Improving Witness Memory: An Interdisciplinary Research Agenda*

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To the extent that the common law trial relies on oral testimony of witnesses, and given the inevitable delays that occur between the event from which a dispute arises and the trial, lawyers must be concerned with techniques to improve witness memory. As there is a presumption that evidence should be given to a common law court in an oral form,[1] oral testimony is used extensively. The delays may range from months to years, in *Longman's* case, an extreme example, 26 years.[2]

Psychologists have been utilising empirical methods to study the operations of human memory for over a hundred years since Ebbinghaus published the first study of human memory.[3] Among the facts that have been established by these studies is the proposition that a memory can be available, but not accessible, in particular circumstances, and that cues can be effective in prompting recall of memories.[4] The emphasis of the majority of psychologists who have focussed on eyewitness memory has been, however, on establishing the proposition that memory can be distorted.[5] An exception to this proposition is the work of Geiselman and associates in California.[6] Their attention has been focussed on developing the technique of the cognitive interview which can be used to obtain a much more extensive first report of an incident.

Geiselman's work is, of course, relevant to improving memory but in this article I want to focus attention on a different stage of pretrial procedure. I want to call attention to the process of refreshing memory which lawyers use in an attempt to improve witness memory before presenting the final report to the court. The article will contain three sections, in the first an explanation of the law that governs the process of refreshing memory is pre-

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1 Honoré, T, "The Primacy of Oral Evidence" in *Crime, Proof and Punishment* (1981).

2 *Longman v R* (1989) 64 ALJR 73.

3 Ebbinghaus, H, *Uber das Gedachtnis* (1885) translated by Ruyer, H and Bussenius, C E, *Memory* (1913) see Postman, L J, "Human Learning and Memory" in Kimble, G A and Schlesinger, K, *Topics in the History of Psychology* at 69 and Boring, E G, *History of Experimental Psychology*, (2nd edn, 1955) at 388.

4 Atkinson, R C and Shiffrin, R M, "Human Memory: A Proposed System and Its Control Processes" in Spence, K W (ed), *The Psychology Of Learning And Motivation: Advances In Research And Theory* vol 2 (1968) at 121.

5 Loftus, E F, Miller, D G and Burns, H J, "Semantic Integration of Verbal Information Into a Visual Memory" (1978) 4 *J Experimental Psych: Human Learning and Memory* 19.

6 Geiselman, R E, et al, "Enhancement of Eyewitness Memory, An Empirical Evaluation of the Cognitive Interview" (1984) 12 *J Political Science & Admin* 74; Geiselman, R E, Fisher, R P, MacKinnon, D P and Holland, H L, "Eyewitness Memory Enhancement in the Police Interview: Cognitive Retrieval Mnemonics Versus Hypnosis" (1985) 70 *J Applied Psych* 401; Geiselman, R E, "Improving Eyewitness Memory Through Mental Reinstatement of Context" in Davies, G M and Thomson, D M (eds), *Memory In Context: Context In Memory* (1988) at 245–66.

sented. In the second the misleading information effect is discussed and in the third there is a brief discussion of a research agenda for empirical work designed from an interdisciplinary perspective. This discussion brings the article to the general question of whether and how psychologists and lawyers can work together to improve the legal process.

Refreshing memory

It is now standard police procedure in Australia and other common law countries for police officers to take witness statements at the first available opportunity. Obtaining such statements is not allowed to take precedence over dealing with any emergency that might exist, such as when the incident is still in progress, or when medical aid is required. Thereafter it takes priority. Until the statement can be obtained, steps are taken to isolate the witnesses to an incident and to prevent them from discussing the situation with each other. In some cases statement forms are distributed to witnesses who then complete them without assistance. In other cases, the witness is interviewed by the police officer who records the information received and requests the witness to read over and sign the form. Between the taking of the statement and the trial, or committal hearing, no attempt is, or could be, made to limit discussion and reporting of the event by the witness. The witness is likely to hold such discussions with intimates, family members, and indeed friends and acquaintances. The witness may need to seek assistance from health professionals, such as physicians, counsellors or psychologists, in coming to terms with an occurrence that may well, especially where a crime of violence is in question, have been traumatic for the witness. The witness, especially if they are to be a party to subsequent litigation, will probably discuss the incident with one or more lawyers. There is a high probability that at least one lawyer will prepare a proof of evidence. In the period immediately before the case comes to trial the witness, if a party, can be expected to hold conferences with legal representatives. It is common practice for witnesses, who are called by the prosecution, to be spoken to by the police officer who has the conduct of the case. Prosecutors will normally request that the officer ensures that the witness has reviewed their witness statement before coming into the box. Any witness could be expected to go over, in his or her own mind, whether consciously or unconsciously, the substance of the testimony they can give.[7] Although occasionally criticisms of such a practice will be voiced,[8] the courts make few attempts to curb the practice of refreshing memory out of court where the witness claims that the memory has been successfully refreshed. By way of contrast, where the witness acknowledges that the prompt was not successful in cueing a memory, the document must be produced in court and it must meet certain conditions.[9]

