folk Psychology seemed too arcane and unnecessary. If more effort had been devoted to developing a tailored methodology for psychological research, the discipline might have developed in a more productive direction. However, most of Wundt's students emphasized his experimental work and little attention was given to his argument for a Folk Psychology. The strong influence of Positivism in the late nineteenth century was too great: for most researchers in the new discipline, it was clear that laboratory research provided the path to knowledge.

Before leaving this brief examination of history, I turn to a discussion of two of Wundt's students. One of Wundt's students was an Englishman named Titchener (1867–1927). He was quite taken with the experimental aspect of Wundt's work but either did not understand or dismissed Wundt's more extensive work on the inner aspects of the mind. After completing his studies with Wundt, Titchener was unable to find a sympathetic reception for the notion of an experimental psychology in his

native Britain. Titchener took advantage of a job offer from Cornell University and moved to the USA. He became the main source in the USA for the dissemination of his version of Wundtian psychology (e.g., Titchener, 1898). Titchener advocated for the use of a particular type of trained introspection for the systematic study of the contents of the conscious mind. While many in the newly developing field of psychology were attracted to the concept of an experimental psychology, they rejected both the trained introspection method of Titchener and his focus on the contents of consciousness as the proper concern of psychology. Instead, many academic American psychologists became enamored with the laboratory and the promise they saw in a purely objective behavioral science. During the first three decades of the twentieth century, they began to shape psychology so that psychological questions could be studied by experimental methods. This was the beginning of the phenomenon I have labeled methodology: the dedication to a particular method and the consequent distortion of psychology to fit the method. By the 1930s, academic psychology had become predominantly behavioristic and wedded to an experimental methodology. This approach to psychological research succeeded for a number of reasons, including the following:

1. The earlier success of experimental methodologies in chemistry, physics, and medicine provided an attractive model for the new science of psychology.
2. The strong influence of Logical Positivism (e.g., Ayer, 1936) as a philosophy of science was leading some to advocate that all science should be objective (i.e., based as much as possible solely on observation).
3. The Progressive Movement (e.g., Gould, 2000) in American politics at the time promised a bright future based on the results of empirical science and technology.
4. American researchers viewed the new science of psychology as representative of the innovation of the New World and a rejection of the failures of the philosophical speculations of the Old World.

Whatever the reasons for its appeal, advocates for an external psychology became increasingly vocal in the early twentieth century in the USA. Chief among them was John B. Watson (1878–1958). Watson advocated for a strictly experimental psychology with the goal of predicting and controlling human behavior. Watson began to advocate his position in print in 1913 (Watson, 1913) and, as noted above, by the 1930s, Behaviorism had become the dominant approach to academic psychology in the USA. It was the ascendancy of Behaviorism that assured the adoption of methodology in psychology. As MacKenzie (1972) observed:

“The revolution that produced Behaviorism was, in short, a methodological revolution. Behaviorism was not born from a solution, even a tentative solution, to a major problem. It was born from of an uncompromising faith in a particular objective methodology, a faith that (as is well known) required a rejection and denial of those phenomena and foci of research which could not be made compatible with the methodology” (p. 228).

The discipline of psychology had become attached to laboratory research as the method to deal with all psychological questions. All research would have to conform to the method and the widely held belief was that the method could and would answer all questions. The field of eyewitness memory research was equally swept

up in the enthusiasm for the experimental methodology. It was another student of Wundt, in fact, who played a critical role in applying experimental procedures to the study of eyewitnesses. Hugo Munsterberg (1863–1916) became Wundt's research assistant and completed a Ph.D. with Wundt at the University of Leipzig in 1885. He then completed a medical degree and opened a psychology lab at the University of Freiburg (for a history of Munsterberg, see Spillmann & Spillmann, 1993). While there, he met William James at a conference and ultimately accepted an invitation from James to join the faculty at Harvard University. He was eager to apply the new experimental methodology to the study of eyewitness memory. He staged events in front of students or provided them with written descriptions of crimes and then tested their memory. He was convinced that this served as an appropriate analogue for the study of victims and witnesses to crimes. Munsterberg did not pioneer this area of research but he became its principal advocate in the USA. He believed there was no difference between a student observing an event in the comfort and security of the classroom and a victim of a violent act. By 1908, he believed that he and others had acquired a sufficiently large database to permit the direct application of the laboratory results to real crime situations. He advocated for expert testimony by psychologists in criminal cases in order to inform the triers of fact of the insights gained in the laboratory. To this end, he published a book: *On the witness stand* (1908). Munsterberg asserted that the laboratory study of witnesses had produced a body of knowledge that was of value to the criminal justice system.

