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**Exploring Medical Expert Testimony and its Contribution to Miscarriages of Justice: An Examination
of the Flawed Pathological Evidence of Dr. Charles Smith**

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Exploring Medical Expert Testimony and its
Contribution to Miscarriages of Justice

*An Examination of the Flawed Pathological Evidence
of Dr. Charles Smith*

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Thesis submitted to the Faculty of Graduate and Postdoctoral Studies
In partial fulfillment of the requirements
For the MA Degree in Criminology

Department of Criminology
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Under the supervision of Dr. Kathryn M. Campbell

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Abstract

Wrongful convictions have garnered recent increased attention in Canada, but specific concern with the use of medical expert evidence in criminal trials is especially timely. With the recent Inquiry into Pediatric Forensic Pathology in Ontario, it has become clear that flawed medical expert evidence can have devastating effects on individuals and criminal trials. The theoretical framework of social constructionism was used in a cross-case pattern analysis to provide a foundation for examining the problematic expert testimony of Dr. Charles Smith in eight cases of unexplained child death. The findings suggest that Dr. Smith's expert evidence was not adequately evaluated at the gate of admissibility, and may have been evaluated by internalized judgments rather than direct assessments of that evidence. The results indicate a combination of contributing factors of Dr. Smith's flawed expert evidence and the subsequent miscarriages of justice, as Dr. Smith's flaws were overlooked and his testimony accepted uncritically.

Chapter I – Introduction

There is an expectation that the law and criminal justice system serve to protect society and the rights of the individuals within it. Along with this is a general assumption that in the execution of this endeavour, each case that enters the justice system will be neutrally and efficiently investigated and tried. Wrongful convictions discredit this expectation. Miscarriages of justice that result in a wrongful conviction can occur at any number of stages throughout criminal proceedings, beginning with the investigation process where an extensive list of factors can influence a false accusation, and continuing throughout the trial process where a number of stages exist at which a mistake could occur.

A great deal of the literature on wrongful convictions focuses on contributing factors such as police misconduct, eyewitness misidentification, false or coerced confessions, misleading line-ups, inappropriate use of jailhouse informants, perjury and inadequacy of defence counsel (Dufraimont, 2008; Huff, 2004; Jones, 2009; Ofshe & Cassell, 1998; Roach, 2007; Trotter, 2003-2004). However, the problems associated with assessing the legitimacy of one type of evidence, medical expert evidence, appear to have particular relevance in Canadian courts, and the literature and media suggest that medical expert evidence has the potential to raise significant problems with respect to wrongful convictions.

How medical expert evidence contributes to wrongful convictions is significant in light of how influential such evidence can be to a case. A medical or forensic expert is an individual who is considered a specialist in some area of science or medicine and who may be called to present an expert opinion in a criminal trial. The opinion of medical experts is considered an

exception to the rule against opinion evidence¹, as long as that expert is qualified to give an opinion on that specific topic and that opinion is based on sufficient facts and reliable principles and methods (Sopinka et al., 1999).

Medical and forensic expert evidence includes that which:

1. Is given by an expert who has the special knowledge, training, wisdom, skill and experience to deal with the subject matter; it must not be in areas closely related to the particular topic, but specifically within the expert's range of expertise (Maloney, 1972);
2. Provides ready-made inferences in instances where the subject matter is beyond the understanding of the triers of fact and without which they would be unable to form a correct judgement²;
3. Provides the necessary scientific basis needed to properly consider the evidence presented and assist the triers of fact in the understanding of complex scientific issues (Sopinka et al., 1999).

Such testimony is beneficial where it assists the “trier of fact in appreciating [the] specific facts and circumstances” of an issue, but is conversely detrimental when evidence is unsubstantiated or based on unreliable facts, and as such has been attributed as one of the leading causes of wrongful convictions³.

While potentially quite useful, errors may occur with the provision of medical expert testimony on a number of levels, including not adhering to admissibility guidelines, not respecting the limits of one's expertise, or when there is disagreement among experts. For example, expert opinion may have been entered as evidence though it was not reliable or necessary in assisting the trier of fact. An expert may also err by testifying outside of his or her specific area of expertise and offering an opinion in an area for which he or she may not have the appropriate education, training or practical knowledge. It is possible that the expert may mislead

¹ The rule against opinion evidence limits the witness to discussing only direct observations, an opinion based on these observations generally is not permitted (Sopinka, et al , 1999) Opinion evidence can only be considered admissible if it meets all of the criteria of being (a) relevant, (b), necessary, (c) not subject to any exclusionary rule, and (d) given by a properly qualified expert (*R v Mohan* (1994), S C J No 36, *R v Violette*, (2008), B C J No 276)

² *R v Abbey* [1982] S C J No 59 at para 42

³ Department of Justice (2005) *Report of the Working Group on the Prevention of Miscarriages of Justice*

a jury into thinking he or she has expertise in a specific area when in fact that ‘expert’ is merely making educated guesses. The expert may also neglect to reconsider or alter his or her opinion appropriately despite the presence of conflicting expert opinion.

Not surprisingly, the presence of medical expert testimony and other scientific evidence within the criminal justice system has had a controversial existence, and to have an individual convicted of a crime and spend a significant portion of his or her life in prison “because of flawed pathology evidence is a terrible miscarriage of justice”⁴. Since expert evidence first began appearing in courts, this form of testimony has “been a problematic resource for judges and triers of fact” and has been referred to as the one rule that has managed to “reduce our litigation to a state of legalized gambling” (Oh, 2004, p. 767). Given that the admission of expert evidence can lead to a battle among experts, the expert who comes across most confidently may be believed more than another in spite of his or her credibility or lack thereof. As a result of the many possible areas of error relating to medical expert evidence, this form of evidence demands special consideration.

The objective of this thesis is to examine medical expert evidence and how the use of this type of evidence has the potential to contribute to wrongful convictions. It is clear from the issues noted in this introduction that medical expert evidence in relation to wrongful convictions is a relevant topic and warrants further investigation. The second chapter will provide an overview of the literature on medical expert evidence and wrongful convictions by looking at how medical expert evidence is used in criminal trials, and how this form of evidence has the potential to contribute to miscarriages of justice. Specifically it will examine trial evidence and how expert evidence compares to the other forms of evidence used at trial. This discussion will include an examination of the treatment and use of expert evidence, the guidelines which govern

⁴*R. v. Mullins-Johnson* [2007] ONCA 720 at para. 6.

its use, as well as the associated problematic aspects such as issues of language and accessibility.

The third chapter will provide the theoretical framework used for this study. It will begin by outlining the general principles and major constructs of social constructionism, followed by a more specific discussion of the social construction of scientific fact and expert evidence.

The fourth chapter will outline the methodology used in this study, including the research questions and the sampling and data collection procedures used, as well as a brief description of the cases of interest. This chapter will conclude with a description of how the data will be analyzed and an examination of any limitations of the study.

The fifth chapter will summarize the findings of the study, and the sixth chapter will analyze and discuss these findings. The final chapter will provide conclusions about the courts' use of medical expert evidence and its relation to wrongful convictions by considering the knowledge gained in this study and its usefulness to ongoing research and literature on the topic of wrongful convictions.

Chapter II - Exploring Expert Evidence, Case Law and the Associated Problems

There are numerous problems associated with the provision of expert evidence in a trial setting, some more disturbing than others. Over the years, there has been increased scepticism and careful scrutiny with respect to the use of expert evidence, yet there still remain many problems associated with it which may threaten the fairness of criminal proceedings. The focus of this chapter is to examine the literature and case law surrounding trial evidence generally, followed by a more specific look at the role of expert evidence and how it has been treated historically in Canadian courts. The use of medical expert evidence as it is currently used in court will then be examined, including a description of the concept of ‘gatekeeping’, which will be defined as it applies to judges and the responsibility allocated to them of filtering out unreliable expert evidence. This will be followed by a discussion of the admissibility criteria used to govern this type of evidence and case law which has demonstrated the application of these guidelines and expanded on their use.

This chapter will conclude with an examination of the effects of expert evidence on trial outcomes by discussing the common problems associated with medical expert evidence, including issues of accessibility and language and how these issues may result in miscarriages of justice.

Trial Evidence

Evidence is generally called and examined by the parties of the case, and regardless of the form of that evidence, it will likely be called as evidence in order to support or confirm the case of the party that has chosen to admit it. Once called, the rules of evidence control how this

evidence is used in order to ensure that only evidence which is logically and legally relevant to the case is presented; the rules regulate not only what evidence is considered admissible, but also the method by which the admissible facts are brought before the court (Sopinka et al., 1999; Wright, 1942). While the court may deem something admissible as evidence, it may restrict certain aspects of that evidence from being seen or heard in order to protect the fairness of the trial. This assessment of evidence by the trial judge assists in protecting against prejudicial or harmful evidence being heard by the court, presumably acting as a filter for any evidence which may do more harm than good.

There are three classifications of admissible evidence, including oral or testimonial evidence, real evidence and documents (Sopinka et al., 1999). Oral or testimonial evidence can include either sworn or unsworn statements. Sworn statements are the most common type of evidence placed before the court and involve the sworn testimony of witnesses who are either in court or who have previously produced a sworn statement at a pre-trial procedure (Sopinka et al., 1999). Any evidence which is sworn would generally appear to be more reliable than unsworn statements, which would have likely been made out of court and would therefore be less compelling.

Real evidence includes 'things' and experiments, evidence which the court must apply its own sense to and draw conclusions from (Sopinka et al., 1999). This type of evidence is also used commonly in trials and could include such things as viewing a photograph or experiment, or anything else which the court must observe and make inferences from. A document, on the other hand, is usually admitted simply to prove that it in fact exists. For example, this type of evidence may include a will, a contract, or any other document which is required simply to demonstrate that it is in place or that it existed at some point in time.

Out of these three classifications, it appears that there is the least amount of control over the use of the sworn statements of expert witnesses within a trial setting, as well as few standards and consistent principles governing this evidence. The use of this type of evidence will first be discussed by looking at it historically, followed by an examination of how it has been used more recently in the courts.

Exploring the Use of Expert Evidence

The use of expert opinion and expert sworn statements in court fall under the first category of oral or testimonial evidence. Expert opinion is considered the main exception to the rule against opinion evidence, and is accepted only where it is assumed that the trier of fact would not be able to reach a conclusion without the special knowledge and assistance of the expert (Gold, 2003). Because of this special knowledge, the expert is able to provide an opinion and state conclusions if it is believed that his or her opinion may lead to a better understanding of the facts of the case. Experts may play a variety of roles, including providing an opinion based on evidentiary facts, testifying to the validity of commonly accepted principles in the related field, or providing factual assertions that are considered a matter of opinion in and of themselves (Gold, 2003).

While evidence that is relevant to the issue at hand will generally be considered admissible, any evidence, relevant or otherwise, may be excluded at the trial judge's discretion. This would include any evidence where its probative value is outweighed by its prejudicial effect, its ability to mislead, or if it consumes a disproportionate amount of time in relation to its evidential value (Sopinka et al., 1999). While this strict level of entry is enforced more recently in Canadian courts, previous methods governing the use of expert evidence in court were perhaps less cautionary.

Expert Evidence Historically

There has always been a certain level of scepticism and concern relating to the provision of scientific expert evidence, but dating back to the 1950s and 1960s, courts tended to treat “science as an objective and dispassionate source of knowledge, but not a source of error” (Lederman, 2000, p. 1-2). Courts at this time appeared to find it unnecessary to question the scientific expert as to how he or she knew what he or she knew. Rather than assessing the legitimacy of the expert, the focus was on making sure that evidence that addressed the ultimate issue⁵ was excluded, that the evidence was helpful and that the expert had proper qualifications (Lederman, 2000). If the expert’s evidence seemed appropriate to the matter at hand and was believed to be of assistance to the jury in their decisions, then the expert evidence would be considered admissible; there were no strict guidelines governing the admissibility of expert evidence.