If, regardless of the opportunities for pre-trial refreshment of memory, the witness seeks to have recourse to a documentary aid in court, three questions are commonly asked of the witness before permission is given. These questions relate to the production and subsequent treatment of the document. As to production, the court seeks to know by whom, and when, the document was produced. The third question commonly posed is whether the notes have been altered subsequently. If these questions are answered satis-

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7 Mewett, A, *Witnesses* (1991) at 13–1.

8 *Johns v Minister of Education, Chinner and Beck* (1981) 28 SASR 206

9 *Alexander v Taylor* [1975] VR 741.

factorily the witness will normally be allowed to refer to the notes, and counsel for the opponent will be afforded the opportunity to inspect the notes.

The document must be verified by the witness who seeks to use it to refresh memory.[10] Authorship of the document by the witness is not required, although the requirement of verification is frequently stated in terms suggesting that it is. The witness must, however, have checked the document personally. It is not sufficient if the witness is merely willing to repose trust in the accuracy of others.[11]

It has also been held that the notes themselves must be checked. It is not sufficient to check the accuracy of the notes by having them read out by the notemaker.[12] What the cases do not do, is to draw a distinction between two mindsets that would appear to influence the effect of the verification process. Lindsay and Johnson's work on source misattribution would appear to suggest that the witness could approach the task of verification with two completely different attitudes.[13] Either the witness can have a firm grasp of the perceived incident and be checking the notes for accuracy, or the witness might use the notes as a source of information about the incident. Where the witness approaches the notes with an uncritical attitude, it would appear that those notes could easily operate as a source of misinformation and using those notes at the trial would merely accentuate the effect. The term verification would appear to suggest that the critical approach is required but the courts do not inquire into the question. There are, of course, practical problems in enforcing such a distinction. The first step in doing so would be achieved, if publicity was given to the desirability of such a distinction.

A condition as to the time at which the document was made, is frequently referred to in the judgments. It has, infrequently, been argued that the recording must be made at the exact same time that the interview takes place.[14] The courts have never been willing to impose such a condition. Although a time may come when all confessional evidence must be so recorded, evidence of other interviews will continue to be accepted, even in the absence of verbatim instantaneous recording. The rule has been that notes written up at the first convenient opportunity, "as soon as the officers returned to their offices", could be used to refresh memory. The reference is to a "contemporaneous" note. It is suggested that the word should be abandoned, not only is it hard to spell, it is misleading and arbitrary. As Wigmore points out, the requirement that memory be fresh is to be preferred as exemplifying the "excellent policy of leaving the law flexible and rational and not chilling it into rules more or less arbitrary".[15] In a 1979 case, a police officer sought to refer to notes which that officer had compiled two hours after the interview with the help of jottings

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10 *Burrough v Martin* (1809) 170 ER 1098; *R v Mullins* (1848) 3 Cox CC 526; *Anderson v Whalley* (1852) 100 ER 460; *R v Bass* [1953] 1 QB 680; *R v Baffigo* [1957] VR 303; *O'Sullivan v Waterman* [1965] SASR 150; *R v Van Beelen* (1972) 6 SASR 534; *Evans v Sparrow* (1973) 6 SASR 519; *Taylor v Armand* [1975] Crim LR 227; *Groves v Redbart* [1975] Crim LR 158; *R v Bengert, iRoberlson* (1980) 15 CR (3d) 114.

11 *Tupper v International Brick and Tile Co* (1892) 24 NSR 256; *R v Hlattam* (1913), 13 SR (NSW) 410.

12 *R v Davey* [1970] 2 CCC 351 contra *R v Mullins* (1848) 3 Cox CC 526.