The legal community did not respond positively to Munsterberg's assertion that the experimental studies of eyewitnesses were of value in court. The primary critic of Munsterberg's work was John Wigmore (1863–1943). Wigmore was the leading authority on rules of evidence and became dean of the law school at Northwestern University. His 1904 landmark text on the Anglo-American system of evidence (Wigmore, 1904) is still used in many law schools to this day. Wigmore (1909) wrote a devastating review of Munsterberg's book, *On the witness stand*. He argued that the psychological research was in its infancy and that it was premature to even consider its application in court. He also pointed out that the artificiality of the experimental procedures employed to study witnesses made it questionable that the results of such work would ever prove of value to the criminal justice system. More than a century ago, a legal scholar had more insight than many psychologists into the context dependent nature of human psychology.

This brief look at the early history of experimental psychology serves two points:

1. The new discipline rapidly adopted a dedication to laboratory-based research that would characterize the field to this day.
2. The new discipline assumed that psychological processes are context free: for example, eyewitnesses perform and react the same whether they are students in a lab or victims of a violent crime. This unwarranted and untested assumption would also continue to the present.

Before leaving this excursion into history, I want to note how short the life of experimental psychology has been. The brevity of psychology's existence as an experimental science is demonstrated by the short link between Wundt and many of the chapter

Table 1.1 A professor/student brief history of psychology

Wilhelm Wundt (1832–1920)—University of Leipzig
Alfred Lehmann (1858–1921)—Denmark
Helge Lundholm (Ph.D., 1919)—Stockholm
Harold McCurdy (1909–1999)—Duke University
Wallace Lambert (1922–2009)—McGill University
Allan Paivio (1925–)—University of Western Ontario
John Yuille (1941–)—University of British Columbia

authors in this book. Table 1.1 (see below) lists the thesis advisors from Wundt to me. One of the students who studied with Wundt was Lehmann who spent his career in Denmark. One of Lehmann’s students was Lundholm who spent his career in Stockholm. The next branch of this academic tree is found with McCurdy who studied with Lundholm and then spent his career at Duke University in North Carolina. One of McCurdy’s students was Wallace Lambert; he was a professor at McGill University and supervised my supervisor, Alan Paivio. Paivio spent most of his career at the University of Western in Ontario where I had the privilege of doing my graduate work. I should note that I also did a postdoctoral fellowship with Lambert at McGill University. So, in my case, I can trace the history of contemporary psychology in just seven generations from the founder, Wilhelm Wundt.

Eyewitness Research Hiatus

The emerging methodolotry of North American psychology had been readily echoed in the new field of eyewitness testimony. However, the viability of the experimental study of eyewitnesses was short-lived. Few studies were conducted between the end of World War I and the 1960s. Two factors combined to end the interest in the laboratory study of eyewitnesses:

1. Behaviorism, which became the dominant view in academic psychology by the 1950s, generally eschewed the study of more complex phenomena in favor of simple stimulus-response contexts. Lab rats and pigeons were a regular focus of attention together with mazes and reward delivery apparatuses. The study of eyewitness memory was simply not attractive to those working on the development of basic behavioral laws.
2. The rejection of Munsterberg’s (1908) work by Wigmore (1909) and others curbed the enthusiasm for such work. Also, Munsterberg’s early death at age 53 left no strong advocate for this area of research in North America.