Prior to the mid-90s, this concept of ‘helpfulness’ to the judge or jury continued to have a broad interpretation and was limited to use only where the evidence was helpful to clearly understand witness testimony or the determination of facts; a vague requirement open to discretionary interpretation (Kovera & Borgida, 1998). Helpfulness was applied in such a way that expert evidence faced relatively low standards of admissibility on the assumption that traditional safeguards, such as vigorous cross-examination, opposing evidence and instruction from the judge on burden of proof, were “appropriate methods of attacking frail but admissible evidence” (Lederman, 2000). This type of assumption has changed over the past decade, as it has become increasingly clear that these methods alone are inadequate to the task of preventing

⁵ The Ultimate Issue Rule, although no longer of general application, requires that an expert not comment on the guilt or innocence of the accused so as not to usurp the function of the triers of fact (*R v D D* (2000), S C J No 44, para 41, *R v Mohan*, 1994, para 25) Matters such as credibility, guilt or innocence, or the truth or falseness of allegations are to be left to the trier(s) of fact

unreliable expert evidence from entering the courtroom.

In modern Western societies there has been a significant shift in the views held about the infallibility of the scientific community. In the 1950s and 1960s, science was believed in general to be correct and dependable (Goldblatt, 2000). Scientific findings were both respected and trusted, and while this knowledge never went completely unchallenged, the scientific expert's "authority and social standing [nevertheless] seemed secure" (Goldblatt, 2000, p. 4). Science was considered a high-value commodity, and even if the science behind an expert's opinion was questioned, scientific experts were not collectively doubted or considered unreliable.

Also during this time frame, scientific education and training not only placed a person in a position to speak authoritatively and with decisiveness about his or her own field, it also gave him or her the power and influence to speak with authority in other fields without being criticized (Collins & Evans, 2006). The risks included with this type of authority, however, involve instances where an expert gives an opinion or testifies in an area that is beyond his or her expertise. Since that expert is in a position of authority, the fact that the area of concern may have been beyond his or her expertise may have been overlooked in the past.

This deferential view that the courts previously held of the expert has resulted in a failure to recognize the possibility of human error in expert evidence (Lederman, 2000; Schoenfeld, 2005). Science, however, is just as vulnerable to bias and subjectivity as any other human activity. Within science there is selection, observation and measurement which will unavoidably be affected by the subjective interpretations, beliefs and interests of the individual who is responsible for observing and measuring⁶. While the view of medical experts previously held by the courts was predominantly one of absolute faith and reliability, it has become increasingly

⁶ The discussion of how science is susceptible to human error is further discussed in Chapter III – The Social Construction of Scientific Fact, Expertise and Expert Testimony.

clear over the years that the expert should not be placed above human error, and that the expert must be recognized as being capable of demonstrating subjectivity and flaws in science and research.

Examining Expert Evidence

Throughout the years, there has been an increasing expectation of trial judges to use discretion in dealing with the complexities of case-by-case reliability determinations. Mere helpfulness in assisting the trier of fact is no longer a strong enough reason to admit an expert's evidence⁷. While expert evidence should be admissible only in exceptional cases where special knowledge is required that is beyond the knowledge of the judge and jury, admissibility guidelines "do not eliminate the dangers associated with opinion evidence"⁸. Over the past decade, the function of the trial judge as a 'gatekeeper' who is responsible for filtering unreliable evidence has become more and more present in Canadian courts to assist with the difficulties associated with expert evidence.

Defining the Concept of 'Gatekeeping'

Courts are expected to perform a 'gatekeeping role' with respect to medical expert evidence and ensure that the evidence rests on a "reliable foundation and is relevant to the task at hand" (Kovera & Borgida, 1998, p. 186; Lederman, 2000). The function of the judge as an evidentiary gatekeeper has evolved as a form of safeguard for triers of fact against any evidence which may have the potential to have a prejudicial effect on the trial (Oh, 2004). This task is an exclusionary one, with the gatekeeper being empowered to filter expert evidence by assessing and subsequently excluding any testimony which is not reliable (Cooper and Tomlin, 2008; Oh, 2004; Schweitzer & Saks, 2009). This process ensures that any expert testimony that does get

⁷ *R. v. Mohan* [1994] S. C. J. No. 36 at para. 22.

⁸ *R. v. D. D.* [2000] S. C. J. No. 44 at para. 51.

entered as evidence does not overwhelm or negatively affect the jury or trial in any way.

In order to determine admissibility, judges make decisions based on conflicting arguments from opposing parties on experts' methods, principles and experience (Merlino et al., 2008). What this amounts to is that the judge is not only required to analyze the expert evidence on a legal basis, but also on its scientific merits (Merlino et al., 2008). This criterion, emphasized in U. S. courts and then later adopted in Canada in *R. v. J.-L.J.*, is discussed in the case of *Daubert v. Merrell Dow Pharmaceuticals, Inc.*⁹ and requires that, in his or her analysis, the judge determines whether the expert appears to have used proper procedures, acceptable scientific methods, relied on relevant and up-to-date literature and theories and that the methods used are consistent with those used by peers within that specific discipline. The subsequent decision to allow or exclude the evidence is considered the 'gate' that an expert will confront prior to offering testimony (Beecher-Monas, 2007; Oh, 2004).

In discussing the role of judges as 'gatekeepers', Stephen T. Goudge, Commissioner of the Inquiry into Pediatric Forensic Pathology in Ontario, finds that they play a vital role "in protecting the legal system from the effects of flawed scientific evidence" (Inquiry Report, Vol. I, 2008, p. 47). Goudge describes this role as a 'heavy burden' which is required in order to protect the system from unreliable evidence which can contribute to serious miscarriages in justice (Inquiry Report, Vol. I, 2008). In light of the serious errors in expert evidence that were discovered in the Goudge Inquiry, it is clear that any significant errors in judgment made by a trial judge with respect to expert evidence can have devastating effects.

One of the major obstacles working against trial judges in their role as gatekeeper is that often the expert has a commanding presence, has experience in testifying, is well-accredited and has come from a renowned institution. In situations such as this, these attributes may

⁹ [1993] 509 U. S. 579.

“overwhelm what should be the gatekeeper’s vigilance and healthy skepticism” (Inquiry Report, Vol. III, 2008, p. 470). An important part of gatekeeping is to overlook personality or stature, and consider only the reliability of the evidence based on the expert’s science, excluding any scientific evidence that does not satisfy threshold reliability standards.

Another major obstacle faced by the judge as gatekeeper has to do with the possibility of the expert acting as a ‘hired gun’, whereby he or she becomes a partisan expert who has been hired by one side and who may provide favourable testimony for the client that hired him or her (Oh, 2004). The concept of a ‘hired gun’ suggests that these experts may be unyieldingly supportive of the side that hired them, rather than giving testimony that is impartial, “disinterested and hence presumptively truthful” (Posner, 1999, p. 1536). Part of the responsibility of gatekeeping is therefore to be aware of expert testimony which may seem exclusively supportive of the hiring side and of experts who refuse to acknowledge and consider other expert evidence which conflicts with their own opinion and conclusions.

Case Law on Gatekeeping

A number of trial judges have recognized that the gatekeeper role should be taken seriously and that admissibility of expert evidence should be carefully scrutinized at the time it is given “and not allowed too easy an entry”¹⁰. In the case of *R. v. D. S. F.*,¹¹ an expert on Battered Women’s Syndrome was called to testify with respect to the behavioural characteristics of women who report living in abusive relationships. While the court saw the evidence as relevant, it was found that the evidence was not based on a sufficient evidentiary foundation and was therefore neither reliable nor necessary¹². This case noted that the trial judge is in the ideal

¹⁰ *R v J-L J* [2000] S C J No 52 at para 28

¹¹ [1999] O J No 688 However, evidence on the existence of Battered Women’s Syndrome was later accepted in *R v Lavallee* [1990] 1 R C S 852

¹² *Ibid* at para 44

position to fulfil the gatekeeping role since he or she “has the advantage of hearing the evidence in issue, observing the jury and being able to appreciate the dynamics of the particular trial”¹³.

Similar thinking was discussed in *R. v. D. D.*, a case where a ten year old girl claimed that the accused had sexually assaulted her when she was five to six years old. In this case, the trial judge admitted the expert evidence, but the Ontario Court of Appeal found that the evidence should have been excluded because of the dangers associated with expert evidence and the prejudicial effect the evidence would have on the jury¹⁴. Expert evidence was called to support the argument that a delay in disclosure did not suggest dishonesty or falsehood on behalf of the girl, even though she had not told anyone about the abuse for two-and-a-half-years. It was emphasized in this case that since the trial judge is the one responsible for a fair trial and is familiar with the jury as well as the issues, evidence and facts of the case, that the judge is in the best position to decide whether or not the probative value of the evidence could be outweighed by any prejudicial effect that evidence could have on the trial¹⁵. Having been charged and trusted with this role, it is the trial judge’s position to decide whether or not the expert evidence will assist the jurors in their decisions.

On appeal to the Supreme Court of Canada in *R. v. D. D.*, Justice McLachlin, for the majority, noted an important concern regarding properly balancing the benefits against the costs of the evidence, and noted two important things to consider when performing a gatekeeping duty¹⁶:

1. Is the expert able to address the issue by using understandable terms that the jury can interpret?

¹³ Ibid at para. 66.

¹⁴ [*D. D.*] at para. 51.

¹⁵ Ibid at para. 12.

¹⁶ Ibid at para. 40.

2. Will the triers of fact be likely to take the expert's word as unchallengeable truth, rather than being able to examine the evidence critically?

The court found that the gatekeeper should ensure that the expert uses language that the jury can understand, assess, and criticize effectively, subsequently being able to draw their own informed inferences. This case underlies the importance of ensuring that any evidence be excluded which may show the potential to overwhelm the jury and consequently cause the jury to concede to the expert evidence without critically examining it.

In instances of novel scientific evidence, the gatekeeping function is especially important. For example, in *R. v. J.-L.J.*, the evidence of a psychiatrist was called in the case of an individual being charged with the sexual assault of two young male children. The expert was called to argue that a serious sexual deviant was responsible for the acts, but that the accused could not be that person as he did not demonstrate the required deviant personality traits during his testing¹⁷. After a voir dire¹⁸, the trial judge recognized that the psychiatrist's evidence on deviant personality traits was unreliable and had the potential to distort the fact-finding process since the expert testimony was inappropriate to the issues at hand¹⁹. The trial judge recognized that the probative value of the expert's evidence did not outweigh the risks involved with hearing the evidence, and so it was excluded. According to the Supreme Court of Canada, the trial judge properly performed his gatekeeper function by recognizing that he was not convinced that the expert testimony met the proper requirements²⁰.

The expectation that evidence be recognized by the relevant scientific community was

¹⁷ [J.-L.J.] at para 1

¹⁸ The purpose of a voir dire is to determine admissibility of contested evidence or competency of a witness or juror. The voir dire is conducted in the absence of the jury who is not to be given any details on the matter (Delisle, 1984). The opposing attorney has the chance to challenge an expert's evidence and credentials, and the judge will determine if there are any fatal flaws which will prevent the evidence from being heard in the trial (Matson, 1990).

¹⁹ [J.-L.J.] at para 61

²⁰ Ibid at para 61

also strictly enforced in this case to ensure that the deviant profile put forth by the expert was not simply ‘cherry-picked’ on an ad hoc basis in order to fit the evidence into an appropriate profile. It appears questionable that the psychiatrist’s profile was actually developed from the relevant literature and practice, or that it agreed with what other professionals in the same field would use to describe a serious sexual deviant. It seems possible in this case that the traits that the psychiatrist used to describe a serious sexual deviant were characteristics he already knew would not fit those displayed by the accused.

There is a critical question as to whether or not, even with clearly defined admissibility criteria and guidelines, there will ever be a “sufficient foundation for courts to make consistent and valid admissibility decisions”²¹. Following the decision in *R. v. Mohan*, concerns with expert evidence changed significantly from concerns with ‘helpfulness’ and ‘usurping the function of the trier of fact’, to concerns like reliability and gatekeeping (Lederman, 2000). The case of *R. v. Mohan* is possibly the most commonly referred to case with respect to the admissibility of expert evidence in Canadian courts. In this case, a practising paediatrician was charged with the sexual assault of four females aged thirteen to sixteen. Similar to *R. v. J. L.-J.*, a psychiatrist was called for the defense to testify that the offenses were acts that only a limited and unusual group of individuals would be capable of, and that the paediatrician did not possess the characteristics required to fit within that group. The testimony of the psychiatrist on psychological profiles of paedophile and sexual psychopath perpetrators was examined and ruled inadmissible because the trial judge deemed it unreliable²². It was found that nothing supported the expert’s evidence because there was no proof that the profile of a paedophile or psychopath had “been standardized to the extent that it could be said that it matched the supposed profile of

²¹ Reliable Evaluation of Expert Testimony (2003) *The Harvard Law Review*, Vol 116(7), p 2142

²² [*Mohan*] at para 46

the offender depicted in the charges”²³.