13 See Lindsay, D and Johnson, M, "The Reversed Eyewitness Suggestibility Effect" (1989) 27 *Bull Psychonomic Soc* 111, but see Wiseman, S, MacLeod, C M and Lootsteen, P J, "Picture Recognition Improves With Subsequent Verbal Information" (1985), 11 *J Exp Psych: Learning, Memory and Cognition*; see at 588 for contrary implication.

14 *R v Simmonds* (1967) 51 Cr App R 316 at 329–30; *Crisanin v Logam* (1972) 4 SASR 340.

15 Wigmore, J H, *Wigmore on Evidence* (1970) vol III at par 745.

taken during its course.[16] The judge refused permission. Another officer who took no jottings, but recorded notes at the same interval after the interview, was allowed to use those notes. The judge applied a rule of thumb limiting the witness to the first set of notes produced. The case was referred to the English Court of Appeal which held that the rule is very clear that the witness may use any statement made when their memory was clear. In deciding this question the courts have regard to the testimony of the witness, so that, in *Singh,*[17] a witness was refused permission to refer to notes checked 18 hours after the incident when the witness acknowledged that at that time the memory was very hazy. It appears that a witness's statement that the events were fresh in memory a month or more after the event will probably be rejected by the court.[18]

The requirement as to time is not normally discussed in psychological terms. Wigmore refers to a very few cases, in which American courts suggested that memory could not actually be revived by a paper not made at the time, and comments that the suggestion is discredited by everyday experience. While "forgetting curves" such as those drawn by Ebbinghaus and Linton are not referred to in this context, at first sight they are relevant as showing that memory initially decays very quickly.[19] Such reference also establishes, however, that any earlier memory is likely to be more complete than any later memory.[20] The remaining question must be whether the earlier recording of that memory is better than access to the living testimony based on the current memory.

Whether the document, used to refresh memory in court, meets the conditions as to verification by the witness at an appropriate time and preservation in an acceptable form, is a question for the court to decide on a voire dire. These matters might also affect the weight of the testimony and, as such, can be explored in cross-examination by opposing counsel.

When the rules that apply to a witness who attempts to refresh memory are examined, it appears that there are three key distinctions that apply. The first question is whether attempts were made to cue memory in or out of court. The second question is whether the cue was successful. The third question is whether the documents were verified by the witness within a very short period of time after the initial event. A recent case, *R v Da Sylva,* has called at least two of these distinctions into question.[21]

Da Sylva was charged with being one of three robbers. As two co-accused pleaded guilty, the issue in the trial was the identity of the third robber. Evidence against Da Sylva included evidence given by a prisoner, Collina, that Da Sylva had admitted his guilt when the two were sharing a cell at Crewe Police Station. This conversation allegedly took place on 21 November 1986. On 22 December of that year Collina gave the police a witness statement which included details of the conversation. He had not read his witness statement before he came into the witness box. When called upon to give evidence he said, "I cannot remember now. It is a year ago. I did make a statement at the time."

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16 Re Attorney-General's Reference #3 of 1979 (1979) 69 Cr App R 411 at 414.

17 *R v Singh* (1977) 15 SASR 591.

18 *Clarke v B C Electric* [1949] 1 WWR 977.

19 Linton, M, "Memory for Real World Events" in Norman, D A and Rumelhart, D E (eds), *Explorations in Cognition* (1975) at 27–8.

20 This point without the psychological reference appears to be made in *R v Bengert, Robertson* (1980) 15 CR (3d) 114.

21 *R v Da Sylva* [1990] 1 WLR 31; (1989) 90 Cr App R 233.

At this point the judge intervened and invited the witness to withdraw and read his statement out of court. Counsel for Da Sylva submitted that this procedure was irregular, but the objection was overridden. On appeal, before Stuart Smith LJ, Tudor Evans and Auld JJ, counsel for the appellant submitted that there was a hard and fast division between contemporaneous and non-contemporaneous statements. If the statement was contemporaneous, the witness might use it to refresh memory in the witness box. If the statement was not contemporaneous, a witness might use it to refresh memory before entering the witness box, but not thereafter. Two alternative submissions were made for the Crown. The first submission, that the statement had been treated as contemporaneous, was rejected by the appeal judges on the basis that the proper foundation had not been laid for such treatment. The second submission, which was that there was no rigid rule that a witness may not look at a non-contemporaneous statement once the witness has started to give evidence, led to more discussion.