In summary, when psychology first emerged as a science, there was a debate concerning the proper methodology for this new discipline. Many argued that the unique nature of psychological phenomena required a unique methodology. However, these arguments were ultimately futile and the desire to develop a “purely experimental

branch of natural science” triumphed. The consequence was that the experimental method, as psychologists came to define it, became the ultimate concern. Any psychological issue worthy of study had to be framed in a manner that fit the method with the focus on control and systematic manipulation. The fact that the laboratory might not be the appropriate context for many psychological issues never arose. I believe that this was a profound error for psychology in general and for forensic psychology in particular. This error had at least three major consequences:

1. During the past century, there has been limited progress in our understanding of many psychological phenomena. Many psychological processes are simply not amenable to study in the experimental context. So much of human thinking, emotions, and behavior is context dependent and the context of the lab is too artificial (i.e., an inappropriate or ineffective analogue) to permit the study of many complex phenomena. I expand on this point in more detail below with respect to forensic psychology in particular.
2. A consequence of relying on experimental design and the associated statistical procedures employed to analyze the results has been a focus on mean differences. Results of research are typically summarized by comparisons of group means. Yet, it is often the variability within the groups that reflects the more interesting aspects of psychology. Individual differences and the factors causing those differences are often ignored or trivialized. This point is also elaborated below.
3. Another consequence of being wedded to an inappropriate methodology has been a division between researchers and practitioners. The past century has been witness to a growing gap between the minority of psychologists who research psychological issues and the substantial majority of psychologists who provide psychological services. This also has had implications for forensic psychology which are elaborated in the following pages.

Contemporary Eyewitness Research

As reviewed above, the early twentieth century interest in the laboratory study of eyewitness memory was followed by a long period of disinterest. When interest in the topic was rekindled in the 1960s, the methodology of the general field of psychology persisted. Consequently, the modern era of research on eyewitness memory has the same basic flaws as the work in the early twentieth century. Although the label for the research was “eyewitness memory” and the application of the work has been consistently focused on the criminal justice context, none of this research involved actual witnesses to actual crimes. Instead, the research involved questionable/inappropriate analogues to real eyewitness circumstances. Thus, in the typical study, a group of students is presented with an event, either via a recording (e.g., audio, video, film) or a staged live event. The memory of the student observers is questioned typically immediately after seeing the event. For obvious ethical reasons, the events can have no physical or emotional impact on the observers. Thus,

these studies are an analogue, at best, for an unaffected bystander watching an innocuous event. However, there has been no hesitation to apply this to any witness, including victims, and to any context, regardless of the nature of the impact. The questionable face validity of the research had not limited the willingness of the researchers to apply the results to the criminal justice context (e.g., Loftus, 1979). The justification for the reliance on the laboratory has primarily been based on the need for control. Researchers have argued that the real world context is simply too complex and that the development of scientific knowledge requires more precision and control (e.g., “the implication that tests in the real world permit greater generalizability is false once the immense variability from one real world situation to another is recognized”; Banaji & Crowder, 1989, p. 1189). While there is no question that the laboratory provides much greater control and precision than conducting research in real world contexts, it does so, I believe, at the expense of utility. That is, the context of the laboratory is so different from the context of many crimes, particularly violent crimes, that using the lab to study memory in the forensic context is pointless. The gain in control and precision is vacuous.

While the laboratory researchers acknowledge that there is a lack of sufficient field research, they argued that the generalization of their laboratory results to the forensic context is justified: “we do not have the luxury of waiting until researchers get around to completing all the studies that would be desirable” (Loftus, 1986, p. 249). Expert testimony should be based upon relevant and appropriate evidence, not simply a belief that the findings are relevant. It is not a luxury to have field research but rather it is a necessity. The time and effort spent in studying an inappropriate analogue is wasted time and effort. However, the new generation of laboratory researchers of eyewitness memory are as eager as Munsterberg was to bring their analogue findings to the criminal justice system. Like Wigmore, I believe that much of the current laboratory-based research is of limited value in understanding the psychological processes that occur in the forensic context. However, in the final analysis, it is an empirical question: we must study the behavior of real witnesses to actual crimes. Then and only then will we have a foundation for a psychology of eyewitnesses.

In the following paragraphs, I explore several examples of phenomena studied in the lab that I believe are not and cannot be analogues of phenomena in the real world.