In this decision, the Supreme Court tightened the admissibility criteria and articulated four factors upon which the admissibility of all expert evidence should depend, including (1) relevance, (2) necessity, (3) the absence of any other exclusionary rule, and (4) that the expert be properly qualified. These will be discussed below.

Defining the Admissibility Guidelines for Expert Evidence

The issue of the use of medical expert evidence in Canadian courts, especially in relation to wrongful convictions, is cause for concern since there has yet to be a uniform approach defined for governing its use, including determining whether the evidence should be admissible, how the expert’s qualifications are weighed or how the actual evidence is presented. Given this, it follows that many issues may arise in both the admission and provision of expert evidence in courts; this has dangerous implications for miscarriages of justice.

Relevance:

In Canadian courts, relevance is a threshold requirement for the admission of all evidence, including expert evidence²⁴. For the evidence to be considered relevant, it must assist in making the existence of any related fact more probable or less probable than it would without the evidence, and must assist the jury on its fact-finding mission, not confuse or confound it (Stewart, 2002). The procedure and reasoning processes by which the expert opinion is formed also must be objective, sound and have supporting data and logic (Gold, 2003; Oh, 2004).

Logical relevance requires that the evidence correspond with and be appropriate to the issue at hand. Legal relevance, on the other hand, is concerned with whether or not the probative value of the evidence outweighs its possible prejudicial effect. This requires that the time and

²³ Ibid at para. 46.

²⁴ Ibid at para. 18.

effort involved in hearing the evidence not be out of proportion to its value, and that the influence of the evidence on the trier of fact not be out of proportion to its reliability²⁵. If evidence is relevant, it will have been based on techniques that are accepted within the associated scientific community. Relevance also applies to how technical the evidence is, how easily it can be comprehended, whether it can be cross-examined by opposing counsel to demonstrate its limitations, as well as consideration of the expert's ability to seduce the jury's mind (Gold, 2003). Any evidence offered by an expert should not be admitted where there is a possibility that it will be misused, where it has the potential to distort the fact-finding process or where there is danger that the evidence will confuse the jury²⁶.

Necessity:

The necessity requirement is in place to ensure that the evidence is necessary in assisting the trier of fact; as with relevance, the evidence must be considered based on its ability to distort the fact-finding process and therefore must not only be relevant, but must also be *required* in order to reach the correct result²⁷ (Gold, 2003). Necessity requires that the substance of the evidence be outside the knowledge of the trier of fact, and that the assistance required to reach the correct conclusion cannot be obtained through any other means than the expert's evidence and testimony²⁸. The expert must not, however, be allowed to assume the role of the trier of fact, which would risk the trial turning into merely a battle among experts²⁹.

Absence of Any Exclusionary Rule:

This self-evident legal requirement demands that the expert evidence comply with the standard rules of evidence in addition to passing the admissibility standards; simply meeting the

²⁵ Ibid at para 18

²⁶ Ibid at para 19

²⁷ Ibid at para 23

²⁸ Ibid at para 22, [Abbey] at para 43

²⁹ [Mohan] at para 4

criteria of relevance, necessity and proper qualifications does not ensure admissibility³⁰ (Gold, 2003).

There are certain exceptional cases which require special knowledge that is beyond the understanding and knowledge of the trier of fact³¹. While the rule against opinion evidence does exist, expert evidence has been seen as admissible and as an exception to this rule in cases where specialized knowledge is required³². For example, when an expert gives evidence on a fact he or she has observed, or when the expert offers an opinion on matters involving his or her expertise, this evidence will likely not be subject to an exclusionary rule against opinion evidence (Stewart, 2002). Expert opinion evidence would be subject to exclusion in cases where only the facts are requested; in some cases, opinion is not asked for from the expert, simply the facts that the expert has obtained or observed are of interest to the court³³. In this case, the evidence would be subject to an exclusionary rule against opinion evidence.

Properly Qualified Expert:

A qualified expert is defined as one who “is shown to have acquired special or peculiar knowledge through study or experience in respect of the matters on which he or she undertakes to testify”³⁴. This requirement has been vaguely described for many years as consisting of an individual who can satisfy the court that he or she is skilled, with the way in which he or she acquired said skill being immaterial (Gold, 2003).

While these descriptions are quite similar, what remains important is that the knowledge and experience must go beyond that of the trier of fact and the qualifications of the expert must be proven on a balance of probabilities (Gold, 2003). What this requires is that the benefits that

³⁰ Ibid at para. 26.

³¹ [*D. D.*] at para. 50.

³² Ibid at para. 50.

³³ *R. v. A. K.* (1999), O. J. No. 3280 at para. 72.

³⁴ [*Mohan*] at para. 5.

can be achieved through admitting the expert evidence must outweigh any negative effects the evidence could have on the trial outcome, such as the jury being overwhelmed by confusing jargon.

Things to be considered when examining an expert's qualification include academic background, additional training, practical experience, publications, conference presentations, prior court experience and membership in societies and organizations (Gold, 2003). The expert must be a 'true' or 'legitimate' authority in the sense that he or she must be specialized in the area in which the evidence is required, and the evidence entered by the expert must be of consensus among authorities within that expert's academic community.

Despite the above-noted guidelines and the 'gatekeeping' function assigned to trial judges, there appears to be significant room for growth with respect to formulating a comprehensive and uniform approach for governing the use of expert evidence in courts, including what qualifies expert evidence as admissible, what qualifies one as an expert and how a qualified expert should be allowed to present evidence to the court. The following section will explore the admissibility criteria by looking at case law decisions that have followed and expanded on the decision in *R. v. Mohan*.

Exploring the Application of the *Mohan* Admissibility Criteria in Court

Seven years following *R. v. Mohan* came the decision of *R. v. Taylor*,³⁵ a case in which a victim was stabbed to death by his girlfriend who insisted that the act was in self-defense³⁶. During a voir dire, the Crown's expert evidence that the act was not one of self-defense was found inadmissible. In the application of the *Mohan* criteria, it was found that while the expert

³⁵[2001] B. C. J. No. 1630.

³⁶Ibid at para. 2.

was considered qualified, the evidence failed to meet the threshold level of reliability³⁷.

The forensic evidence presented was that the fatal wounds were inflicted by a right-handed person from behind³⁸. While the actual evidence itself may not have been flawed, it was found that the definitive and over-confident way in which the evidence was given was reason enough to find the evidence inadmissible. Had the expert indicated that the wounds were “consistent with” having been inflicted in such a manner, Justice Henderson stated that the evidence would have been acceptable; however, it was determined that any higher level of certainty failed to meet the threshold level of reliability³⁹.

Furthermore, the expert testified outside of his area of expertise when indicating that the victim had been taken by surprise by his assailant. His opinion was based on the blood spatter pattern, however, an opinion on the pattern of the blood should have been given only by a blood spatter expert, and a conclusion regarding whether the victim was taken by surprise was outside the expertise of a forensic pathologist; it should have been left up to the jury to determine if the victim was acting in self-defense⁴⁰. Despite it being determined that the act was not committed in self-defense and the accused consequently was convicted of second-degree murder, the judge extended his gatekeeping function by excluding the supporting evidence that failed to meet the acceptable criteria.

In the case of *R. v. Allen*,⁴¹ the accused was alone with his girlfriend’s daughter when she sustained an injury to the top of her head, dying two days later. The Crown’s argument was that the accused had slammed the child’s head into a wall, while the defense argued that the injury

³⁷ Ibid at para. 2 and 27.

³⁸ Ibid at para. 9.

³⁹ Ibid at para. 29.

⁴⁰ Ibid at para. 15 and 18.

⁴¹ [2009] N. S. J. No. 414.

had occurred when she had fallen down the stairs⁴². Dr. Pollanen, Chief Forensic Pathologist for the Province of Ontario, was requested by the Public Prosecution Service to offer an opinion. Dr. Pollanen supported the opinion that the fatal injury had been sustained when the child had fallen down the stairs and the accused was found not-guilty. This decision was based in part on the finding that the argument that the accused had slammed the child's head into the wall was not reasonable given the circumstances⁴³. In the application of the *Mohan* criteria, Dr. Pollanen was found to be a properly qualified expert, as he was able to properly describe the methodology used in his conclusions, as well as how his practice of forensic pathology interacted with the criminal justice system⁴⁴.

Dr. Pollanen further emphasized the importance of using only empirical and published data in his approach to forensic pathology, as well as the examination of only objective scientific evidence⁴⁵. He recognized that an “evidence-based approach” was more properly based in scientific analysis and would be more amenable to cross-examination than an approach based in the “my opinion approach”, which would be less amenable to examination and analysis by the court⁴⁶.

Several other cases which discuss the application of the *Mohan* criteria did not involve the type of pathological evidence being examined in this study, instead tending to relate to psychological or psychiatric expert evidence. These cases, however, are relevant to a discussion of the *Mohan* criteria, as they focus on issues of reliability determinations and weighing the probative value of expert evidence against its ability to confound or negatively affect criminal proceedings. Furthermore, these cases emphasize instances in which a proper application of the

⁴² Ibid at para. 5 and 9.

⁴³ Ibid at para. 11.

⁴⁴ Ibid at para. 164.

⁴⁵ Ibid at para. 166.

⁴⁶ Ibid at para. 167.

admissibility criteria was an effective means of preventing unreliable, prejudicial expert evidence from negatively affecting a trial. These cases emphasize the importance of recognizing junk science and declaring it inadmissible, as well as the complications involved with the ‘mystique of science’ and the presumed infallibility of experts.

In *R. v. J.-L.J.*, the case previously discussed regarding the profile of a sexual deviant, the expert evidence was excluded in the application of the *Mohan* criteria as the underlying methods and principles appeared unreliable. Justice Binnie, for the majority, noted that while expert witnesses do play an essential role in criminal courts, the dramatic growth in the frequency of their use has led to numerous concerns regarding suitable controls for their participation, means to exclude ‘junk science’, and concerns with protecting the position of the trier of fact⁴⁷. In spite of having the *Mohan* criteria laid out, a number of major issues concerning the admissibility of expert evidence were further identified⁴⁸:

1. The tendency of expert evidence to appear virtually infallible to the jury;
2. The possibility that the trial becomes a contest of experts, with the triers of fact being merely the referees;
3. The potential implication that our jury system is inadequate to accomplish its task without the assistance of an expert; and
4. The issue of drawing a line properly between the role of the expert and the role of the court.

The issue of the infallibility of expert evidence can be attributed in part to the problem of the ‘mystique of science’, wherein the jury is so confused by the associated language that they concede to the evidence unquestioningly. In the case of *R. v. D. D.*, other noted concerns over this ‘mystique of science’ were evident when the Supreme Court of Canada concluded that the evidence regarding delay in disclosure should have been excluded. Justice McLachlin, for the majority, noted that ‘low-value expert testimony’ threatens to distort the fact-finding process in

⁴⁷ [*J.-L.J.*] at para. 25.

⁴⁸ *Ibid* at para. 25-26.

cases in which an otherwise simple issue is addressed in confusing, scientific language that is beyond the understanding of the trier of fact and presented to “that trier of fact with a ready-made decision”⁴⁹. When this happens, the expert risks taking over the job of the jury, as the jury may be tempted to avoid engaging with the evidence and instead rely on the apparent expertise of the expert, represented as such through fancy credentials and the use of scientific jargon.

In this decision, it was additionally noted that the danger of deferring to the expert is “further increased by the fact that expert evidence is highly resistant to effective cross-examination by counsel who are not experts in that field”⁵⁰. This appears to be one of the more disturbing aspects of expert evidence, since it would be difficult, if not impossible, for an untrained individual to recognize scientific evidence that was not based in sound and reliable methods.

