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extent, Robertson's participation was necessary. I must say that I was dismayed by the amount of time devoted to his evidence and the intensity of his cross-examination. It is not necessary for me to accept his evidence as to the cause(s) of the marks on Neil Stonechild's body in order to reach the conclusion set out hereafter. However, given his treatment during the Inquiry, it is appropriate that I comment on his evidence and my conclusions in respect to it.

Robertson's evidence established the origin of the marks on a balance of probabilities. His evidence confirms a suspicion of that which is obvious to the naked eye. It is also a suspicion that Keith Jarvis shared with the RCMP shortly after viewing the photographs for the first time in 2000:

"I have seen marks very similar to that myself over the years as a police officer. It can be the result from someone being placed in handcuffs who has been detained. It could be from [unintelligible] many things.... Ah... often times you don't even have to put handcuffs on tight an' people move their hands around an' can get marks...It could be from anything really, looking at it, looking at the marks in the photographs ah... **I'm not an expert but I would say it would probably be consistent with handcuffs.**"³⁷⁰ (Emphasis added)

The suggestions that clothing would have been a cause is without merit as I have noted elsewhere. So is the suggestion that vegetation caused the abrasions to the young man's face. Ultimately, Robertson's evidence was helpful and played a part in establishing what likely happened to Neil Stonechild on the evening of November 24/25.

10 | The Expert Evidence – Memory Experts

In this section, I examine the evidence of experts who were called to provide opinion evidence with regard to memory formation and retention. I begin with the evidence of John Richardson. His evidence had a broader purpose. He was called to calculate blood alcohol levels given certain assumptions, and to discuss the likely effect of such blood alcohol levels on an individual's physical and neurological functions. He is included in this section as one of the most central aspects of his testimony was the likely effect of alcohol on memory.

John Steven Richardson, Ph.D.³⁷¹

John Richardson has a Bachelor's Degree from the University of Toronto in Honours Psychology. He has a Masters Degree from the University of Vermont in Experimental Psychology. He obtained his Doctorate in Psychopharmacology in 1971 from the University of Vermont. Psychopharmacology is the study of the effects of drugs on brain function. He is currently a professor with the Department of Pharmacology at the College of Medicine, University of Saskatchewan.

Dr. Richardson was qualified to give opinion evidence on the following points:

- (a) the calculation of blood alcohol content at various points in time, based on certain assumptions as to rates and amounts of consumption; and

³⁷⁰ Transcript of RCMP Interview of Keith Jarvis on October 12, 2000, Inquiry exhibit P-107

³⁷¹ Evidence of Dr. Richardson, Inquiry transcript, vol. 30 (January 5, 2004): 5731-5850; and Inquiry transcript, vol. 31 (January 6, 2004): 5851-5914



- (b) the impact of various levels of blood alcohol content on the physical and neurological functions, focusing on the brain and memory.

Dr. Richardson was asked to provide an opinion as to the blood alcohol concentrations in an individual with approximately the same height and weight as Jason Roy in November 1990. Dr. Richardson was to assume that this individual consumed from 9 to 16 ounces of vodka over a period of four hours. Dr. Richardson was asked for his opinion as to what this individual's blood alcohol concentration would be an hour after the last consumption.

Dr. Richardson testified that had this hypothetical individual consumed 9 ounces, the expected blood alcohol concentration an hour after the last consumption would be approximately 120 mg percent with a range on either side of the 120 mg percent of approximately 14 mg percent (ie. the range would be from 106 mg percent to 134 mg percent). He testified that in the event that this individual consumed 16 ounces, the expected blood alcohol concentration would be approximately 278 mg percent with a range of approximately 14 mg percent on either side of the 278 mg percent.

Dr. Richardson was also asked to provide a similar opinion of blood alcohol concentrations in an individual of approximately the same height and weight as Neil Stonechild. He testified that had such an individual consumed 9 ounces of vodka over a four-hour period, the expected blood alcohol concentration one hour after the last consumption would be approximately 96 mg percent, plus or minus a range of 14 mg percent. If this same individual had consumed 16 ounces over four hours, Dr. Richardson's opinion was that the expected blood alcohol concentration of this individual one hour after the last consumption would be approximately 235 mg percent with a range of plus or minus 14 mg percent.

Richardson testified that there are two factors that affect the degree of impairment an individual will experience from a given blood alcohol concentration. One factor is the innate physiology of the individual. He explained that, for reasons not yet known, some individual's brains are very sensitive to disruption by a beverage alcohol, while the brains of other individuals are very resistant to disruption by alcohol. The second factor offered by Dr. Richardson is the innate compensatory mechanisms of the brain to counter the effects of alcohol consumption. This is commonly referred to as "tolerance". After repeated exposure to beverage alcohol, the brain cell compensatory mechanisms will counteract the depressant effects of alcohol. As a result, brain cells continue to function normally notwithstanding the fact that the individual has a blood alcohol concentration that had previously disrupted brain function. This tolerance phenomenon can be present in relatively young individuals. These two factors introduce a great deal of variability into the task of estimating the degree of impairment resulting from a certain level of blood alcohol concentration.