Effect of Stress

Real-life events in the forensic context often have a strong emotional component. Victims, witnesses, and, at times, offenders may feel fear or be traumatized by an event. Because of the central importance of emotion in the criminal context, laboratory researchers have tried to create an analogue for use in the laboratory. The results have been poor. For example, one analogue has involved the use of white noise as a stressor (e.g., Deffenbacher, 1983). That is, white noise is played to the laboratory

witnesses while they observe an event. It should be obvious that this is not, in any sense, an analogue of the stress experienced by a witness to or a victim of violence. First of all, white noise is annoying but it is not a threat to life or limb (e.g., the emotional responses are entirely different). Secondly, white noise is a distractor that may draw attention away from the event. In the real world, violence has a variety of effects but distraction is not one of them (see Hervé, Cooper & Yuille, 2007). Other researchers have attempted to manipulate stress through varying the violent content of a film (e.g., Clifford & Hollin, 1981). It is stunningly naïve to think that violence in a film can serve as an analogue for directly experiencing violence (Yuille & Cooper, 2012; Yuille, Daylen, Porter, & Marxsen, 1995). Violent content on television and in films has inured most people to media violence. There simply is no possibility of creating a laboratory-based analogue for the kind of emotional response that a victim of violence (e.g., sexual assault) can experience. The laboratory studies of “stress” have not contributed at all to our understanding of how emotion impacts memory of witnesses to crime; the important questions related to the impact of violence have largely gone unanswered.

More recently, some researchers have attempted to exploit circumstances with strong emotional content to help in our understanding of the impact of emotions on memory. For example, Morgan et al. (2004) studied the memory of active duty military personnel enrolled in mock prisoner of war (POW) training. The focus of this study was on the ability of the trainees to recognize someone who had interrogated them during training. If one examines the average differences, low stress participants were better able to make identifications than those in the high stress condition. However, the more interesting result from this study was the variability in the manner in which trainees responded to interrogation stress: only 45 % of the witnesses made more accurate identifications under lower stress; for 42 % of the participants, variation in stress appeared to have no effect, while for 13 % of the witnesses, higher stress improved their identification performance. That is, for some, their memory was negatively affected by stress while, for others, the stress appears to have no effect or even improved their memory. This kind of variability is what one observes when working with victims, witnesses, and offenders in the criminal justice system. There is no typical or average way of responding to violence, threats of violence, sexual assault, hostage taking, etc. Instead, there is a range of the impact of stress all the way from a completely debilitating effect on memory to improving memory. It is this variability that should be the focus of forensic research (see Hervé, Cooper, & Yuille, 2007, present volume) and not average differences that ignore this variability. As noted earlier, this is one of the negative consequences of the methodology that characterizes contemporary eyewitness research. Mean differences provide little information to inform a psychologist, or triers of fact, about the impact of stress on eyewitness memory. The triers of fact need to understand the factors that cause the variable responses to stress. It is the individual differences that are informative, not the means.

Weapon Focus Effect

The weapon focus effect provides another excellent example of the problem of trying to develop an analogue in the lab for real world situations. This term—weapon focus—was developed to refer to a series of findings that showed a negative impact from the presence of a weapon in studies of experimental witnesses (e.g., Loftus, Loftus, & Messo, 1987). It was reported that laboratory witnesses who saw a film of a perpetrator carrying a weapon were less able to identify him compared to witnesses who saw the perpetrator without a weapon. The argument was that the weapon took a witness' attention away from facial features and on to the weapon. Once again, researchers saw no problem applying these results to the forensic context: they claimed that the presence of a weapon has a detrimental effect on eyewitness identification. It is a stunning leap of faith to make such an assertion without actually studying the impact of weapons in actual crime contexts.

Fortunately, more recently, several studies have examined the weapon focus phenomenon in the forensic context (e.g., Behrman & Davey, 2001; Cooper, Kennedy, Hervé, & Yuille, 2002; Griesel & Yuille, 2012; Tollestrup, Turtle, & Yuille, 1994). These studies have reported the results from examining police files of identifications or by interviewing actual victims and witnesses to determine the effect of the presence of a weapon on eyewitness memory. These real world studies have found no support for a consistent weapon focus effect. Thus, a weapon may attract attention away from the person holding it in a film but it doesn't appear to have the same effect in the real world; better put, the presence of a weapon appears to have variable effects in the real world. I'm not suggesting that the presence of a weapon does not have an impact—clearly it does. The presence of a weapon may make the situation more emotional and result in a variety of psychological changes in a victim or witness. However, those changes don't include a simplistic change in perceptual focus.