A final issue with expert evidence noted in this case was that the opinions offered by experts are generally derived from academic literature and interviews that have taken place outside of the courtroom setting. This material is unavoidably unsworn and unavailable for any type of cross-examination by the other side, making it difficult to question or negate⁵¹. Although this type of material is not usually admissible, it is generally accepted with the expert’s opinion because if the expert is permitted to testify, then, “he ought to be permitted to give the circumstances upon which that opinion is based”⁵². The court could not justifiably allow the evidence of an expert without simultaneously permitting the literature, studies, and interviews that form the basis of that opinion.

In light of the possible problems with expert evidence noted in the above case law

⁴⁹ [D. D.] at para. 39.

⁵⁰ Ibid at para. 54.

⁵¹ Ibid at para. 55.

⁵² Ibid at para. 55.

decisions, two of the most prevalent and disturbing problems of medical expert evidence will be discussed in further detail as they relate to the possibility of miscarriages of justice.

Medical Expert Evidence and the Associated Problems

This section will focus on the relationship between medical expert evidence and wrongful convictions by examining literature that discusses the issues of accessibility and language barriers. Accessibility concerns include issues of ease of access between competing parties, subjectivity and the problem of ‘partisan experts’ in the courtroom, while concerns with language barriers have to do primarily with the ‘mystique of science’ and the problems which arise when experts use overly technical language in their evidence.

Issues of Accessibility

One problematic aspect of expert evidence is whether one side (most likely the prosecution) might enjoy more benefits of medical expert evidence because of the greater resource power of the state. The prosecution is likely to have more financial resources available to them, and therefore may be able to hire the more qualified or experienced expert (Campbell & Walker, 2007). Defence forensic experts, on the other hand, face the difficulty of having less access to the original evidence, having to rely on photographs, slides, and reports prepared and handled by others, and generally having a shorter period of time to work with that evidence (Campbell & Walker, 2007). The fact that defense experts rarely get first-hand exposure to the evidence and have access for less time creates inequality, suggesting that the defence may be at a disadvantage from the beginning.

Another concern of expert testimony is the issue of subjectivity with respect to who the expert is hired by (Campbell & Walker, 2007; Sherrin, 2007). Experts are expected to offer only neutral and objective evidence strictly related to that which is needed in order to resolve the

proceeding; their role should be an independent one, not one of an advocate (Sopinka et al., 1999). While the expert will undoubtedly offer supporting evidence for the side that hired him or her, he or she should still be willing to recognize conflicting expert opinion and not refuse to acknowledge instances where he or she has been mistaken or incorrect in his or her evidence or conclusions. This is an ideal expectation; however there are common complaints that experts are perhaps no more than a ‘hired gun’ who tailor their testimony to align with the arguments of the individual who has retained them⁵³.

The concern is whether or not an expert’s opinion can be influenced by the side he or she is representing. This may also reflect a confirmation bias, whereby the expert might interpret information in a way that supports the already existing hypothesis of the hiring side. However, the expert’s duty is to the court and this should not be outweighed by the individual who has requested his or her opinion⁵⁴.

Issues of Language Barriers

One of the most obvious concerns with medical expert testimony is that the medical evidence is generally “cloaked in dense, scientific language,” raising a concern about the ability of the jury to understand the evidence (Campbell & Walker, 2007, p. 14). Medicine and science employ their own form of specialist language, which is assumed by the public to be based on previous experimentation, research, observation and testing (Woodward & Watt, 2000). As discussed by Turner (2001), the type of expertise and associated language is almost like a kind of possession “which privileges its possessors with powers that the people cannot successfully control, acquire or share in” (p. 123). Medical experts are trained medically, and the knowledge they possess is necessarily reflected in how they describe their work. Anyone not trained in a

⁵³ Ministry of the Attorney General (2007). *Expert Evidence*.

⁵⁴ Ministry of the Attorney General (2007) *Expert Evidence*

similar manner would be unfamiliar with such vocabulary, making it difficult for the layman, including jurors, to fully comprehend the evidence put before them.

Many arguments challenge the ability of juries to fully comprehend medical expert testimony. For example, some argue that juries may be incapable of critically evaluating the testimony of experts, that they are easily confused or in awe of expert testimony and that they give too much significance to expert testimony; this argument posits that they tend to side with the expert testimony, inevitably adopting the opinion of that expert (Vidmar et al., 2000). This argument may be justified if the expert evidence has been given in overly technical or confusing language. If jurors are unable to comprehend the statements placed before them, then it is possible that they may be unable to critically assess the evidence and make educated inferences from the information. However, if the expert evidence is given in simplistic terms and explained in a comprehensive manner, it is likely that jurors would be capable of formulating their own opinions from the expert evidence.

There are arguments in the literature which support the claim that juries are capable of critical evaluation, and thus capable of doing their job competently and conscientiously. Allen (1994), for example, discusses that there should be little problem with the jury's understanding of medical expert testimony, since everyone in court is expected to speak the same language, have a firm grip on the existence of causal relationships, be able to make reasoned judgments about witness credibility and be capable of drawing inferences based on one's own experiences. He argues that that the problem, then, is not a cognitive one, but an informational one, since judges and jurors lack knowledge in certain areas of human inquiry, but not the cognitive ability to understand the evidence (Allen, 1994).

These are valid arguments since juries should be capable of making their own reasoned

interpretations, inferences, and decisions on the evidence presented as long as that evidence is given in a way that is tailored to the layman and not to fellow medical experts. What Allen does not discuss, however, is the fact that even if the jury is able to *understand* the evidence as presented, they may not be able to judge if that evidence is actually *reliable* and based on sound methods. In instances of complex scientific questions or contested science, it is questionable whether a group of non-scientifically trained individuals would be able to differentiate between reliable and unreliable science. While they may understand what the experts are saying, they may not be able to recognize if the science behind that evidence is based on objective, reliable methods that are generally accepted within the scientific community.

It is clear from the conflicting opinions on the issue of jurors and medical expert testimony that this is an ongoing area of debate (Vidmar et al., 2000). If juries are unable to recognize flawed expert evidence, this could definitely lead to a miscarriage of justice and even possibly a wrongful conviction. However, this is only likely to occur if unreliable evidence was made admissible in the first place and then offered in overly-complicated and confusing language. The focus should therefore be on ensuring that unreliable expert evidence not be allowed past the ‘gate’ in the first place, and therefore not given the opportunity to threaten the fairness of the trial process.

In order to understand these problems further, it is necessary to discuss how science and expertise have been constructed in such a way that makes them a necessity within the courts. The theoretical framework of social constructionism, which serves as a foundation for this discussion and this thesis, will be explored in the following chapter.

Chapter III - The Social Construction of Scientific Fact, Expertise and Expert Testimony

This chapter will focus on the theoretical framework of social constructionism and will be divided into two sections. The first section will outline some general approaches of the social constructionist perspective, including a discussion of the associated major constructs related to the framework of this thesis.

The second section will be divided into two parts. The first part will discuss how science is used as evidence in courts, including an integration of specific social constructionist perspectives that discuss how scientific evidence is affected by social constructs. The second part will discuss how experts and expert testimony are defined and used in courts, including an integration of specific social constructionist perspectives that explore how expertise and expert testimony can be understood as social constructions.

Part I – Social Constructionist Perspectives

The literature on the theory of social construction touches on a broad spectrum of topics, from a general focus on the social construction of reality, to more specific foci such as the social construction of science. Despite the versatility of this theory, what social constructionist perspectives generally appear to agree on is that reality should be examined through an approach which emphasizes history, societal factors, context dependency, human activity and the socio-linguistic make-up of all associated matters (Berger & Luckmann, 1967; Best, 2001; Hibberd, 2005; Koch, 2005; Meckler & Baillie, 2003; Strati, 1998; Turner, 1991). What this appears to

suggest is that everything we do depends upon the social and political make-up of the current times, and what is considered fact or truth has been, and continues to be, affected by existing social processes, such as history, societal factors, or linguistic activities like negotiation. This perspective argues that everything we know and accept as true is therefore not based in objective fact, but instead has been constructed and created through processes of negotiation, and has then been shaped by language, culture and the social structure of society (Best, 2001).

Turner (1991) claims that the “premises of everyday life are historically variant” and that “objective social reality is not [simply] part of the nature of things, but exists only as a product of human activity” (p. 22-23; Berger & Luckmann, 1967). What these statements appear to imply is that reality is affected and changed by historical events and human activity; reality does not simply exist, it has been actively brought into existence by our construction and understanding of these events and actions. In other words, what we consider fact could be said to have been merely a product of ongoing social processes and interactions and that these facts would not exist without the assistance of human manipulation and interpretation.

Lieberman (1995) defines social construction as the way social groups are defined, perceived and made politically relevant at particular moments in history. This perspective suggests, for example, that a group which is currently considered important to society has likely been assigned this status because someone has acted to make it such and has constructed its relevance in a convincing way. This discussion of the social construction of groups is similar to Turner’s (1991) discussion of the social construction of fact; what appears to remain the same across both discussions is that the social constructionist perspectives uphold the position that whatever exists at any given time exists because of social processes which have defined that ‘thing’ as important.

In his discussion of social constructionism, Strati (1998) argues that symbols, values, beliefs and actions all play an essential role in these social processes. Strati (1998) believes that there is no organization, event, concept or theory which can be isolated and analyzed separately from the interpretations that those involved in the group or organization assign to it. Strati's (1998) approach to social construction would also appear to suggest that organizations, concepts, or reality in general, are valued by society mainly due to the fact that someone has defined them as important, and people have in turn interpreted them in a similar manner and maintained their significance over time. The social constructionist perspective therefore appears to require consideration of both human elements and societal factors in order to fully comprehend the evolution of reality.

A number of concepts come out of a discussion on social constructionism that are important for a proper understanding of the perspective as it relates to this thesis. The first concept is 'objective reality', which seems to exist only when reality is based entirely on fact and does not depend on an individual's attitudes, interpretations or feelings (Searle, 1995). If a 'truth', for example, relies on someone having decided how to describe or illustrate it, then this truth has been affected by that individual's subjective inferences; it cannot, therefore, be said to be based in objective reality. The argument regarding objective reality appears to be that the facts of the world would be objective only if their "modes of existence" were completely independent of anyone's attitudes, feelings, perceptions, mental state or opinions (Searle, 1995, p. 8).

Berger & Luckmann (1967) also argue that if something can be understood apart from a particular social context and has not been shaped by that context, then it can be considered to be based in objective reality. This argument also suggests that objective reality can only exist if it

has not been affected by anything subjective – such as opinion, attitudes, feelings, or interpretations. As seen from a social constructionist perspective, this type of reality does not appear to exist. Rather, this perspective argues that every reality has been affected by subjective inferences as well as history, social context, and linguistic mechanisms. While the concept of objective reality is referred to regularly in the literature on social construction, it does not appear to be something that this perspective allows as a possibility.

Another concept regularly used in the social constructionist perspective is the notion of ‘hard facts’, which Best (2001) defines as “information supported by strong, convincing evidence” (p. 31). Best (2001) argues that not everything we know is arbitrary or erroneous, and that we can have confidence that knowledge is factual and reliable when supported by convincing evidence. Despite this view of hard facts, most constructionist perspectives convey the impression that truth or facts are things that have been constructed by social groups and therefore cannot be said to be completely objective. While Best believes that hard facts can actually exist, this concept appears to overlap with objective reality; from a social constructionist perspective hard facts would also be a construction.

A philosopher would argue that “a sentence is true if and only if it corresponds to the fact” (Meckler & Baillie, 2003, p. 273). Meckler and Baillie (2003) counter from a social constructionist perspective that ‘truth’ is really nothing more than “negotiated beliefs rather than objective features of the world” (p. 279). This perspective implies that if something is considered ‘true’, then it is merely because the right people have endorsed it, and it does not necessarily rest on anything beyond the social processes which led to the endorsement of that truth (Meckler & Baillie, 2003). Dawson (1981) claims similarly that truth is based on the accepted beliefs of a social group, and that what makes something true is the fact that some

socially dominant and authoritative group has asserted it as a truth.