While recognizing that the effect of alcohol consumption can vary greatly from individual to individual depending upon the individual's physiology and past alcohol consumption, Dr. Richardson testified as to the expected effects of various levels of alcohol consumption on the average person. He testified that he would expect there to be very little change in the brain function of an average person with a blood alcohol concentration of 80 mg percent. The average person typically becomes seriously intoxicated somewhere between 130-160 mg percent. The obvious signs of serious intoxication include slurred speech and motor impairment. The judgment of an individual is also typically impaired around this level of alcohol concentration. A blood alcohol concentration of around 230 mg percent can typically produce what is referred to below as an alcoholic blackout. An average person

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with a blood alcohol level with around 270 mg percent should be obviously intoxicated to everyone. Their ability to control their arms and legs and to speak would likely be seriously disrupted. The average person with such a blood alcohol concentration should be “falling down drunk”, if not unconscious.

Dr. Richardson also testified as to the effect of alcohol consumption on memory. He discussed two effects that alcohol can have on memory formation. One factor is that alcohol can prevent the brain from performing its typical task of unconsciously scanning the surrounding environment. As a result, an intoxicated person may have a fairly good memory of what he or she is concentrating on but not have a particularly good memory of peripheral things that are happening around them. The consumption of alcohol can therefore reduce the richness of an individual's memory.

The other effect that alcohol consumption can have on memory formation is “alcoholic blackout”. The brain cells that are responsible for transferring information from short-term memory into long-term memory are particularly sensitive to suppression by alcohol. At higher blood alcohol levels, the transfer from short-term memory storage into long-term memory storage can be completely halted. This chemically induced amnesia typically requires blood alcohol levels above 230-240 mg percent. Dr. Richardson testified that one would expect to see an alcoholic blackout in situations where the individual was “falling down drunk” and was having great difficulty expressing himself or herself.

He testified that even individuals who have consumed enough alcohol to halt the transfer from short-term memory to long-term memory may form a memory of an actual event if that event was something quite out of the ordinary such as a loud noise, bright light, cold experience, pain, or an anxiety provoking experience. These extraordinary events temporarily override the suppression of alcohol and result in what Dr. Richardson called “an island of memory within a sea of amnesia”.³⁷²

In regard to the impact of alcohol on the reliability of memory, Dr. Richardson testified that he is aware of literature and anecdotal cases that suggest the brain will attempt to consciously or unconsciously fill in memory gaps resulting from alcohol consumption. This phenomenon can result in the creation of memories of circumstances and events that did not actually occur.

Dr. William James (Jim) Arnold³⁷³

Dr. James Arnold is a Clinical Psychologist practicing in Saskatoon. He received a doctorate in Clinical Psychology from the University of Saskatchewan in 1990 and is registered as a Doctoral Psychologist with the Saskatchewan College of Psychologists. From 1988 to 1994, he was a Young Offender Psychologist at the MacNeill Clinic. Since 1994, he has been in private practice. He described the focus of his practice as psychological assessment, health psychology, and the general practice of counseling.

In large part, Dr. Arnold was called in response to evidence provided by Brenda Valiaho. She described a visualization process she employed when counseling Jason Roy in late

³⁷² Evidence of Dr. Richardson, Inquiry transcript, vol. 30 (January 5, 2004): 5798. Dr. Richardson agreed with Counsel for the Stonechild Family that the being stopped by a police officer could be an anxiety producing event that would override the suppressive effects of alcohol and allow for a long-term memory.

³⁷³ Evidence of Dr. W.J. Arnold, Inquiry transcript, vol. 37 (March 10, 2004): 6930-7124



2001. She also gave evidence that she discussed the counseling with someone at the MacNeill Clinic who she thought was Dr. Arnold.

Dr. Arnold was also asked to testify as an expert in the area of memory formation and recovery. There was much debate about his qualifications in this regard. I concluded that his qualifications did not transcend those of the ordinary Clinical Psychologist, but his testimony on memory issues could be of some assistance to the Inquiry. The Inquiry, subsequently, heard from Dr. John Yuille who is widely acknowledged as an expert in the area of memory formation and recovery.

Dr. Arnold was confident he did not give Brenda Valiaho the advice she attributed to a Psychologist at the MacNeill Clinic. However, Dr. Arnold's evidence confirmed that the vigorous attacks on the visualization exercises that she conducted with Jason Roy were misguided. Dr. Arnold drew a distinction between therapeutic interviews and forensic interviews. The therapeutic interview is used to deal with psychological problems. The forensic interview is used as a means of gathering information. Dr. Arnold testified that visualization techniques may be appropriate in a therapeutic interview but would be inappropriate in a forensic interview. He stated:

"THE WITNESS: I would use them in therapy but not for investigation or not for assessment. So they are therapeutic techniques that may assist someone to deal with the symptom or issue but they are not a method of generating facts or data."³⁷⁴

He went on to state that he did employ visualization techniques and stated:

"Visualization would be a part of a larger process. So the individual perhaps is dealing with – a common example is the individual is dealing with either a psychological or a physical pain, or something that is troubling and there are both psychological and physiological consequences. The individual may be tense, may be physically tense as well as dealing with anxiety and other emotions. What's involved is providing them with a frame to understand what you are going to do and then giving them a series of instructions. So there's a piece of needing to encourage the compliance of that individual so that they will go along with the technique, then having them follow the suggestions for what they do, be that relaxing themselves physical, in terms of body parts, be it in terms of directing thought processes to particular content or places, be that about encouraging particular kinds of emotional responses. So it's about creating a frame in which you can change experience and change what the person perceives, thinks about that experience. In some cases it's about transformation, that the person may have a particular way of understanding something and we're looking at helping them to change the way they respond to that so that it troubles them less."³⁷⁵