In an attempt to bolster the generalizability of laboratory findings to the criminal justice system Kassin, Ellsworth, and Smith, (1989) and Kassin, Tubbs, Hosch, and Memon, (2001) have reported the results of surveys of experimental psychologists concerning the reliability of the laboratory findings. They concluded that researchers agree about the negative impact of a weapon on eyewitness memory. Researchers may agree on the reliability of the laboratory findings but the field research with actual witnesses to criminal events suggests that the weapon focus effect is not a reliable phenomenon in the real world. What is the value of agreement on the reliability of an analogue finding when the analogue does not compare to the real world situation?

Eyewitness Identification

A major focus of research in the modern era has been on eyewitness identification. Once again, rather than studying how witnesses to actual crimes perform when presented with photo spreads or lineups, researchers have primarily used videos and

mock crimes with laboratory witnesses. The researchers have been so enthusiastic about the value of their laboratory research to the forensic context that they have advocated for widespread acceptance of changes in police practices based on the research outcomes (e.g., Wells, 1988; Wells et al., 1998). Once again, this advocacy was based entirely on laboratory studies and not on the variety of forensic contexts in which identifications are made. Subsequently, a single field study of actual eyewitness identifications was conducted (Wells, Steblay, & Dysart, 2011). Wells et al. found some results that appeared consistent with the laboratory findings and other results that were inconsistent. This should have led researchers to temper their enthusiasm about the generalizability of the laboratory findings (see Clark, 2012a). However, the laboratory researchers are so blinded by their methodology that they were forced to find faults with any applied studies when the findings of the field research did not match laboratory-based expectations (Wells, Steblay, & Dysart, 2012). These researchers are so convinced of the efficacy of their laboratory research that any inconsistent findings from field research must be wrong. This demonstrates how methodology has turned empiricism on its head. Our understanding of eyewitness psychology must stem, primarily, from studies of actual witnesses and not presumed analogues. Also, public policy requires a solid and appropriate research foundation (see Clark, 2012b); that is, field research. We cannot rely on the belief of laboratory researchers in the correctness of their methodology.

Similar examples could be provided for other eyewitness phenomena studied in the laboratory: the relationship between witness confidence and accuracy; the effects of delay on memory; cross racial identification issues; interview procedures; etc. In each case, the point would be the same (and redundant with the above examples): the context of the laboratory cannot serve as an analogue for forensic events. This is not an argument against laboratory-based research; such research can play a useful role. For example, studying the impact of alcohol (e.g., Read, Yuille, & Tollestrup, 1992) and other drugs (e.g., Yuille, Tollestrup, Porter, Marxsen, & Hervé, 1998) on memory may benefit from a combination of lab and field studies. However, when the purpose of conducting eyewitness research is to understand how victims, witnesses, and offenders respond to criminal events, then such events must be the focus of that research, not laboratory analogues. Occasionally, an experimental study could supplement the field-based literature when appropriate (e.g., to provide some precision about the amount of alcohol in the blood stream and the impact on memory). However, such efforts should be the exception rather than the rule.

The issue concerning the appropriate type of research is both empirical and ethical in nature. The only way that we can understand eyewitnesses to real events is to study them (Yuille, 1993). Asserting a belief in the generalizability of laboratory findings is simply that: a belief. It is not a proper foundation for scientific knowledge. Also, we are obliged, when providing testimony in court, to clearly indicate any limitations in the application of our knowledge to the case at trial. Claiming that our laboratory knowledge applies to the criminal justice context because we would like it to is not only empirically unjustified but also unethical.