From this perspective, truths achieved through scientific study can also be said to have been shaped by the subjective world. Since we already have fixed ideas about what we will study, as well as predetermined theories guiding these studies, new knowledge and truths can be seen to have been devised through biased and selected observations of everyday life (Astley, 1985). This argument implies that when we first begin research on a subject, there tends to be an already existing plethora of knowledge and theory associated with that subject. Our ongoing research will therefore likely be tainted by that existing knowledge, making it impossible to see ongoing information and opinions as objective.

Meckler & Baillie (2003) also argue that because any empirical observations will inevitably be guided by theoretical preconceptions, what we consider true about group identities and organizations will be shaped by the subjective way in which new data are perceived. The principal outcome of research, according to this perspective, will tend to be theoretical language rather than objective data. Objective, untainted data would create an unbiased and factual description of reality, but this perspective posits that ongoing research will be coloured and polluted by previous observations, theories and studies.

It would also appear that knowledge and truth become the end result of the ability of a particular group to convince the public of the 'truth' that suits their needs most. Koch (2005) argues that our knowledge of the world is derived in light of the historical conditions, technological developments and the current make-up of the political and social powers. Knowledge, according to this perspective, depends primarily on the "linguistic, historical, and social contexts from which [it] emerge[s]", and language reflects whatever condition of existence, both political and social, that subsist at that particular point in time (Koch, 2005, p.

17). Knowledge and truth thus are very much guided and carried by the language used by authority figures and political powers; language can therefore be seen as a vital tool for any type of successful leadership, since the majority of our information about the world is internalized and reproduced through the spoken and written language (Gergen, 1996; Khurana, 2003).

Grint (2005) argues that our reality is actually constructed through language. Language would not only appear to represent organizations and initiatives within them, it has also been argued that it can mobilize, advise, regulate and influence. Language can be used to transmit knowledge and information, but it can also be used to convince and control, especially within organizations (Strati, 1998).

A final concept important to the social constructionist framework is the idea of social processes, which include such things as values, belief systems, symbols, societal events or factors and human action, all which come to represent or define certain social phenomenon (Strati, 1998). These processes also include such things as language, negotiation, representations and interpretations; all things that contribute to the production and shaping of facts as they are accepted in society (Hibberd, 2005).

With the general tenets of social constructionism outlined, the specific focus of scientific and expert evidence will be examined in the following section by considering the use of science, experts and expert testimony in court, including a discussion of more specific social constructionist approaches.

Part II – The Social Construction of Scientific Fact, Expertise and Expert Testimony

The Use of Science as Evidence

As mentioned in chapter two, science in the past was viewed as a generally objective and flawless source of knowledge and information. More recently, it has come to light that sometimes this scientific evidence fails. This section will look at how science is used within the criminal justice system as evidence at trial, including what forms of this evidence need to be carefully scrutinized in order to avoid error.

Courts and trial judges are regularly presented with the challenge of determining the admissibility of novel scientific evidence, which can be defined as evidence which has been derived from new principles or techniques or from new fields of specialization (Sopinka, et al., 1999). This type of evidence exists at a point where “the line between the experimental and demonstrable stages is difficult to define,” but it must, at the bare minimum, have “gained general acceptance in the particular field in which it belongs” (Sopinka, et al., 1999, p. 627). Even if novel scientific evidence appears to be reliable and have value to the issue at hand, it may still be excluded if it has not yet gained acceptance within the related scientific community.

While Canadian courts have not yet solidified standard guidelines for the admissibility of novel scientific evidence, this issue was examined in detail in *R. v. Mohan*. In this case it was concluded that novel scientific evidence should be subject to “special scrutiny” in determining threshold reliability as well as to determine whether the expert evidence is essential in assisting the trier of fact reach a satisfactory conclusion⁵⁵. While this decision did not create a rigid

⁵⁵ [*Mohan*] at para. 28.

universal test for the screening of novel scientific evidence, it did create criteria which could be used to exclude those experts who were proffering misleading evidence that was incompatible with the specific issue at hand (Sopinka, et al., 1999). These criteria include relevance, necessity, no exclusionary rule, and a properly qualified expert, and have been discussed in detail in chapter two.

More recent discussion of the use of novel scientific evidence in the courts can be found in the decisions of *R. v. J.-L.J.* and *R. v. Trochym*⁵⁶. In *R. v. J.-L.J.*, decided in 2000, it was noted that novel science should be evaluated on a case-by-case basis due to the fact that scientific knowledge changes regularly⁵⁷. This type of evidence should receive special scrutiny, and the onus should be placed on the party wishing to use the novel science to establish that it is indeed reliable and sufficiently admissible⁵⁸. If science is being presented that has been derived from new principles or techniques, or is in an area that represents a new field of specialization, then the party that wishes to use this evidence is responsible for proving that the science is reliable and that the methods used hold general acceptance within the relevant scientific community.

In the more recent decision of *R. v. Trochym*, a case in 2007 that turned on hypnosis evidence, the court found that although it is not necessary that all scientific evidence be screened in order to be admissible, when the science is considered ‘novel’ its principles and methods must undergo a reliability evaluation before a consideration of admissibility; this would also include already established scientific evidence that has been challenged on its reliability or that came across in a manner that was ambiguous or unclear⁵⁹. It was also found in *R. v. Trochym* that while the *use* of expert testimony may not be considered an issue in certain cases, the reliability

⁵⁶ [2007] S. C. J. No. 6.

⁵⁷ [*J.-L.J.*] at para. 34.

⁵⁸ *Ibid* at para. 50.

⁵⁹ [*Trochym*] at para. 31.

of the actual technique and the effect it may have on the testimony should still be carefully scrutinized in order to ensure the fundamental fairness of a criminal proceeding⁶⁰. In many cases it may be indisputable that expert evidence is required to assist the trier of fact, depending on the specific issues at hand. However, in these cases, the actual reliability of the specific testimony given would still need to be scrutinized in order to ensure that the methods and procedures used to formulate conclusions were appropriate and met acceptable standards.

As stated by Justice Deschamps for the majority in *R. v. Trochym*, “like the legal community, the scientific community continues to challenge and improve upon its existing base of knowledge; as a result, the admissibility of scientific evidence is not frozen in time”⁶¹. What this suggests is that even though one form of scientific evidence has been previously used, as scientific knowledge changes and evolves, that same evidence may need to undergo a reliability evaluation again at a later date.

In sum, the *Trochym* majority judgment provided several guidelines to judges in decisions regarding novel scientific evidence. These include (Anderson, 2009, p. 77-78):

- a) Trial judges do not need to screen all scientific evidence, but all *novel* scientific evidence must be screened;
- b) Reliability of scientific evidence is an essential component of its admissibility;
- c) The onus is on the party wishing to use novel scientific evidence to establish that the underlying science is sufficiently reliable; and
- d) Established scientific evidence is to be subjected to a reliability evaluation at the admissibility gate where its reliability is challenged or not clear, notwithstanding previous acceptance in the courts.

What is clear is that there are a number of problems associated with the provision of science in court and important to this fact is a discussion of the social constructs which have affected that science along the way.

⁶⁰ Ibid at para. 27.

⁶¹ Ibid at para. 31.

Constructing Science and Scientific Fact

When examining the social construction of scientific fact, most constructionists focus on the personal inferences and biases of scientists and how these factors influence and manipulate the creation of scientific facts. Social constructionism also considers issues of interpretation, representation and negotiation and how these social processes are responsible for shaping and affecting science.

Mehta (2002) argues that “by its very nature, science is a social construct” (p. 4). What this statement suggests is that science is necessarily affected and constructed by the individuals involved in the processes and creation of science. Merlino, et al. (2008) argue that science and scientific fact will always contain social components of human agency and institutional norms and values; this suggests that science is therefore not directly representative of nature. Instead, the end result indicates science that has been shaped and influenced by human factors and decisions, resulting in science that is effectively tainted by subjectivity and bias.

Mehta (2002) bases his argument that science is a social construct on the way that data are interpreted. While he recognizes that the scientific method is supposed to consist of objective and detached observation, he notes that “virtually everyone [will] fall victim to a number of biases when it comes to interpreting data” (p. 3). He outlines a number of biases which he believes will unavoidably affect the interpretation of scientific data (Mehta, 2002, p. 3-4):

1. Interpretations of representativeness: Most people believe that a collected sample is very similar to the population from which it has been drawn;
2. Availability: People are more likely to note the frequency or probability of an event if a similar event can be easily brought to mind;
3. Anchoring: People make estimates by adjusting values of an initial variable but forget that diverse initial starting points typically yield different results; and

4. Experts often do not consider how human error can cause technical systems to fail.

These biases demonstrate human elements that threaten to play a significant role in the creation of scientific fact, which presumably could make it vulnerable to aspects of subjectivity. It would seem from the social constructionist perspective that these biases can affect the way scientific facts have been observed and interpreted, suggesting that science does not directly represent nature, but instead has been shaped and influenced by biased interpretations.

This perspective also suggests that there are societal factors at play in the creation of scientific fact. Lowy (1988) argues that scientific facts do not simply exist in nature, “waiting to be discovered by objective and interchangeable observers” (p. 135). Instead, she notes that scientific facts are the final result of certain social processes, including the way the observer has been trained, the observer’s preconceptions and anticipations, and the observer’s individual way of understanding and observing problems and phenomena (Lowy, 1988). Lowy (1988) argues that specialists will tend to adopt a certain thinking style throughout their training and specialization, resulting in their tendency to see reality in a way that accords with this specific thought style. Lowy (1988) seems to be suggesting that this tendency results in their increased ability to recognize certain phenomenon, however, it may also result in the likelihood that they may overlook or ignore certain things that do not align with their adopted way of thinking.

Potter (1996) argues that scientific fact will also be subject to social processes of negotiation and interpretation. What this suggests is that the prevailing scientific theories have been brought into existence, or constructed, through the actions and linguistic conventions of scientists (Hibberd, 2005). This argument implies that scientific theories have and will change with time, and that these theories will exist depending on the knowledge scientists are acquiring at that point in history. As Hibberd (2005) discusses, this type of perspective suggests that

knowledge of the world “is not distinct from the processes involved in representing and interpreting it” (p. 5).

An example of the processes involved in representing and interpreting facts can be found in Best’s (2001) perspective of social constructionism, which examines the ways in which knowledge and facts are constructed. Best (2001) discusses how social problems are created in the first place because someone has brought each problem to the attention of the public by giving it a name and describing its causes and characteristics. What this appears to suggest is that the ‘problem’ being examined or studied has been constructed by someone’s personal inferences and interpretations, and is therefore subject to his or her own biases. Scientific studies, presumably, would likewise be susceptible to human error simply due to the fact that it is individuals who conduct the scientific study; individuals who have their own predisposed subjective beliefs and interpretations of science and social problems.

What this perspective also appears to convey is that the problems that are being studied in the sciences have not only been created through the actions of certain individuals, but are also measured in the first place because certain individuals have decided what to measure, as well as exactly how to measure it. Best (2001) recognizes that problems arise with statements of fact that come out of these measurements because of the flawed ways in which people have produced them. There are many ways in which the scientific results can be flawed and affected by error, including inadequate definitions, flawed measurements and weak sampling; all results of human errors that have been made somewhere along the way. As both Best (2001) and Mehta (2002) discuss, sampling errors can include such things as not having a large enough sample, or not having a sample which can be said to be properly representative of the population from which it has been taken. Any of these problems, plus numerous others, would appear to be capable of

resulting in ‘facts’ not being properly representative of what they are supposed to be describing.

While Best’s views may be slightly extreme with respect to the unreliability of science, his argument does highlight the problems that may arise if those who are hearing the facts, such as the public or a jury, are not made aware that the expert’s statements are based on speculation rather than hard science. In a courtroom situation where an expert simply offers an educated guess but fails to make this clear to the court, this would appear to have the potential to mislead the judge and jury, making the evidence appear more reliable and helpful than it actually is. This type of testimony could in fact, from this perspective, harm and obstruct the proceedings more than offer any kind of assistance.