It is clear that Brenda Valiaho employed visualization techniques in the therapeutic sense described by Dr. Arnold. She was not conducting a forensic investigation, taking a statement, or attempting to establish facts. She was simply trying to help Jason Roy deal with issues that

³⁷⁴ Evidence of Dr. W.J. Arnold, Inquiry transcript, vol. 37 (March 10, 2004): 6979-6980

³⁷⁵ Evidence of Dr. W.J. Arnold, Inquiry transcript, vol. 37 (March 10, 2004): 6980-6981

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were troubling him. As I have noted in my review of Valiaho's testimony, I did not accept her evidence as to what was said by Jason Roy as proof of the events described. Rather, it was evidence of the emotional state of the young man in 1991. As to the suggestion that her technique may have resulted in the formation of false memory in Jason Roy, I have already stated that this suggestion is refuted by evidence that Roy told others about seeing Stonechild in the back of a police car prior to sharing this information with Valiaho.

Dr. Arnold was asked a number of questions related to memory formation which appeared to be directed at the evidence of Keith Jarvis. I give little weight to this evidence for two reasons. Firstly, as noted, Dr. Arnold's expertise in this area did not extend beyond that of a Clinical Psychologist. Secondly, and more importantly, Dr. Arnold was not asked to review the records of the various interviews with Keith Jarvis or his testimony provided to the Inquiry. As such, his comments were necessarily very general in nature. In this area, I put far more weight on the evidence of Dr. John Yuille. His expertise is specifically in the area of memory formation and recovery, and he had the benefit of reviewing both the records of the interviews with Jarvis and his testimony before this Inquiry.

Dr. John Charles Yuille³⁷⁶

Dr. Yuille was one of the most important witnesses to appear at the Inquiry. He is a full professor in the Department of Psychology at the University of British Columbia. He obtained his Bachelor of Arts degree from the University of Western Ontario, 1964, a Master of Arts Degree from Western University in 1965 and a Ph.D. from the same institution in 1967. He has been a full professor at the University of British Columbia since 1986, and has conducted research in the general area of human memory for over 35 years. His work has included studies on the memory of children, university students, police officers, witnesses, and victims of crime, and those convicted of crime. He has obtained a number of research grants and awards in respect to his investigation of these areas and has concentrated primarily on the role of memory in the forensic context. In that respect, he has worked with a number of police departments and has trained and lectured to police officers with particular reference to memory, interviewing techniques and credibility assessment. He has testified before many superior and provincial courts throughout Canada and before Royal Commissions.

Mr. Hesje identified the areas in which he intended Dr. Yuille would testify. I summarize from Counsel's question:

"MR. HESJE: Mr. Commissioner, the areas in which I propose to elicit evidence and opinion from this witness are as follows: first of all, I will ask him to provide an overview of the study of human memory, including the current state of knowledge of eye witness memory; to comment on the types of memory, memory formation, interview techniques and their impact on memory. He will be asked to provide an opinion on the following: whether false memories can be created through inappropriate techniques, the significance of the interviewee's background as it relates to the susceptibility to develop false memory, indicators of false memory, the nature of false memories. And more specifically, he'll be asked to provide opinion on the risk of false memory associated with the interviews conducted of Mr. Jarvis by Martell and the RCMP. He will also be

³⁷⁶ Evidence of Dr. John Yuille, Inquiry transcript, vol. 39 (March 12, 2004): 7416-7633

asked to provide his opinion on the risk of false memory associated with the interview of Jason Roy by Brenda Valiaho. That's the qualification stage, if anybody wishes to speak to that."³⁷⁷

The witness was invited to review the transcripts of the interviews conducted by the RCMP and by Mr. Martell of Keith Jarvis, as well as the testimony of Brenda Valiaho in respect to her discussions with Jason Roy. He also reviewed a number of notes and other interviews, all of which are identified in the report which he provided to the Commission. It is entered as an exhibit.³⁷⁸ The report includes background information and descriptions of the area of human memory and how memory is developed. He identified four different types of memory: procedural, semantic, episodic, and script. The latter is germane to the assessment of the evidence given at this Inquiry. I intend to quote from Dr. Yuille's commentary in this respect at some length because of its importance. I begin with his description of the fourth type (script) of memory:

"A. ...The fourth kind of memory is mentioned here because it may play a role in certain forensic contexts. A script memory is a blending together of several separate episodes that are similar enough to – so that they can be blended. For example, a victim of domestic violence might start to blend together different episodes of domestic violence into a script. So script is a memory that contains the common elements across several different episodes.

THE COMMISSIONER: But the centerpiece of this, the core is always the domestic violence incident:

A. Yes.

A. And in recalling the violence, for example, the individual may forget individual episodes and be much better able to recall the general pattern which is contained in the script memory. In fact, the way that our memory works is that we tend to remember episodes that are script violations. That is, an episode will be distinctive and therefore remembered if it stands out in some way, if it departs from the routine, the usual way that things happen."³⁷⁹

Dr. Yuille also described episodic memory:

"A. At the time we experience an event we, of course, all of us are limited in terms of our attentional capacity, we can only pay attention to so much information. So we initially perceive a partial version of the event, if you will, whatever parts of it we pay attention to. What we now know about episodic memory is the method of storage of this information is piecemeal, that is, we don't store an episodic memory in a particular place in the brain where it's brought back. Instead, the bits and pieces of the experience are scattered and stored in different parts of the cortex. The consequence of this is that episodic memory when it's recalled is reconstructive, rather than

³⁷⁷ Evidence of Dr. John Yuille, Inquiry transcript, vol. 39 (March 12, 2004): 7420-7421

³⁷⁸ Report of Dr. Yuille, Inquiry exhibit P-178

³⁷⁹ Evidence of Dr. John Yuille, Inquiry transcript, vol. 39 (March 12, 2004): 7424-7425

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reproductive. So we don't play the memory back like a video tape, instead we reconstruct the event. We find as many of these bits and pieces as is possible to, put them back together and recreate the event.