Research with Witnesses to Actual Crimes

Although the vast majority of studies of eyewitness memory have employed the experimental methodology that characterizes the methodology of the field during the past 25 years, there have been increasing efforts to develop non-laboratory approaches for the study of memory in the forensic context. I was involved in the first such study (Yuille & Cutshall, 1986): my research team and I interviewed witnesses to a shootout between a gun store owner and a thief that occurred on a major public thoroughfare. We were able to compare the recall the witnesses provided to us several months after the event with the information they had reported to the police immediately after the event. Also, there was sufficient physical evidence at the scene of the crime to permit an assessment of the accuracy of witnesses' recall. This study became a template for a number of such studies which gave us the privilege of talking to victims and witnesses to a variety of criminal events. What has emerged from this body of work is a picture of eyewitness performance that is more complex than what had emerged from the thousands of laboratory studies. As noted earlier in this chapter, the major finding with respect to real world witnesses is the variability in their performance. That is, one witness to a violent event may provide very poor recall (e.g., either little detail or highly inaccurate detail) while another witness to the same event may display a detailed and accurate memory for the event. In addition, some findings from the lab (e.g., weapon focus) simply are not found in the field. The findings from the limited amount of field research provide a different picture of eyewitness performance and confirm that the lab simply cannot serve as an analogue for many aspects of eyewitness performance. Although the amount of field work is limited, it has led my colleagues and I to develop a model to explain the variety of factors that contribute to the variable pattern of real eyewitness memory (Hervé et al. 2007, present volume). The laboratory research on its own has never provided a foundation for the development of this type of model.

The fact that the Yuille and Cutshall (1986) study was the first of its kind (i.e., studying actual witnesses of criminal events), provides further evidence of the negative impact that methodology has had on this field. The appearance of this study followed decades of research and thousands of articles allegedly concerned with eyewitness memory and not one of them focused on actual eyewitness. It speaks volumes about the dependency on a particular methodology that no one even attempted to study what was reportedly the purpose of the research: eyewitnesses of crime.

The Reasons for Methodology

If the interest of researchers is the understanding of eyewitness behavior, why are they so reliant on studying analogue witnesses instead of the real thing? There are many reasons for this including the following:

1. It is a lot more convenient to bring students into the lab than it is to find real victims and witnesses for research. As someone who has conducted studies with real witnesses, I can attest to how difficult it is to do this type of research. It is difficult to obtain the cooperation of law enforcement and other agencies in order to conduct the research. One then has to obtain the cooperation of victims, witnesses, or offenders to participate in the research. For example, my colleagues and I have been studying the memory for sexual assault experiences in street sex trade workers (Cooper et al., 2002; Cooper, Yuille, & Kennedy, 2002; Griesel & Yuille 2012; Griesel, Ternes, Schraml, Cooper, & Yuille, present volume). Obtaining the cooperation of these participants—mostly women—was a difficult task requiring considerable sensitivity and community work. I should add, however, that it was a privilege that these individuals were willing to share their narratives of very difficult experiences with us.
2. Not only is the cooperation of students more easily obtained, a laboratory project can be conducted in a relatively short period of time. Research with real witnesses, whether it involves interviews or the use of file information, is very time-consuming. For example, my colleagues and I have been studying the memory of offenders for their crimes (Cooper, Cuttler, Dell, & Yuille, 2006; Cooper, Hervé, & Yuille, 2007; Cooper & Yuille 2007). In one study, we interviewed violent offenders in prison about their memories for a number of incidents, both violent and nonviolent. These interviews required many hours for each inmate—some interviews lasted as long as 2 days. Not only did the data collection require a great deal of time but the transcription and coding of the audiotaped interviews demanded even more time. The academic pressure to publish encourages the continued commitment to laboratory studies. Real world research would not allow the generation of enough publications to support tenure, promotion, and provision of grant funds. Only a tenured full professor can conduct this kind of field research and even then he or she might have difficulty getting or maintaining grant funds.
3. Most research is conducted by research assistants and volunteers. Conducting research with undergraduate students is relatively straightforward for the assistants. In contrast, research with victims of crime or with offenders can be difficult and emotionally taxing. My colleagues and I have found it necessary to spend time and effort preparing research assistants and volunteers before they are permitted to work with these populations. Furthermore, it is important to provide debriefing support for the assistants and volunteers as they conduct the research.
4. While the above factors play a role in continuing the preference for laboratory as opposed to field research, the primary reason for the preference for the lab is control. The training and the thinking of research psychologists convinces them that the control and precision provided by the laboratory are essential to the scientific enterprise. As noted earlier, the variability in real world contexts is perceived as too great to permit proper science. The irony is that the central feature of eyewitness behavior in the real world—variability—is used as an excuse to remove the variability and use the laboratory. This is the main consequence of the methodology: the questions that really matter about eyewitness behavior are ignored or distorted so that the questions can be examined in the lab.