What these social constructionist perspectives all seem to suggest is that scientific fact is something that has been negotiated and constructed into existence, and its production has unavoidably been polluted by personal interests, biases and weaknesses and has been further shaped by individuals’ training, specialization and interpretations (Best, 2001; Hibberd, 2005; Lowy, 1988; Mehta, 2002; Merlino, et al., 2008; Potter, 1996). While some social constructionists may represent an extreme position regarding the complete lack of objectivity in scientific fact, this perspective is useful in highlighting the problematic aspects of science, especially in light of the infallibility which has tended to be attached to it over the years.

The Use of Expert Testimony in Court

Expert testimony has been a common element in Canadian courtrooms for a long time, and the development of the law concerning this type of evidence has resulted from the historical and ongoing scepticism which surrounds it (Sopinka, et al., 1999). Courts have been relying on expert testimony for years for insight and expertise on complex and technical issues (Anderson, 2009). Experts fill this role by offering their opinion and testimony on topics in which they are

specifically qualified, trained, and experienced.

In *R. v. Mohan*, Justice Sopinka described a qualified expert as one who “is shown to have acquired special or peculiar knowledge through study or experience in respect of the matters on which he or she undertakes to testify”⁶². In the past, the rule which excludes the use of opinion evidence in the courts was in place in order to “limit a [lay] witness to describing precisely and exactly his or her observations and no more ... the opinion of the witness was not wanted” (Sopinka, et al., 1999, p. 605). It was believed that any inferences to be drawn should be drawn by the court alone – not from lay witnesses. More recently, while courts tend to have more freedom to hear the opinion of lay witnesses⁶³, there is still an insistence that witnesses must offer only the facts and not give any inferences or opinions of their own (Sopinka, et al., 1999).

The reason that expert opinion evidence falls outside of the rule against opinion evidence is because the courts feel the need for assistance from experts on technical and scientific matters which are outside the knowledge of the trier of fact. Having an expert that can testify to these matters ensures that the trier of fact has the necessary information in order to accurately assess the relevant evidence and “make accurate findings of fact” (Anderson, 2009, p. 378).

In his submission to a UK conference organized by the Royal College of Physicians and the Royal College of Pathologists, Judge Martin Stephens (1996) describes ‘twin prerequisites’ of an expert witness, including that he or she has extensive knowledge based in a particular field, and that there is a “consensus of informed opinion” within that specific area of literature (p. 4). Within this criterion, it would therefore not be enough for the expert to merely have knowledge

⁶² [*Mohan*] at para. 5

⁶³ Lay witness opinion may be received if that witness can be said to (1) have personal knowledge of the crime or event, (2) be in a better position than the trier of fact to form an opinion, (3) have the necessary experiential capacity to make the conclusion, and (4) be unable to accurately and adequately describe the facts without that opinion (Sopinka, et al , 1999, p 609)

in his or her area of study. The expert would also have to be familiar with the current and relevant literature on the topic, and there would also have to be agreement among expert peers as to theory and practice within that area.

The presence of experts and their testimonies within the criminal justice system raise two important limitations: the first is regarding the expert him or herself, and whether in fact he or she is one (Stephens, 1996). What this requires is that the expert be a properly qualified expert in the specific area in which the opinion is sought and that the area be outside of the knowledge of the trier of fact (Sopinka, et al., 1999). The second limitation has to do with the evidence or testimony given and “to what extent [the expert] can be permitted to give an opinion based on his factual findings or the findings of others” (Stephens, 1996, p. 3). This limitation requires that the evidence can be given without having a prejudicial effect on the trier of fact.

Although an exception to the opinion rule exists, it does not mean that medical expert testimony is indiscriminately admitted. As Justice Charron noted in *R. v. A. K.*, “the line between fact and opinion must ... be kept clearly in mind” in the consideration of expert testimony⁶⁴. A medical expert may be called to give evidence as to facts in which he or she has observed, but only give opinion evidence if it met the four *Mohan* criteria.

Leadbeatter (1996) furthermore noted some important arguments that should be applied to medical expert testimony (p. 55):

1. The expert should not mislead by omissions. The expert should consider all the material facts in reaching a conclusion, and must not omit the facts which may detract from his concluded opinion;
2. If an expert is reporting on factors which tend to support a particular proposition or case, his report should still be properly researched; and
3. If the expert’s opinion is not properly researched because he considers that insufficient data are available, then he must say so and indicate that his opinion is no more than a

⁶⁴ [A. K.] at para. 72.

provisional one.

It is also important in the case of medical expert testimony that there be “careful choice of language when defining the parameters of the state of knowledge upon which the expert’s opinion is based” (Leadbeatter, 1996, p. 55). Because the opinion is likely to be predicated on a scientific basis, the expert must be careful not to use language and medical jargon which is overly technical and beyond layman understanding. The evidence should be given in as simplistic a manner as possible, without losing its meaning, in order to allow understanding by the courts. This will ensure that the testimony will be of assistance to the trier of fact, rather than hindering the process.

Another unique challenge involved in evaluating medical expert testimony is that it is often non-scientifically trained individuals who are managing and judging the testimony (Anderson, 2009). Since judges, lawyers, and juries do not generally have scientific backgrounds, it is inaccurate to assume that they are always capable of correctly evaluating it. This raises one of the most disturbing aspects of medical expert evidence. Medical experts are received in court for the sole purpose of providing evidence which is based in scientific knowledge, theory and practice. These experts are called on because none of the other court players (the judge, jury, and attorneys) are educated to the same degree in scientific fact and theory, and are therefore unable to understand important aspects of the case because they lack the scientific knowledge needed in order to understand the facts. Therefore, when a medical expert is called, it is because the triers of fact are unable to comprehend some part of the case. It necessarily follows that if an expert is giving misleading, irrelevant, or flawed medical evidence, it will likely be beyond the triers of fact and the attorneys to recognize such flawed testimony.

While it can be argued that this is what opposing medical experts are called for, the

problem still remains: how can the judge, jury, or lawyers be expected to know which expert is giving correct, factual, and reliable evidence? Unfortunately, it would seem that they cannot. What has been shown in recent cases is that by the time it is realized that flawed expert evidence has been allowed in the courts, it is often too late. At this point, it is possible that an innocent individual has already been convicted of a crime in which they played no role. Despite the fact that flawed evidence may be recognized at some point throughout the criminal proceedings, it is likely that someone has already suffered a great deal because of this evidence, quite possibly because the triers of fact were unable to recognize inaccurate or flawed evidence that was admissible in court.

While challenges such as these are the justification behind the criteria outlined in *R. v. Mohan*, it is clear that there remain instances where problematic expert evidence slips unrecognized through these criteria. In relation to the problems noted with the use of experts in the courts, the ways in which expertise, the expert, and expert testimony have been said to be socially constructed over the years will now be discussed.

Constructing Expertise and the Expert

Social constructionists suggest that social groups, much like scientific theories and knowledge, have been created by the dominant public attitudes and are considered valuable and relevant to society because someone has defined them that way (Dawson, 1981; Hibberd, 2005; Lieberman, 1995; Meckler & Baillie, 2003; Strati, 1998). It would appear to follow that the public has interpreted the findings of these groups or organizations in a similar manner, a social process by which these groups become accepted by society. This perspective would also appear to presume that medical experts, as a group of professionals, have been similarly constructed and accepted in society as a necessary tool. The value attributed to medical experts would seemingly

be argued as being due to the real-world effects that scientists have produced throughout time, phenomena such as cures for diseases, technological advancements and atomic power; respect for scientists and their research would appear to be naturally born from cultural traditions which recognize these effects (Gergen, 1999).

Since scientists are known and respected for having made actual 'claims to truth' such as these, the literature appears to argue that statements made by these individuals tend to be generalized in such a way that scientists end up forming a lot of what society conceives as true with respect to science (Gergen, 1999, p. 51). What would seemingly be important in order to understand the medical expert as a socially constructed valued element of society is to consider how the expert has come to be seen as a 'legitimate authority', which has, in the past, made the medical expert appear reliable and dependable in criminal proceedings. A legitimate authority is an individual who, through the acquisition of a positive intellectual reputation, has achieved notable career advancements and has gained certain material rewards; this type of authority figure tends to depend, at least in part, on having put forth a persuasive authority style (Grint, 2005). A 'legitimate authority' also tends to hold distinguished professional titles or positions which have placed him or her at the top of his or her field, and has likely achieved this form of authority style through competition within his or her field, conducting noteworthy research, and having been published in prestigious, peer-reviewed journals (Astley, 1985).

When these individuals come to be viewed positively by their peers, their superiors and the public, it appears from the literature on social constructionism that they would tend to be seen as an authority figure who can be trusted and relied on; likewise tending to be questioned less than someone that has achieved less success and reputation within his or her field. What Astley (1985) notes as a problem with this type of 'legitimate authority' is that the research of

these individuals tends to be evaluated using internalized judgments by peers rather than direct assessments of the research's worth; an approach which "typically dominates our opinions of research" (p. 508). If an individual holds a respectable reputation within his or her field, his or her research may be assumed to be commendable without actually having been properly assessed and critiqued. Similarly, when experts or scientists hold a positive reputation among their peers, they would tend to be respected and relied upon as a dependable resource within their field. Once this type of reputation has been achieved, these individuals would presumably tend to be challenged and criticized less and be more likely to be considered capable of providing reliable evidence and testimony.

It would appear to be consistent with the literature that a medical expert's place of employment or that expert's position within that institution would also contribute to how much weight is given to his or her credibility, perhaps even more so than that expert's actual demonstrated capability. If an expert has been practising for a long time, has distinguished credentials and holds a commendable reputation, that expert will presumptively be placed in the 'legitimate authority' category. Where this creates problems, however, is if experts are given more credibility than they are due simply because of a title or a position which may have been attributed to them without proper justification.

The concept of a legitimate authority seems to effectively demonstrate how an expert's reputation may be, at least in part, socially constructed by the titles attached to his or her name and that expert's position held within an institution. What a 'social construction' of the expert may also suggest is that the focus is shifted to the credit that the label 'expert' implies, and not on the actual competence and capabilities of each separate and individual expert (Collins & Evans, 2006).

What this suggests is that an expert's reputation may not be solely measured through his or her contribution to the knowledge on a subject or on how often that expert is correct in his or her opinions and testimonies. Rather, experts are also evaluated in part by the title of the position that they hold. Reputations, therefore, are arguably influenced by the social structure of the discipline, and are often attributed to the researcher or expert "without being directly validated on intellectual grounds" by the peers who make up the discipline (Astley, 1985, p. 509).

When an expert who is considered a legitimate authority based on labels and reputation is asked to testify in court on a specific issue, further problems arise with respect to the actual testimony.

Constructing Medical Expert Testimony

The social constructionist literature suggests that medical expert testimony has been constructed in such a way that makes it difficult for the lay person, who is not scientifically trained, to critically assess that testimony. For example, Turner (2001) argues that expertise can be seen as a type of possession, whereby those who possess the expertise are privileged with powers that the layman is not able to share, acquire or control. Power, as defined by Romem (2007), can be seen as "having something that someone else needs", and can include such things as having control over certain resources, technical skills or a body of knowledge (p. 292). Romem (2007) argues that what makes expertise a source of power is that there is the presence of a demand for a resource that is in scarcity, and the expert fills that gap with his or her knowledge. This expertise, or 'power', is thus seemingly transferred into the courts, where the medical expert's role is to:

provide the trier of fact with the necessary technical or scientific basis upon which to properly assess the evidence presented ... [and to assist] jurors in the understanding of complex technical issues ... only in cases where the subject matter in question [is] beyond the capabilities of inexperienced persons who could not form a correct judgment without such assistance (Sopinka, et al., p. 616).

This type of expert is therefore in place exclusively because the area being debated is beyond the knowledge and understanding of the judge and jury. If juries, specifically, are not able to understand the information portrayed to them except through the aid of an expert, then it would naturally follow that they have little choice but to take the expert testimony at face value. Moreover, if the jury had the knowledge required to critique medical expert testimony, then there would be no need for the testimony in the first place.