It was noted that Archbold[22] stated the rigid rule contended for, but the Court of Appeal held that, although it represented the generally accepted principle, support for this proposition came only from obiter comments in Richardson.[23] They found no logical reason why the witness must, in one case, refresh memory in the witness box and, in the other, before entering the witness box and not afterwards. The view was taken that, if a witness needs to refresh memory, there is much to be said for it being apparent to the jury that this is happening, and for the jury knowing when the statement was made. It was essential to avoid a witness simply reading the statement when he has no real recollection of events, but the Court indicated that this could be done simply by removing the statement from him, once he has read it to refresh his memory.

My concern is that before the rules evolved by the courts to govern the practice of refreshing memory are junked, some attempt should be made to discover the psychological effect of these practices and restrictions.

The misleading information effect

Neither studies of the misleading information effect, nor Geiselman's studies of the cognitive interview already referred to, directly address the question of the effect of refreshing memory from a document. The studies of the misleading information effect do, however, address a concern which should be central. Is the effect of refreshing the witness's memory, from a document not produced by the witness, to make it more likely that the report that the witness subsequently gives will incorporate misinformation?

The paradigm experiment was carried out in 1978 by Loftus, Miller and Burns.[24] It involved showing subjects an incident by means of slides, then giving them some inconsistent or misleading information about a detail in the slides, in an incidental fashion. Finally, a memory report was obtained and examined to see whether the information introduced at the interim stage had affected the memory for the crucial detail. It was found

22 *Archbold's Criminal Pleading, Evidence and Practice* (43rd edn, 1988), as cited (1989) 90 Cr App R 233 at 238.

23 *R v Richardson* (1971) 55 Cr App R 244.

24 Loftus, E F, Miller, D G and Burns, H J, "Semantic Integration of Verbal Information Into a Visual Memory" (1978) 4 *J Exp Psych: Human Learning and Memory* 19.

that in many cases subjects' reports of the detail incorporated the misinformation, not the detail as it was initially portrayed.

The stimulus material was a slide sequence showing an incident in which a pedestrian was knocked down by a car. In the course of the slide sequence the car was shown stopped at an intersection. The critical feature identified by the experimenters was the traffic sign controlling the intersection. Some subjects saw an intersection controlled by a stop sign, others saw an intersection controlled by a yield sign. After the subjects had viewed the slide sequence, they were asked to complete a questionnaire. In one critical question half the subjects were given inconsistent information, the other half received consistent information. Half the subjects who had seen a yield sign were asked what happened when the car was at the stop sign, the other half were asked the same question but with a correct reference to a yield sign. In a procedure called counterbalancing, designed to exclude any bias that might be introduced on the basis of cultural expectations, subjects who had seen a stop sign were asked the same question referring incorrectly to a yield sign or correctly to a stop sign. A central feature of this manipulation is that the misleading information was presented indirectly. In the final stage of the experiment, subjects made a forced choice between a slide depicting a yield sign and a stop sign. The statement that this was a forced choice means that a "don't know" response was not acceptable. It was observed that subjects who had been misled were much more likely to choose the wrong slide. Specifically, 75 per cent of subjects given consistent information were accurate in their choice while only 41 per cent of misled subjects were accurate.

In 1980 Loftus and Loftus put forward an extremely provocative hypothesis. They suggested that the misleading information effect demonstrated that whenever a memory was recalled between the initial incident and the final report, memory would be destructively updated.[25] The witness would be unable to recall the original incident in the same way thereafter. Since that time, much of the work in this area has been devoted to trying to prove or disprove that hypothesis. An incident of this work has been the repeated demonstration that the effect occurs. Its causes, however, remain unclear. Some sympathy with a behaviouristic approach which would suggest that the effect and not its causes should be studied can therefore be forgiven.[26] This is not to deny that the question of what causes the effect is of some interest. Of greater interest, for those concerned with the processes of litigation, is the effort to define the conditions under which the effect can be avoided or predicted. Where the effect can be avoided in litigation it is clearly desirable to do so. If this is not possible the ability to predict and quantify the likelihood that it will have an impact would permit allowances to be made for the effect.

The paradigm experiment involved the provision of misinformation but also the provision of correct information. It required subjects to make a forced choice between the event item and the item referred to in the misleading account. Accordingly, it demonstrated that when forced to make a report some subjects might be willing to base the report on extraneous information either consciously or unconsciously.