There's good news and bad news, in a sense, in this aspect of our memory. The good news is because we reconstruct memories we have no upper limit to our capacity to remember, so unlike a computer we don't fill up, we don't find ourselves saying I can't have any new experiences at a certain age. The bad news is that because our memory is reconstructive, of course, we can make errors in reconstruction. And those errors can occur for a variety of reasons but, commonly, they may be because we have reinterpreted the event, and we tend to reconstruct things consistent with how we currently interpret them. Or, alternatively, we may receive information from another source, from an interviewer, from the newspaper, whatever, that we may fill in as we reconstruct the memory.

Also, there is a tendency, unless someone is carefully interviewed, for us to fill in missing pieces in our reconstruction, to make the memory more complete. And we tend to fill in the reconstructions from general knowledge or from script memory."³⁸⁰

Dr. Yuille commented on the importance of cues in reconstructing memory:

"A. Because memory is reconstructed it is very much cue dependent. That is, our capacity to reconstruct a past event depends on the cues that we have available. The fewer the cues and the less salient the cues, the more difficult it's going to be to reconstruct. Most experiences, of course, are quickly forgotten, the usual term in psychology for this is simply normal forgetting that we – that with the passage of time we were unable to reconstruct an event. It isn't really that we have forgotten it, rather the correct way to state this would be to state that I no longer have the right cues to reconstruct that particular event, and this is because events are so normal and routine that there isn't anything to help us.

...

There are, of course, in contrast to that some events that are not like that at all. The term we've used for these is remarkable memories, these are for events that are unusual. In fact, we use the term remarkable to refer to the double meaning, or the two meanings that word has; first, remarkable in the sense of unusual, distinctive, that it stands out in some way or another; and also remarkable in the sense that these are memories that we tend to think about with the passage of time, so we're remarking on them, either thinking about them to ourselves or telling other people about them, writing them down in a diary, whatever the case may be. These memories do not show the same pattern of loss with time.

...

We've been doing research with people that have witnessed murders, witnessed violence, been victims of violence, and for them these memories

³⁸⁰ Evidence of Dr. John Yuille, Inquiry transcript, vol. 39 (March 12, 2004): 7426-7428



often remain quite vivid in detail for months and years and, indeed, for a lifetime. So the typical pattern is normal forgetting but there are exceptions to that and these are remarkable memories.”³⁸¹

Dr. Yuille gave this example of a cue:

“Q. ...I am going to pose a hypothetical to you – if I’m asked, “Have you ever been to the home of Mr. Jones?” and I say, “No, I don’t think so.” And then I’m taken to the home and there’s some distinctive feature about the home when I get there, such as an archway leading to the front entrance and I say, “Oh, yeah, now I remember this.”

...

Q. Now can those cues sometimes be verbal? And we’re going to talk about the risks inherent in that. But to use another example, I say I’ve never been to Mr. Jones’ house, and somebody comes up to me and says, “Well, don’t you remember his fiftieth birthday when we had the reception out in the back patio?” Is that also an example of a verbal cue?

A. Yes.”³⁸²

He was invited to give typical examples of recall aids and he gave the following answer:

“A. One good example is a technique that was developed in the 1970’s by a couple of American psychologists Ed Fisher – Ron Fisher and Ed Geiselman. And it’s come to be called the cognitive interview. The cognitive interview is – it has that name because the branch of psychology, the sub-field that studies memory is called cognitive psychology, or now cognitive science. And the – what these two gentlemen did was to look through all the research that had been done on memory to see whether there were some – some techniques that consistently assisted recall in terms of improving the amount of information reconstructed about an event without having a negative impact on the accuracy of that information. And they came up with four different techniques.

The first of these is to have the individual recreate the circumstances of the event before recalling the event itself. So this would include trying to remember what the weather was like and how they were feeling and what they had been doing before the event in question. This kind of context reinstatement will often contain some cues within it that will then assist the person in being able to recall more details about the event.

The second recall aid used in the cognitive interview is to exhaust recall. Every time we recall something we edit it to only include those things that we think are germane to the purpose of telling the story. ...In the forensic context there can often be minor details that turn out to be quite important. So one of the recall aids is to tell the witness to exhaust their memory, that is, it doesn’t matter how trivial or unimportant the detail seems to – if they remember it to talk about it.

³⁸¹ Evidence of Dr. John Yuille, Inquiry transcript, vol. 39 (March 12, 2004): 7428-7430

³⁸² Evidence of Dr. John Yuille, Inquiry transcript, vol. 39 (March 12, 2004): 7431-7432

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The third and most interesting recall aid is change of perspective. ... Interestingly, there are basically two perspectives that one can take when recalling a past event, and one is called the observer perspective and one is called the field perspective. Now the field perspective is that the person recalls the event as they originally experienced it, as they originally looked at it, from the location that they were during the event. The observer perspective is where someone recalls the event as if they're watching it from the outside, so they see themselves in the event. ... Some people just naturally recall an event from an observer perspective, some from a field perspective...