Medical expert testimony can also be confusing and overwhelming to the jury because there are often competing accounts of reality put forward by numerous medical experts. Both the prosecution and the defense may choose to call expert witnesses, and for the most part it can be expected that these witnesses will be giving evidence in support of the side that has hired them; thus their testimonies are likely to conflict with one another. Medical expert testimony in the courtroom would therefore appear to also be subject to social processes of negotiation and interpretation. If there are competing expert testimonies, then negotiations will take place between the differing expert opinions. Each of the competing testimonies will be heard, and will subsequently be interpreted by the trier of fact as to reliability of the testimony, inevitably resulting in one of the opinions prevailing over the other.

In this way, social processes such as negotiation and interpretation could arguably play a role in upholding the form of medical expert evidence that tends to dominate the courts. This process of argument and negotiation also appears to be a key characteristic of the social construction of scientific fact within the courtroom, since it is through these social processes,

through which the expert, the attorneys and the judge all play a role, that such expert testimony is deemed admissible. Not only do the competing experts testify as to their own interpretation and opinion of the evidence, but the attorneys also challenge what is accurate and reliable science by disputing the opposing expert's testimony (Merlino, et al., 2008). Finally, once all negotiations and interpretations have been made, the judge makes the ultimate decision on which science will be admissible. Through all of these social processes of negotiation, challenging and interpretation, it is decided which version of science is correct.

Expert testimony thus appears to be socially constructed in the courtroom through the processes involved in competing accounts of science. Since the court players lack the necessary knowledge to understand scientific evidence, they presumably must rely on the expert testimony given and will generally be unable to question the basis of that evidence. When more than one testimony is presented, processes take place which involve hearing, challenging, and interpreting each of the accounts. The experts, the lawyers, and the triers of fact all take part in these processes which result in one of the accounts prevailing over the others; these players likewise all take part in constructing the form of expert testimony which is ultimately considered admissible and dependable in court.

In this way, not only are scientific fact and testimony constructed in the criminal justice system, but juridical truth is subsequently constructed as well. Judges decide, at any given moment, what is acceptable scientific evidence, which opinions are reliable and which experts are offering the truth. The justice system constantly constructs and deconstructs what is considered right and wrong at any given moment and what is ultimately considered to be the "truth"; this often determines what form of expert evidence is deemed admissible. For example, if an expert is considered qualified based on face-value credentials or reputation, then the judge

has constructed what a reliable expert is based on his or her particular reputation. Alternatively, that judge, as gatekeeper, can at any time determine that that same form of evidence is now inadmissible; thus deconstructing that evidence as acceptable. Therefore, juridical truth can be argued to have been constructed by the individuals that create it, in much the same way that science has been argued to be constructed. Institutional norms and values would appear to shape and influence truth, as well as observations and interpretations of the players involved, and in the criminal justice realm that includes judges and the attorneys.

Similarly, the processes of negotiation and interpretation also affect what 'truth' prevails at any given time; in other words it is ultimately the most convincing argument or facade that succeeds as the 'truth'. However, the production of these truths, just like the production of science, would seemingly be affected and influenced by personal interests, biases, individual training and interpretations. From this perspective one can convincingly argue that juridical truth can therefore change at any given moment, suggesting that juridical truth is no more free of bias and subjectivity than any other human endeavour.

Conclusion

This chapter has outlined some of the general perspectives and tenets of the social constructionist perspective and more specific accounts of this perspective were considered with respect to how scientific fact, expertise, and expert testimony could be said to be socially constructed by individual biases, flaws and training habits, as well as through social processes of interpretation, representation and negotiation.

This theoretical perspective was chosen as a framework for this study on medical expert testimony because it assists in an understanding of how expertise has come to be valued in society, as well as how expert testimony has come to play such a prevalent and necessary role

within courtrooms. This perspective emphasizes the role that subjective biases, inferences, and weaknesses all play in the creation of scientific fact, and how societal factors, human action and social processes play a role in the social construction of expertise, the expert, and expert testimony.

Chapter IV - Methodology and Research Considerations

In order to examine the problem of medical expert evidence as it relates to miscarriages of justice and wrongful convictions, this study focused specifically on eight cases, all affected by the same medical expert evidence provided by Dr. Charles Smith, who worked as a pediatric forensic pathologist from 1981 to 2005 at the Hospital for Sick Children (SickKids) in Toronto. Although the results of this study are not generalizable to all medical expert testimony, this study seeks to expand on the knowledge pertaining to how medical expert evidence has the potential to contribute to miscarriages of justice. This chapter will first outline the research questions being explored, followed by a discussion of the case selection criteria, including a description of Dr. Smith and the eight cases of interest. It will then discuss the procedures involved in data collection and analysis, and conclude by examining any limitations of the study.

Research Questions

The literature on medical expert evidence suggests that there are inconsistencies in how guidelines governing medical expert testimony are applied; inconsistencies which have been shown to result in a number of cases of wrongful conviction. What needs to be demonstrated at this point is how, with all of the existing admissibility guidelines for medical expert evidence in place, serious errors of evidence still occur, such as those demonstrated by Dr. Smith. The objective of this study will therefore be to narrow the focus to eight of the twenty cases examined in the Inquiry into Pediatric Forensic Pathology in Ontario⁶⁵, and determine the ways in which Dr. Smith's medical expert evidence was seriously flawed in these cases. While Dr. Smith's case is only one example of flawed medical expert evidence, it is clear from information

⁶⁵ Hereinafter referred to as "the Inquiry".

on the Office of the Chief Coroner of Ontario (“OCCO”) that at the time Dr. Smith was practising, oversight was lacking in such a way that Dr. Smith’s errors frequently went unnoticed, and many of the systemic practices and procedures were problematic in and of themselves. This analysis will therefore hopefully be able to demonstrate individual and systemic failings, as well as awareness of some of the more disturbing problems associated with medical expert evidence.

The general research question of this study will explore how medical expert evidence contributes to miscarriages of justice and wrongful convictions. The first central research question is the following:

1. What was it about Dr. Smith’s evidence that was so significantly flawed in the 8 cases of interest, and what were the most disturbing aspects of Dr. Smith’s evidence?

This research question will be comprised of the following sub-questions:

- a) To what extent was the evidence given by Dr. Smith based on ‘good science’?
- b) To what extent did Dr. Smith remain objective in his methods, procedures, and testimony?

The second central research question will be:

2. Despite all of the rules and guidelines governing the admissibility of medical expert evidence, why was Dr. Smith’s evidence admitted in the first place in the 8 cases of interest?

This research question will be comprised of the following sub-question:

- a) To what extent were the admissibility guidelines as outlined in *Mohan* adhered to when Dr. Smith gave evidence in the 8 cases of interest?

Sampling Procedures

To answer the central research questions of this study, a single-case study design was conducted, with the focus unit of analysis on Dr. Charles Smith’s work as a single instance of flawed medical expert evidence (Babbie & Benaquisto, 2002). This small sample was purposefully selected in order to obtain an information-rich case for in-depth study; one which

could provide a great deal of information about the issue of medical expert evidence and have the largest impact on the expansion of knowledge (Patton, 2002). Purposive sampling was the chosen method to ensure a case which would yield insight and a thorough understanding of problematic medical expert evidence rather than empirical generalizations (Patton, 2002). This non-probability method is used in instances where the researcher has selected the sample based on a judgment of what case(s) will be most useful to the study (Bloor & Wood, 2006).

While a study of Dr. Smith's errors will not be generalizable to all medical experts, it is an extreme sample which will demonstrate the possible devastating errors that can result from flawed pathology (Bloor & Wood, 2006). Specifically, this is a case of intensity and critical sampling, whereby the cases have been selected not only because they are information-rich, but because they are notable failures by a medical expert and will help to clarify the phenomenon of interest (Yin, 2003). Such cases are critical and can make a point quite dramatically and demonstrate that if it happened in this instance, it could potentially happen anywhere. While it does not permit broad generalizations, logical generalizations can hopefully be made from the weight of the evidence in this particular case of medical expert evidence (Babbie & Benaquisto, 2002; Patton, 2002).

This study design is most appropriate because the objective is to understand the errors of Dr. Smith's evidence, which will arise from data collected on eight of his cases. While Dr. Smith's testimony is the specific unit of analysis, this case study is one that is 'layered' or 'nested', whereby the expert himself is the case study, but within this case (N=1) there are sub-studies of eight specific cases with which Dr. Smith was involved (Patton, 2002). Through this approach, the analysis will begin with these eight individual case studies and then the cross-case pattern analysis of the individual cases will be part of the data for the case study as a whole

(Patton, 2002). This type of layering recognizes that research can always build larger case units from smaller ones, and combine studies of individual cases within a larger case study (Patton, 2002).

The data sources used to answer the aforementioned research questions include the documentation as provided by the Inquiry, commissioned by the Honourable Stephen T. Goudge, including the official Inquiry Report⁶⁶ that was released on October 1, 2008, as well as written and oral submissions. The Report offers some detail with respect to the individual cases as well as regarding Dr. Smith's role and errors in each of the cases of interest. The submissions present arguments by those affected by Dr. Smith's cases, as well as Dr. Smith's own arguments from his closing submissions, which provide for a more well-rounded examination of the cases of interest. Any case law available on each of the eight cases was also used in data collection, retrieved using LexisNexis *Quicklaw*. This included anywhere from 1 - 4 judgments on each of the cases of interest, which tended to focus primarily on issues of fact, such as important dates, important individuals and events, and descriptions of the kind of evidence Dr. Smith provided.

The data used in this study differs from that of the Inquiry's as it is considerably more exhaustive and detailed on a case-by-case basis, and as stated in the Inquiry Report, due to the systemic nature of the Inquiry, "the Inquiry did not investigate any of the 20 cases exhaustively" and that the Commissioner "did not conduct a full and complete examination of any case" (Inquiry Report, Vol. II, 2008, p. 46-47). The data in this study provides that full and exhaustive examination of eight of the problematic cases by incorporating not only Inquiry materials, but any case law available on each of the cases. This study furthermore builds on this data set by incorporating the literature on flawed expert evidence and the theoretical literature on social constructionism in order to more completely examine and investigate the cases that Dr. Smith

⁶⁶ Hereinafter referred to as "the Report".

was involved in. Lastly, this same legal literature and theoretical framework allowed for a broader examination of the problems associated with medical expert evidence by allowing for an understanding of Dr. Smith's errors that also incorporated the problematic aspects of the gatekeeper function and the problems that expert reputation poses for the criminal courts and justice system. In light of the different approaches used to examine the cases of interest, including specific details taken from the case law and the related theoretical and research discussions, this study build from and adds to the Inquiry by providing a more thorough examination which incorporates different perspectives in investigating how and why Dr. Smith's evidence was so flawed and yet repeatedly admitted.

The Report was used to determine which cases were the timeliest or which had the greatest coverage with respect to either the Inquiry materials or case law. The case law was then sought for in each of the chosen cases of interest, and extensive case details were collected at this point. Stephen T. Goudge is a judge of the Court of Appeal for Ontario, and was appointed to this position in 1996. The Inquiry was established by the Government of Ontario under the Public Inquiries Act on April 25, 2007 and the Commission's mandate was to

conduct a systemic review and to assess the policies, procedures, practices, accountability and oversight mechanisms, quality control measures and institutional arrangements of pediatric forensic pathology in Ontario from 1981 to 2001 as they relate to its practice and use in investigations and criminal proceedings (Inquiry website, 2008).

The public hearings on which the Report is based commenced November 12, 2007 and were completed on February 29, 2008. Oral closing submissions were heard on March 31 and April 1, 2008, and transcripts from all public hearings and oral submissions were available on the website, as well as all written submissions and replies from the parties.

This sample of documents was selected for this research because the Report and

submissions provide an extensive account of the expert evidence of Dr. Smith, as well as specific details which were available in the related court judgments.

Case Selection Criteria – Dr. Charles Smith

Dr. Smith, as an expert witness, was selected for this study as, given the overwhelming problems in his testimony, his case is both timely and significant. He was selected primarily because of the existence of an Inquiry into his work, and because of this Inquiry there was also considerable information available on Dr. Smith's errors and his cases.