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25 Loftus, E F and Loftus, G, "On the Permanence of Stored Information in the Human Brain" (1980) 35 *Am Psych* 409.

26 Loftus, E F and Hoffman, H G, "Misinformation and Memory: The Creation of New Memories" (1989) 118 *J Exp Psych: General* 100.

To establish conclusively that memory for an original incident is affected by extraneous information, it would first be necessary to show that the subject could successfully access an accurate memory of the event. Christiaansen and Ochalek, in 1983, did this by utilising an initial accuracy test.[27] Such a test almost certainly reinforces the accurate memory. A question that should be investigated is whether increasing the delay between original presentation and accuracy test will compensate for such reinforcement. Subjects should be given post-event information which contains control information about some items and misleading information about others. The control information must not give subjects information which would allow them to complete the task successfully with no memory of the original event. The final report must not be sought by means of forced choice test which will give some subjects no choice but to guess. Tversky and Tuchin's test procedure, which seeks reactions to the event item, the misled item and a novel item, is appropriate.[28] The instructions should be framed to encourage recollection, that is, the subject's best efforts to recall the event item, and discourage a mere readiness to rely on the first associated memory that is retrieved. If all of these steps are taken and the misleading information effect is observed the results may demonstrate conclusively that misleading information impairs memory. The initial accuracy test would rule out the suggestion that a subject had accepted the misinformation by default. It would not exclude the possibility that the misinformation had been accepted as the result of deliberation, however, such deliberation would lead the subject to select the misled item and reject the novel item and event item. Any other pattern of errors must be attributed to some other cause. The instructions should exclude inadvertence as a cause, so that any effect that remains must be the effect of memory impairment through suppression of the memory for the original event, or through introducing such confusion that the memory signal becomes too faint to be reliable.

The various explanations that have been proposed to account for the effect may be divided into three groups. These are misinformation acceptance, memory impairment, and source misattribution theories. McCloskey and Zaragoza are the primary exponents of misinformation acceptance, proclaiming that there is no evidence that memory is at all affected by extraneous information, be it misleading or correct.[29] They would account for the misleading information effect in two ways. First, it is pointed out that those who do not encode the original information would, in a forced choice, be compelled to rely on information from another source. If subjects do encode both items, they may summon both to memory and consciously choose to prefer the extraneous information. A possibility they do not address is the possibility that subjects who encode both items of information may only access one of these engrams when asked to report the incident.

Belli pointed out that the assumption made by Loftus, McCloskey and Zaragoza that memory for one event will be either completely accessible or completely inaccessible was simplistic, and took the view that it was more likely that memories varied along a contin-

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27 Christiaansen, R F and Ochalek, K, "Editing Misleading Information From Memory: Evidence for the Co-Existence of Original and Postevent Information" (1983) 11 *Memory and Cognition* at 467.

28 Tversky, B and Tuchin, M, "A Reconciliation of the Evidence on Eyewitness Testimony: Comments on McCloskey and Zaragoza" (1989) 118 *J Exp Psych: General* 86.

29 McCloskey, M and Zaragoza, M, "Misleading Postevent Information and Memory for Events: Argument and Evidence Against Memory Impairment Hypothesis" (1985) 114 *J Exp Psych: General* 1.

uum of accessibility influenced by three factors.[30] These factors were the conditions at time of encoding, retention and retrieval; individual differences between subjects; and the interactions between these conditions and differences. Misinformation could easily be more accessible than event information. Factors which would influence whether misinformation was more accessible would include recency, the medium of presentation and the attention paid to the material at time of encoding.

One form of memory impairment hypothesis would postulate that access to the misinformation blocks access to the event information. Another form of memory impairment would occur if, once information is retrieved, the subject aborts the search and does not locate other information recorded in memory, whether or not it would be possible to do so. It may well be that most people would understand "impairment" to entail something more severe than is envisaged by the second scenario. The term should, at least, imply that the further access cannot be voluntarily achieved in the absence of a further cue. If the subject merely terminates the search prematurely it means that the subject has been content with the product of an involuntary retrieval process, and has failed to progress beyond recall or recognition to recollection.

Tversky and Tuchin suggest a form of memory impairment hypothesis which might sit well with signal detection theory although they do not invoke such theory expressly.[31] Presentation of the misinformation may, they suggest, weaken the memory of the event so that, unless forced to do so, subjects are unwilling to rely on that memory.