We've found that – through research, that asking a witness to change the perspective from which they recall the event will improve their recall. ...And for reasons we don't fully understand, taking this different perspective will often jar someone's memory and they'll be able to recall additional details. It maybe helpful, too, in a traumatic event to have the person relive it from the outside rather than the inside, it may be less emotional for them to recall it that way.

And finally, the fourth aspect of this recall aid is to have the person recall the event backwards. Normally, of course, we recall events in narrative form, at least as adults we do, from beginning through the middle to the end of the story. By asking the person to go backward through the event it, again, may trigger some cues they otherwise wouldn't have and they recall more.

- A. ...And the good thing about those four examples is they do not negatively impact accuracy, so the accounts remain as accurate, or as inaccurate, just more detailed."³⁸³

Dr. Yuille described note-taking as an aid to memory:

"A. The making of notes, particularly contemporaneous notes, is a great memory aid for two reasons. The first is that by making notes the note writer is reinterpreting what's been heard, or seen, experienced, into his or her own words and thoughts. So they're paying attention in a more focused way. So note taking is a way of improving the processing of the event, if you like. But equally or perhaps even more importantly, the notes will subsequently provide cues to reconstruct the event that are often very helpful and without the notes the event may just suffer normal forgetting.

Q. ...I'm sure you're familiar with the general police practice of taking notes and using a notebook, that, I presume, is an example of deliberate use of that to assist in recall at a later time?

A. Yes. And most officers, with the passage of time, come to know what kinds of things they need to include in their notes to help them to distinguish this accident or this investigation from others."³⁸⁴

Dr. Yuille was questioned about the historic accuracy of memories:

³⁸³ Evidence of Dr. John Yuille, Inquiry transcript, vol. 39 (March 12, 2004): 7432-7436

³⁸⁴ Evidence of Dr. John Yuille, Inquiry transcript, vol. 39 (March 12, 2004): 7436-7437



“Q. Now I want to ask you a little bit – it’s written in your report, you talk about the terms “truthful” or “deceptive” and at various times “historic accuracy.” From your perspective as a psychologist can you tell us what you mean by those different terms?

A. When an individual describes an event, if they’re trying to tell the truth, that is, they’re describing the event as they’re remembering it, then this is a narrative truth for them. This, of course, does not mean that it’s historically true.

...

The research with actual witnesses and victims of actual crime suggests that on the average, again, if someone is trying to tell the truth, that eye-witness accounts are around 80 per cent accurate.

...

Then, of course, there are accounts that are deliberately deceptive. And the interesting thing about deceptive accounts is they’re usually not entirely untrue. Most lies are partial truths. It’s easier to keep them straight, it’s very difficult to keep an entire lie, especially if there’s a lot of details to it, it’s difficult to keep it going. So even lies are a blend of truth and fiction.”³⁸⁵

Dr. Yuille also discussed the susceptibility of memory to suggestion:

“A. ...We do know that all of us can be susceptible to suggestion under certain circumstances and if someone is provided with suggestions that are wrong, so erroneous suggestions about the event, it’s possible that they may incorporate those erroneous suggestions. And what the research indicates on this issue is that it’s easier to mislead people about what happened if you pick on things that they didn’t notice at the time. ...But if it’s something the person paid attention to at the time and is still in their memory, it’s much more difficult to mislead them with suggestions.

And finally, I mention here that we may reinterpret events with the passage of time. If we did something really stupid that is not consistent with our self-image, over time we may reinterpret what we did so it’s more consistent with the view we have of ourselves.

Q. Now you go on to talk about accuracy being influenced by two cognitive processes: the original monitor and the accuracy monitor. Could you just describe that for us?

A. These are two automatic processes that are – that are always engaged when we’re reconstructing an event. One of these processes monitors what we believe to be the accuracy of the information. In common language this is reflected by us saying such things as, “I’m certain about that,” or “I don’t know, I think this is true, I’m not sure.” So we’re reflecting the variability that we feel about accuracy.

...

³⁸⁵ Evidence of Dr. John Yuille, Inquiry transcript, vol. 39 (March 12, 2004): 7437-7439

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We also monitor the origin of events and, again, in everyday language an example of how the origin monitor can fail is we may find ourselves saying something like, “I’m not sure whether I read this in a newspaper or heard it on the radio, but did you hear about such-and-such?” So here the person is acknowledging that they’re just not sure about the origin of the information and again, we can make mistakes here, although generally we’re accurate about origin...

- Q. Can you comment at this point just generally on the role that interview techniques may play on the reliability of the reconstruction of an episodic memory?
- A. The research here is very clear, whether it’s laboratory or field research, and that is that the most accurate part of a witness’s recall is found in the free narrative phase of an interview. A free narrative refers to that part of the interview when the individual is asked the most open kind of question, like, “What happened?” “What else do you remember?” “What happened next?” ...
- Accuracy then begins to fall if the interview moves to specific questions. For example, a question such as “What did his clothes look like?” Or even more likely to produce an inaccurate response would be, “What colour was his shirt?” ...
- A. ...So this – the debate that was so heated has now been resolved by saying you are both right and in any given case it could be a legitimate case of the recovery of a lost memory, or it could be a created memory and each case has to be dealt with on its own merits.”³⁸⁶

The following is an exchange between Dr. Yuille and Joel Hesje:

- “Q. You have reviewed the interviews that – that were transcribed, interviews by the RCMP of – and of – by Robert Martell of Keith Jarvis. In your opinion were those interviews conducted in a manner which would create a risk of false memory?
- A. No. I didn’t see repeated suggestions that – of a kind that would create – that had the boundary conditions I’ve already mentioned that risk creating false memory.
- Q. Now, I – I think that obviously will have to be pursued in more depth, but I have no doubt that it will be done through my friends, and I think I might leave it at that point, and then ask you to comment on your review of the evidence of Brenda Valiaho in respect to her interview of Jason Roy. And, of course, there there was reference to a particular interview technique which was described as visualization. Can you comment on –
- A. Yes
- Q. – your review of that?