The sad truth is that questions such as: What is the impact of trauma on memory? How accurate are real eyewitnesses? What are the factors that result in the substantial variability in eyewitness memory? etc., are ignored. These questions have not been answered because they can't be examined in the lab. As noted above, there have been a few studies in the past 25 years of real witnesses to actual crimes. Instead of these studies being the exception and a small minority in the field, they must become the standard if we are to learn about actual eyewitness behavior.

The Broader Impact of Methodolotry on Psychology

A recent report by Mitchell (2012) has suggested that the problem of generalizing laboratory findings to the real world extends to many areas of psychology outside that of eyewitness memory. Mitchell compared laboratory and field study findings across a number of subfields of psychology. He reported that the generalizability of findings from the laboratory to the field varied considerably from one area of psychology to another. One of the areas with relatively poor correspondence between laboratory and field findings is social psychology—the area probably most closely related to eyewitness memory research. Not only were many lab findings dissimilar from those in field research, but 26 % of the findings were in the opposite direction in the field compared to the laboratory. The laboratory is often a poor choice as an analogue for the study of a broad range of psychological phenomena. Mitchell concluded that:

“Applied lessons are often drawn from laboratory research before any cross validation work has occurred, yet many small effects from the laboratory will turn out to be unreliable, and a surprising number of laboratory findings may turn out to be affirmatively misleading about the nature of relations among variables outside the laboratory” (p. 115).

Mitchell's conclusion about how misleading laboratory findings are is certainly substantiated in the area of eyewitness memory.

The Methodolotry Cure

The forensic context provides an opportunity to study aspects of human memory, emotion, behavior, etc., that is difficult or impossible to study in other contexts. Emotional criminal events have a profound effect on memory. Furthermore, variability in the memory of actual witnesses provides an opportunity to study the many factors that positively and negatively affect memory.

The cure for methodolotry is that we have to abandon our faith in the laboratory/experimental method as the appropriate methodology for studying forensic questions. We have to stop forcing the questions to conform to the methodology and instead adapt the methodologies to the needs of the particular question. The majority of studies should be field studies—based on archival analysis police files or field

studies of actual victims, witnesses, and offenders. We can occasionally return to the laboratory to answer specific questions if and only if we can convincingly demonstrate that the laboratory is providing an appropriate analogue for the question under consideration. By focusing on research on field studies, we should be able to focus more time on developing new methodologies to facilitate the analysis of field findings. The evaluation of academic productivity of researchers doing this type of work will have to be adjusted to accommodate the additional time and resources, as well as the fewer publications that such research entails.

In addition to abandoning the laboratory as the primary venue for forensic research, we should develop an interest in individual differences that affect the variability in performance rather than a focus on average or mean performance. Means or averages can be of some use to the criminal justice system, but it is much more important to understand the range of responses and the causes for this variability.

I appreciate that moving from the lab to the field will not be easy for most of my colleagues. To do so requires an acknowledgement of the limited success of our current approach to research and a rejection of a deeply held belief in the efficacy of the experimental methodology as the appropriate path to knowledge about forensic eyewitnesses. However, we have to face the fact that we simply cannot develop a knowledge base of these witnesses through the use of analogues: it has not worked and it cannot work.

Finally, expert witnesses should follow standard ethical guidelines and provide the triers of fact with relevant research findings and not with analogue results. Expert witnesses should clearly delineate the limitations of their knowledge base.

The following chapters in this book are an encouraging sign of the changing focus of forensic research. Many of the studies/reviews reported in these chapters are the result of a move away from the laboratory toward the proper exploration of psychological phenomena in the forensic context. Although it is unfortunate that we devoted more than a century trying to force forensic questions into the laboratory—a context where they do not fit—it is encouraging to see an increasing realization that there is no analogue for the forensic context: in order to understand the victims, witnesses, and perpetrators of crime, we must study the victims, witnesses, and perpetrators of crime in situ.

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