There are two explanations of the misleading information effect which can draw on and explain evidence of source misattribution. One such explanation would suggest that it is possible to access both memories. A subject who accesses both event information and misleading information may be led to deliberate about which representation should be the basis of the memory report. This differs from the deliberation suggested by the misinformation acceptance theory as it is confusion over the source of the information which leads to deliberation. Misinformation acceptance suggests a deliberate choice is made in full consciousness of the source of the information.[32] Belli suggested that a problem for the source misattribution hypothesis when compared to the memory impairment hypothesis was how to account for the attribution of the event item. This is not a major problem it is submitted, as the event item may be attributed to an unrelated experience or to the misleading account, or subjects may retrieve both the memory of the event and of the post-event information with accompanying uncertainty in both cases. Loftus and Hoffman point out that although source misattribution may be a form of misinformation interference, it can also explain what happens when there is no memory for the event item.[33] They suggest that in this case it is synonymous with misinformation acceptance, but this is by no means clear. If it is central to the thesis of misinformation acceptance that the subject is perfectly clear as to the source of the information so that any choice to rely on extraneous information, whether in the presence of event information or not, is conscious, then such source misattribution is not synonymous with misinformation acceptance. A de-

30 Belli, R F, "Influences of Misleading Postevent Information: Misinformation Interference and Acceptance (1989) 118 *J Exp Psych: General* 72.

31 Above n28.

32 Above n30 at 80.

33 Above n26.

cision was accordingly made here that source misattribution would be treated as a theory on its own, although it is acknowledged that it can be squared with either acceptance or impairment hypothesis.

Many of these causes could be operating at the same time and it will take some ingenuity to design an experiment that would not only allow each cause to be identified but also quantified. It is not clear that this is a desirable direction for research to take. Loftus and Hoffman close their 1989 article by calling for an investigation of the misleading information effect instead of its causes. They suggest that differences between suggested memories and genuine memories should be identified and factors that would enhance or inhibit suggestibility should be explored. They stated that researchers had created erroneous memories in laboratory environments and expressed the belief that the phenomenon occurs quite often in real life. They went further and predicted that at some stage in the future the misinformation effect might be so well understood that:

> Give us a dozen healthy memories, wellformed, and our own specified world to handle them in. And we'll guarantee to take any one at random and train it to become any type of memory that we might select — hammer, screwdriver, wrench, stop sign, yield sign, Indian chief regardless of the origin or the brain that holds it.[34]

With respect, although the passage has a nice rhythm, it completely inverts the desirable direction of research. The objective must instead be to reach a state where a researcher might be able to guarantee to the court that a witness's memory has not suffered from the misleading information effect. The work done by Lindsay and Johnson, whose experiments appear to show that where witnesses are directed to pay close attention to the source of their information, the misleading information effect can be avoided.[35] Geiselman has this potential and should be extended and publicised with this end in mind.

Applying psychological insights to the legal process

There is an interrelationship but no direct interface between the legal rules about refreshing memory, reviewed above, and the psychological discoveries about the misleading information effect. It cannot now be disputed that persons given extraneous information about an event may incorporate that information into their memory reports. It is part and parcel of pre-trial procedure that witnesses are encouraged to refresh their memories. In the course of these attempts extraneous information may be presented to such witnesses. A question arises as to whether these procedures exaggerate or mitigate the misleading information effect which might otherwise occur. Although Elizabeth Loftus is concerned about the potential tendency of pre-trial procedures to produce the misleading information effect, neither she nor any other psychologist has specifically addressed questions about the effect of the techniques of refreshing memory. Does the misleading information effect still occur if witnesses have written an account of the event before they are exposed to misinformation? Does the misleading information effect disappear if witnesses are allowed to read their own account after being exposed to the extraneous information? The

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34 Id at 102.

35 Lindsay, D S and Johnson, M, "The Eyewitness Suggestibility Effect and Memory for Source" (1989) 17 *Memory and Cognition* 349.

experiments on the misleading information effect have largely been designed by psychologists interested in the light such experiments might throw on the nature of memory.