³⁸⁶ Evidence of Dr. John Yuille, Inquiry transcript, vol. 39 (March 12, 2004): 7442-7447 and 7451



A. Visualization is a technique that is – I guess self-evident by the term. It's just asking someone to try and form a visual image of an event that they've experienced. In and of itself visualization is – is not leading or suggestive. However, it can be used in a suggestive manner. Indeed, in a – in a study looking at how false memories get created in the "real world", in quotes, Steve Lindsay and Don Read made a list of therapeutic techniques that were – that could possibly lead to false memory, and one of those was guided imagery, which is another term for visualization. But the emphasis here is on the word "guided". So if an interviewer says, "I want you to picture this in your mind and form, you know, a vivid image of it; this would not necessarily be leading. But if they say, "You're standing in a particular place and you're looking and now you're seeing somebody over there, who is it you're seeing?" In other words if – if the content begins to be guided by the interviewer, then the risk of the person developing a false memory is quite real.

THE COMMISSIONER: So the interviewer – the interviewer cues the examinee –

A. Exactly.

THE COMMISSIONER: – then the risk arises immediately.

A. Exactly.

THE COMMISSIONER: All right.

Q. Now – sorry.

A. I was going to say, as I noted in my report, I couldn't tell whether that was – that characterized this interview or not because there was no verbatim transcript. Now, I note that the witness said that she didn't use it in a non-suggestive fashion, but without a verbatim record there's no way to know for sure.

Q. Now, Dr. Yuille, I'm just about finished here, but I – I think I want to take you back to the previous statement you made about the interview of Jarvis, because I think you do recognize and I think, in fairness, we should point out there are some qualifications to that. That is, you are basing that on the transcripts you reviewed of the witness – I'm sorry, of the interviews. You were also made aware that there were a number of interviews of Mr. Jarvis conducted by the RCMP which were not transcribed.

A. Yes.

Q. And –

A. And, of course, whether there was influence there or not, I don't know."³⁸⁷

I refer to the following questions posed to Dr. Yuille:

"Q. ...And my question to you is what is the import of the presence of all of those surrounding verifiable factors pre his contact with Brenda Valiaho in

³⁸⁷ Evidence of Dr. John Yuille, Inquiry transcript, vol. 39 (March 12, 2004): 7465-7467

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terms of whether or not she might have done anything that could have created a false memory of this event.

A. If the description provided during this session had no new features to it, that is, if the same or similar description had been supplied before the session, then whether the session was misleading or not is – becomes irrelevant.

Q. Yeah, it doesn't matter, does it?

A. It doesn't matter, no.

Q. Because she couldn't have done anything that would have affected what he'd already told people –

A. That's right.

Q. – and what we already know to be verified. So in many respects the concern about this in the context of this hearing and the assessment of his credibility is really a non-issue.

A. Well, I – I don't know about the credibility being a non-issue.

Q. Sorry.

A. But certainly the – the risk of contamination at the time of that interview becomes substantially reduced if that information had come out from Mr. Roy previously and there wasn't some substantial change that took place in his description during that session, then prima facie it's – it's not suggestible."³⁸⁸

Dr. Yuille was also questioned about Keith Jarvis' interviewing technique and the statement that Keith Jarvis took from Jason Roy in November of 1990:³⁸⁹

"Q. Dr. Yuille, you have also, I understand, reviewed the transcript of testimony from the police sergeant or retired police sergeant, Sergeant Jarvis, with respect to his practice in doing interviews as a police officer.

A. Yes.

Q. And you're aware that he identified his – his way of obtaining statements as a pure version, true version kind of statement technique.

A. Yes."³⁹⁰

A copy of Roy's handwritten statement of November 30, 1990, was put to Dr. Yuille:

"Q. ...would you agree that this is a very detailed narrative in the sense that he's giving people, places, lots of –

A. Yes. Times.

Q. – times. There's lots of just general information here that would be indicative of somebody having had – having a fairly good memory of the events that were being discussed if, in fact, any of this turns out to be verifiable.

³⁸⁸ Evidence of Dr. John Yuille, Inquiry transcript, vol. 39 (March 12, 2004): 7476-7477

³⁸⁹ Handwritten Statement of Jason Roy dated November 30, 1990, Inquiry exhibit P-6

³⁹⁰ Evidence of Dr. John Yuille, Inquiry transcript, vol. 39 (March 12, 2004): 7478



- A. Yes.
- Q. And despite that obvious or apparent very clear and detailed memory, he suddenly says, you know, '...we stood there and we argued for what I don't know, and he turned around and said 'fuckin Jay' and I looked around and blacked out and woke up at Julie Binnings.' Would you agree with me that the suggestion from a person who has a very detailed memory, that all of a sudden he blacked out and he doesn't remember anything else is a bit odd, given the previous information provided?
- A. I really don't know. It would depend so much on the circumstances, alcohol consumption, et cetera.
- Q. Would you expect a police officer trained to take statements to at least question that sudden bold assertion that, 'Oh, I don't remember anything else because I blacked out.'
- A. Yes. How do you know that that happened, yes.
- Q. Yeah. For an experienced police officer trained in interviewing, the absence of any quizzing of him about that is really quite strange, isn't it?
- A. It's not the best procedure."