Equally lawyers and courts have failed to seek and use psychological information when considering the rules that govern the process of refreshing memory. If given specific information by psychologists that the "refreshing memory" procedures exaggerate the undesirable effects on witness memory of extraneous information, it might not be too late to attempt to ban such procedures completely. If it turns out that there is no significant difference between the effect on witness memory of an "own document" and "another's document", or between refreshing memory while producing the final report or before producing the final report, the courts should be encouraged to go even further than the court did in *Da Sylva* in sweeping out the baggage of procedural rules with which our legal procedures are still encumbered. If the procedures do make significant differences then it might be desirable to ensure that our legal rules establish acceptable standards for these procedures.

A necessary first step to undertaking such a reconsideration of the legal rules is to obtain specific psychological information. My interest in undertaking such a reconsideration was awoken in 1987–88. I felt that my competence as an academic lawyer specialising in the field of evidence equipped me to undertake such a reconsideration. My initial approach was to look for experimental studies by psychologists which would supply the answers to the questions I was asking and from which I could draw in making suggestions as to how these rules should be revised. The studies did not exist.

I started to wonder whether I could interest a psychologist in carrying them out. I approached Marilyn Smith at the University of Toronto, and she encouraged me to draft an outline of a proposal for an experiment, then I discovered that she assumed I would carry out the experiment. At that stage I got cold feet and backed out. The next person with whom I discussed these ideas was a psychologist to whom Don Thomson introduced me in 1988. I refer to Evelyn Schaefer; she also encouraged me to revise and redraft the proposal.

At that stage I read Michael King's *Psychology In and Out of Court: A Critical Examination of Legal Psychology*. King suggests that if those conducting psychological research with a legal focus can come to terms with the inherent impossibility of presenting a definitive version of social reality, then the research may achieve limited aims. He presents three possible models of how such research should be structured.[36] The first of these models has, King remarks, been preferred by psychologists up until this stage, the second and third would follow from the recognition of the limitations which King perceives.

The first model envisages the psychologist taking general psychology theory and from it deriving and testing experimental hypotheses. The experimental results enable the psychologists to make general statements about a legal issue. Since these generalisations are usually made by psychologists, whose interests lie in developing psychological theory rather than understanding the psychology of legal issues, this model allows for little, if any, direct contact between psychologists and the real world legal system.

The second model starts with a legal issue, which researchers examine in the laboratory, thus identifying a number of important variables. Experiments are used to simulate and control the variables. The researchers are primarily interested in the policy implica-

36 King, M, *Psychology In and Out of Court: A Critical Examination of Legal Psychology* (1986) at 82–5.

tions of their research for the law and legal administration. Psychological knowledge, as opposed to legal knowledge or technical skills, enter into this model only insofar as the researchers may use such knowledge to identify the variables which they wish to examine. The third model is virtually identical to the second, differing only in that psychological input consists entirely of technical skills.

Adoption of either the second or third model would prevent psychologists involved in this research from yielding to the temptation to outreach themselves by engaging in applied work beyond the limits of their knowledge and ability. Their researches are thus protected from the inevitable over-generalisations and reduction of social issues to measurable factors which might otherwise result.[37] From this passage in King's book I was encouraged to think that my attempt was not an absolutely impossible way to approach empirical psychological experimentation.

I was then lucky enough to find a co-researcher who thought that my project held some interest. I refer to Dr Roslyn Markham of the Department of Psychology of the University of Sydney. Together we revised and perfected the research proposal. We succeeded in obtaining research grants from the University of Sydney and the Australian Research Council. With the assistance of a research assistant qualified in psychology and enrolled in the final year of a law degree, we have piloted, and conducted two empirical studies that go some way to answering the questions posed above. We are now seeking to publish our results in a psychological journal but to achieve that publication I must not say any more here about the experimentation. We have worked together on every stage of the project, save one from the beginning of our collaboration. The exception lies in the fact that I could make no contribution to the statistical analysis of data.

The conclusion I offer here has to do with the nexus between law and psychology. While psychologists work by themselves to design and carry out empirical studies on human memory the results cannot be expected to answer the questions that lawyers would pose. The question of whether such studies inevitably result in over-generalisations, as King contends, is one that I leave outstanding. I would point out that the history of the destructive updating hypothesis which I have outlined would tend to support the contention. It is clear that the interest will be in theoretical explanations of how memory works. On the other hand, lawyers are not qualified to conduct empirical studies designed to answer the relevant questions, or in identifying the relevant factors. In my estimation King's third model would not work. My personal position is that law and psychology can and should work together but that neither should attempt to set the agenda for the other.

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37 Id at 84.