...

"A. Yes. What – what is a bit unusual here is that there's information reported up to the point of blacking out. Usually alcohol has a steadily increasing disruptive effect. This is an issue, in fact, that I've looked at in my own research is the impact of alcohol and it's – it's permanent. A person can't recover from the memory loss that alcohol causes."³⁹¹

Dr. Yuille was questioned further about the Roy statement of November 30, 1990:

- "Q. ... if details were left out that might be significant or use the words like "I think", again, are those factors that you would look at in trying to determine now ten years later whether, in fact, they have actual memory or false memory? Are those factors that you would have to look at?
- A. The scenario you describe in general is one in which there is an omission of some relevant fact. Omissions are much more difficult to deal with than say contradictions. Someone can omit mentioning something for a variety of reasons, of course one of them is it didn't happen, but in addition to that it could be that it's too upsetting to talk about, that the right questions weren't asked, that – so when something is left out you need to try to determine why it was left out and not just assume that this immediately tells you there's a credibility issue.
- ...
- A. Well, there are two possibilities, either it didn't happen, which is why it's omitted, or it's omitted for some other reason, and you mentioned because

³⁹¹ Evidence of Dr. John Yuille, Inquiry transcript, vol. 39 (March 12, 2004): 7480-7483

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it wasn't very – thought to be very important, but I'm sure there's a long list of possible reasons that someone would omit –"³⁹²

Counsel questioned him further on the interviewing technique followed by Sgt. Jarvis on November 30, 1990:

- "Q. And Sergeant Jarvis was looking to try to find who may have had last contact with Neil Stonechild whose frozen body had been found the day before he took that statement; is that what you understand?
- A. Yes.
- Q. Right. And in the course of it he was endeavoring to find out who may have seen him, and what circumstances and what conditions; is that your understanding?
- A. Yes.
- Q. And would that approach, then, be a proper approach for that kind of investigation?
- A. The problem I have with your question is that the manner in which the statement was obtained is not known to me. That is, the statement doesn't contain within it what questions were asked, for example, before the statement was written. Police officers vary in the way that they do this. Sometimes they'll actually get a verbal report first –
- Q. Sure.
- A. – by asking a series of questions, and then instruct the witness to now write down what they said. Others will just say write it down. I don't know which was done here.
- Q. I appreciate that, and if the – if the circumstance or the evidence was that it was made known that we're investigating and we'd like you to tell me as much as you could about the last day's activities and record it for me, would that have been an appropriate method to follow?
- A. Yes.
- Q. And if there had been contact with Mr. Roy before the officer showed up, a discussion on the telephone about the reason for the statement, would that have been an important factor at the front end?
- A. It would depend what was said.
- Q. Okay. You were asked questions, then, also about follow-up on the – he said he blacked out –
- A. Yes.
- Q. – didn't recall anything else, woke up at Julie Binnings.

...

³⁹² Evidence of Dr. John Yuille, Inquiry transcript, vol. 39 (March 12, 2004): 7503 and 7506



Q. Would an officer investigating a sudden death, trying to find out who last saw him naturally push beyond that or might he reasonably say that's the last memory?

THE COMMISSIONER: Are you qualified to answer that?

THE WITNESS: No, I was just going to say, I really, I don't have the knowledge base to know what police officers naturally do.

Q. MR. STEVENSON: Sure.

A. I would have done that, but that may be because I'm a psychologist.

THE COMMISSIONER: You would have done what, Doctor?

A. I would have asked about blacking out.

THE COMMISSIONER: You would have?

A. I would have.³⁹³

Dr. Yuille offered what he considered to be one of the predominant impediments to effective investigation:

"A. In our own research as well as that of others, the biggest single impediment to effective investigation is when the Investigator has a single hypothesis about the fact pattern that he or she is dealing with, and that in contrast to that the most effective approach to investigation is the alternative hypothesis method, where the Investigator entertains several alternative explanations as the investigation unfolds. This way the Investigator is not blinded by this one hypothesis. When there's only one hypothesis there's a tendency to exaggerate the evidence that's consistent with it and minimize evidence that is inconsistent. So by keeping an open mind through multiple hypotheses reduces that problem.

...

A. It is human nature and it's also, I think, in fairness to a lot of police, it's a systemic problem with pressure to close files and solve cases, there's a lot of pressure to move quickly, within the system."³⁹⁴

Dr. Yuille was also asked many questions about the possibility that Keith Jarvis' memory had been influenced by suggestions. I refer to the following portions of the transcript:

"Q. And then he goes on further, "He had not seen anything in the media concerning Stonechild." And then an interesting note. It says, "After considerable prompting he did recall an investigation." What is the – I mean do we – we don't know, obviously, what was said in the prompting.

...

Q. ...it's noted by Constable Warner, "His recollection of those events was very sketchy.

³⁹³ Evidence of Dr. John Yuille, Inquiry transcript, vol. 39 (March 12, 2004): 7541-7545

³⁹⁴ Evidence of Dr. John Yuille, Inquiry transcript, vol. 39 (March 12, 2004): 7552-7553

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- ...
- Q. What are some of the potential problems with prompting?
- A. Well, prompting is just fine as long as it doesn't lead or suggest. Prompting could be another term for cuing, providing the appropriate cues to help someone reconstruct an event."³⁹⁵
- ...
- "A. Yes, but talking with them might have, in fact, provided cues that helped him to recall that. In and of itself, this is a neutral statement. It's not – doesn't identify contamination. It's just – it's a statement that he thought about this and he's remembered more.
- Q. Okay. Does it identify confusion?
- A. No.
- Q. He's not sure of the source and that's not confusion?
- A. I don't read this as – as not being sure of the source, but rather attributing his improved memory to several sources."³⁹⁶
- ...
- "Q. And there's places in there where Mr. Martell says something like, 'We're talking death, and policemen being involved.' Are those kind of things designed typically for any purpose?
- A. I believe that this interview took on the characteristics of an interrogation later on in the interview. And the answer is yes that sometimes techniques like that are used in the process of – of an interrogation.
- Q. Sure. An interrogation is typically with a suspect, though, isn't it?
- A. Yes.
- Q. That's how we look at it.
- A. Not only with a suspect. Techniques may be used with a witness for whom there's concern that they're not being honest or forthcoming."³⁹⁷
- ...
- "Q. And the first interview that you are able to look at with the transcription, which I believe is P-107 in these proceedings, at page 8, Mr. Stevenson took you to the point where at the bottom of page 8 Mr. Jarvis basically says that he is not clear as to the source of his knowledge but he thinks it could be something that he recalls, could be something that you told me. But at the end of the day in that interview he does say that he believes he was told by Jason Roy that there was some contact between Neil Stonechild and SPS and some contact with Mr. Roy and SPS.

³⁹⁵ Evidence of Dr. John Yuille, Inquiry transcript, vol. 39 (March 12, 2004): 7581-7583

³⁹⁶ Evidence of Dr. John Yuille, Inquiry transcript, vol. 39 (March 12, 2004): 7594-7595

³⁹⁷ Evidence of Dr. John Yuille, Inquiry transcript, vol. 39 (March 12, 2004): 7607



THE COMMISSIONER: What's your question?

Q. My question is this, were you aware of what documents Mr. Jarvis reviewed just prior to this statement being given?

A. I'm aware that he reviewed his notes.

Q. Yes. And is that one of the things that you talked about early that could cue memory?

A. Yes.

Q. And would that be fairly significant for a police officer to review his notes just before an interview like this, and that he may start to recall things?

A. Yes.

Q. And is it possible that an officer may recall items that are not specifically referenced in his notes but other factors in his notes could trigger those memories?

A. Yes.

Q. Now the record shows in these proceedings that the only time that Mr. Jarvis in his contact with the RCMP said that he had some recollection of this contact that we've discussed involving Jason Roy, Neil Stonechild and SPS, was during this interview, P-107. And also on May 23rd, there's testimony in this proceeding, and again I can give the reference, it's page 4533 of the transcript, Mr. Hesje is examining Mr. Jarvis, and I go on to explore similar ground in page 5230 in these proceedings. I appreciate, Doctor, please forgive me, that you have not seen this information, but the evidence here is that Mr. Jarvis testifies that having reviewed it Jarvis confirmed Roy disclosed seeing Stonechild in the back of the police car. Now, again, the evidence in this proceeding is that Mr. Jarvis on the day that he said that to the RCMP reviewed the Saskatoon Police Service file, P-61 in these proceedings. Again, is that the type of cue that may trigger recall of memory, even though it may not specifically be recorded in those documents?

A. Yes.

Q. You mentioned that most training these days with respect to interviews is to try and develop techniques to avoid leading or suggestive questions, and I think that's commonsense, isn't it?

A. Yes.

Q. And does that type of approach work with interviewing witnesses who want to – who do not want to provide information, who are not being compliant, perhaps being evasive for some reason or another?

A. If someone's being evasive and not cooperative there's no secret technique to suddenly change them to become cooperative. Certainly becoming leading and suggestive doesn't solve that problem.



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- Q. Yes. But you may, if a person doesn't recall information, would you agree that – and I believe you have already, but please correct me if I'm wrong – that it may be appropriate for some prompting to take place, for pieces of information to be given?
- A. Yes.
...
- A. They're going to have to be cued.
- Q. And that would be appropriate in such circumstances –
- A. Yes.
...
- Q. And if we look at Exhibit P-109 and I appreciate, Doctor, that we don't have a transcription of the RCMP questions being put to Mr. Jarvis. But if you do look at P-109 and the notes that are taken there, there's a good deal of concrete information there, is there not? If we look at that he states, he recalls Morality handled it, Bolton was there, a youth found with one shoe, he never attended the scene, he did not attend the postmortem. Again, there's a fair amount of detail there, is there not?
- A. Yes.³⁹⁸

There was a great deal of discussion during the Inquiry about memory, the creation of memory, and the reliability of memory.

Predictably, most of the debate swirled around Jason Roy and his account of the events of November 24/25, 1990. There were a great many suggestions made in cross-examination that did not, with all due deference, accord with the evidence.

In the end, Dr. Yuille was able to put the issues surrounding memory, in a clear and comprehensible context. I found his evidence extremely helpful and refreshing in its forthrightness. I only wish others, characterized as "experts", had performed as well. His analysis of the memories recounted during the hearing helped me immeasurably in reaching the conclusions I have on the key elements of the testimony.

³⁹⁸ Evidence of Dr. John Yuille, Inquiry transcript, vol. 39 (March 12, 2004): 7622-7626