Although Dr. Smith had never had any formal training or certification in forensic pathology, he became involved in criminally suspicious pediatric cases towards the end of the 1980s (Inquiry Report, Vol. I, 2008). In 1992, Dr. Smith was appointed director of the Ontario Pediatric Forensic Pathology Unit (OPFPU), a new organization formed at SickKids at that time (Inquiry Report, Vol. I, 2008). It is important to note that at this time, the OCCO did not appoint Dr. Smith because of his forensic training or expertise; he had neither of these. He was appointed director of the OPFPU simply because he was the only pathologist who was willing and interested in taking on this role (Inquiry Report, Vol. I, 2008). He was considered the expert to use in criminally suspicious pediatric deaths, and in many of the cases his opinion "figured prominently in the outcome" (Inquiry Report, Vol. I, 2008, p. 6).

While Dr. Smith was a pediatric pathologist and not trained or certified in the field of forensic pathology, it is worth noting that between the 1980s and early 1990s, the majority of coroner autopsies in Ontario were performed by fee-for-service pathologists who were likewise not trained in forensic pathology (Inquiry Report, Vol. I, 2008). The problems noted with respect to Dr. Smith's inexperience and lack of qualification in forensic pathology can therefore not only be attributed to him, as it is clear that the Coroner's system in general had serious

deficiencies at the time that Dr. Smith was practising.

In order to understand the basis of Dr. Smith's failings, it is important to distinguish between a pathologist (which Dr. Smith was), and a forensic pathologist (which Dr. Smith was not). A pathologist is an individual who provides "diagnostically useful advice to a clinician to assist in the medical management of a patient" (Inquiry Report, Vol. I, 2008, p. 9). A pathologist does not require training in forensic pathology; a forensic pathologist does, however, require a solid background in clinical pathology (Inquiry Report, Vol. I, 2008).

The role of a forensic pathologist is to examine the body in criminally suspicious cases and determine the cause of death and the manner in which it occurred (Johnson-McGrath, 1995). The forensic pathologist's work is important to police investigation and their evidence may be used in court proceedings. A forensic pathologist needs to be trained and experienced in more areas than a clinical pathologist, such as conducting post-mortem examinations and being able to distinguish forensically significant injuries and markings, as well as being familiar with the legal process and testifying in court (Inquiry Report, Vol. I, 2008). A pathologist who is not trained in forensic pathology and is only experienced in clinical pathology, as Dr. Smith was, would therefore be inadequately prepared to perform the tasks of a forensic pathologist.

Although signs arose throughout the 1990s that raised questions about Dr. Smith's competence and professionalism, these signs were largely ignored by his colleagues and superiors (Inquiry Report Vol. I, 2008). Finally in 2005, after years of warning signs including serious concerns about the way in which Dr. Smith stored and catalogued autopsy materials, Dr. Barry McLellan, the Chief Coroner for Ontario at the time, called for a full review of Dr. Smith's work in criminally suspicious cases (Inquiry Report, Vol. I-II, 2008). The Office of the Chief Coroner announced that the Review would include 44 cases and would be conducted by four

external pathologists; another reviewer was subsequently added and a total of 45 cases were then selected, all which met three main criteria (Inquiry Report, Vol. II, 2008, p. 33):

1. They were criminally suspicious or homicide cases;
2. They dated (with one exception⁶⁷) from 1991, the year in which the OPFPU was created, to 2001, the year Dr. Smith stopped performing criminally suspicious autopsies; and
3. They were cases in which Dr. Smith had performed the autopsy or had been consulted for an opinion.

The review panel was expected to examine whether or not Dr. Smith's evidence fit into five main categories, including (Inquiry Report, Vol. II, 2008, p. 34):

1. The post-mortem examination report provided adequate descriptions of the external examination, the injuries, and any natural disease;
2. The description and/or interpretation of the injuries provided in the report reasonably matched the photographs and the histology evidence;
3. Any testimony given by Dr. Smith was reasonable and balanced;
4. Any testimony on cause of death was the same as that provided in his report; and
5. The opinion on the cause of death was independently reviewable and was reasonable based on the available information.

On April 19, 2007, Dr. McLellan announced that the reviewers agreed in all but one of the 45 selected cases that Dr. Smith had conducted the appropriate examinations, but that in 9 of the 45 cases they disagreed with significant facts found in either Dr. Smith's report or his expert testimony (Inquiry Report, Vol. II, 2008). In 20 of the 45 cases, the reviewers had significant concerns with Dr. Smith's opinion in either his report or his testimony, and in 12 of those 20, there had been findings of guilt by the courts (Inquiry Report, Vol. II, 2008). These 20 cases formed the substance of the Inquiry and they also form the basis of this thesis.

The Inquiry was called as a response to the aftermath of the Review (Inquiry Report, Vol. I, 2008). In many of the 20 cases where the reviewers took issue with Dr. Smith's opinion, the

⁶⁷ The one exception noted in (b) dated back to 1988 (Amber's case), but was selected because it had received significant public attention and was therefore considered important to the review process (Inquiry Report, Vol. II, 2008)

child's parent or caregiver was charged with or suspected of criminal offences, the child's siblings were removed from the care of the parents, and in one case there was a wrongful conviction identified which was based on evidence provided by Dr. Smith (Inquiry Report, Vol. I, 2008). A total of 8 of the 20 cases were examined in detail in this study. The 12 remaining cases of this 20 were not examined due to a lack of resources on the cases, or because the only information available at this time comes from media reports, blogs, or other unreliable sources⁶⁸.

Case Selection Criteria - Cases of Interest

In the eight cases of interest used in this study, there was significant or adequate information, either in the Inquiry documents or the court documents, which offered insight into the errors made by Dr. Smith while he was appointed director of the OPFPU at SickKids between the years of 1991 and 2001. These cases include Amber, Jenna, Nicholas, Paolo, Sharon, Tiffani, Tyrell and Valin.⁶⁹

These cases were selected on the basis that they were all based in Ontario, they all involved the death of a child and Dr. Smith had either performed the autopsy or post-mortem examination, or he was consulted for an opinion on an already existing report. All of these cases also met the criteria that there was subsequent suspicion of or charges laid against that child's parent or caregiver. The suspicion was always based on evidence provided by Dr. Smith who concluded that the deaths were non-accidental in nature and were therefore considered criminally suspicious.

⁶⁸ While the 12 unexamined cases could be argued to show different results had they been included, it was generally found that the errors in those 12 cases were similar to those in the 8 examined cases, and were neither more nor less severe, and did not have more or less devastating effects on those involved. They were not included in this study for the primary reason that there was too little available information on them, and they would not appear to add anything more or less to the study, but instead threatened only to overwhelm the more complete and comprehensive data available on the 8 examined cases.

⁶⁹ A complete list of the 20 cases from the Review can be found in Appendix "A". This list provides descriptions of the 20 cases, including detailed descriptions of the 8 cases of interest and brief descriptions of the 12 cases which were not studied due to a lack of available resources.

The differences between the cases include the fact that not all of the individuals under suspicion have been shown to have been wrongfully suspected or convicted. In the cases of Amber, Jenna and Sharon, the child's parent or caregiver was charged with manslaughter or second-degree murder, but the charges were eventually withdrawn or the individual acquitted after Dr. Smith's evidence was shown to be based on flawed pathology. In Tyrell's case, the caregiver was also charged with second-degree murder, but a stay of proceedings was requested by the Crown after considerable conflicting expert evidence was presented that differed from Dr. Smith's original opinion. In Nicholas' case, while there were no charges laid, there was suspicion against his mother; suspicion which was later shown to have been wrongly placed because of flaws in Dr. Smith's evidence. In Paolo and Tiffani's cases, while Dr. Smith's evidence was not criticized for placing suspicion on the wrong individual, it was criticized for other reasons having to do with problematic definitions and disturbing descriptions. Finally, and most importantly, in Valin's case, Valin's uncle was wrongfully charged with first-degree murder and aggravated sexual assault, and later wrongfully convicted of first-degree murder, spending twelve years in prison before it was shown that he was wrongfully convicted based on Dr. Smith's flawed expert evidence.

Although very briefly introduced in this chapter, detailed case descriptions of each of the eight cases of interest can be found in Appendix "A".

Amber's Case

Amber died at the age of sixteen months after falling down the stairs while in the care of her babysitter. In Dr. Smith's opinion, there was absolutely no way a household fall like the one described could have caused Amber's death and he instead concluded that she had been shaken

to death⁷⁰. Following Dr. Smith's opinion, the police arrested the babysitter and charged her with manslaughter⁷¹. After a trial that lasted almost two years and consisted of considerable conflicting medical opinion, the babysitter was acquitted of manslaughter⁷².

Jenna's Case

Jenna died at the age of twenty-one months after having been left in the care of a babysitter. Dr. Smith performed Jenna's autopsy and concluded that Jenna had died from blunt abdominal trauma sustained during a timeframe in which she had been in the care of her mother⁷³ (Inquiry Report, Vol. IV, 2008). Jenna's mother was charged with second-degree murder in September 1997, but the charges were withdrawn in June 1999 because Dr. Smith's opinion on the timing of injuries was proven to be incorrect.

Nicholas' Case

Nicholas died at the age of eleven months. His mother said that Nicholas had crawled underneath a sewing table, fallen over from a standing to sitting position and then lost consciousness (Inquiry Report, Vol. IV, 2008). Nicholas' death was originally considered a 'Sudden Unexplained Death', but Dr. Smith later concluded that Nicholas died of a blunt head injury, a conclusion which was later referred to as being in the "area of irresponsible testimony" as there was never any evidence to indicate a head injury as described (Affected Families Group, 2008, para. 135b).

Paolo's Case

Paola died at the age of eight-and-a-half months, originally assumed to be due to Sudden Infant Death Syndrome (Inquiry Report, Vol. IV, 2008). Almost a year later, Paolo's parents

⁷⁰ *R. v. M. (S.)* (1991), O. J. No. 1383 at para. 58.

⁷¹ *Ibid* at para. 64,

⁷² *Ibid* at para. 173-174.

⁷³ *Waudby v. McLaren* (2003), O. J. No. 5302 at para. 3.

brought a second child to the hospital with an injured femur which led to the reopening of Paolo's case. Dr. Smith performed a second autopsy and concluded that Paolo's death was non-accidental in nature⁷⁴ (Inquiry Report, Vol. IV, 2008). Dr. Smith was criticized in this case for his use of graphic and potentially prejudicial language as well as his unnecessary and speculative use of vivid and detailed examples⁷⁵.

Sharon's Case

Sharon was found dead in the basement of her home at the age of seven-and-a-half years. Dr. Smith conducted the post mortem examination despite being unqualified, and determined that her death was caused "by the loss of blood resulting from multiple stab wounds" consistent with having been caused by scissors⁷⁶. Sharon's mother was charged with second-degree murder on the basis of Dr. Smith's opinion, despite the fact that there was a pit bull terrier in the basement of the home at the time of Sharon's death, of which Dr. Smith knew. Two years following Sharon's death, the wounds were determined to have been caused by a dog attack, at which point the charges against Sharon's mother were withdrawn.

Tiffani's Case

Tiffani died at the age of three-and-a-half months. After it was discovered that multiple rib fractures had been overlooked in the initial autopsy, Tiffani's body was exhumed and Dr. Smith performed a second post-mortem examination (Closing Argument, 2008; Inquiry Report, Vol. IV, 2008). Dr. Smith concluded that the cause of death was asphyxia, but was criticized for using an inadequate definition and inappropriate use of the term (Closing Argument, 2008; Inquiry Report, Vol. IV, 2008). Tiffani's parents were charged with failing to provide the necessities of life and aggravated assault, and later a charge of manslaughter was added (Inquiry

⁷⁴ *R. v. M. T.* (2004), O. J. No. 4366 at para. 11; *R. v. Trotta* (2004), O. J. No. 2439 at para. 2

⁷⁵ [*M. T.*] at para. 96.

⁷⁶ *Reynolds v. Kingston (Police Services Board)* (2007), O. J. No. 900 at para. 1.

Report, Vol. IV, 2008). Tiffani's parents were discharged of manslaughter and aggravated assault, but plead guilty to failing to provide the necessities of life (Closing Argument, 2008; Inquiry Report, Vol. IV, 2008).

Tyrell's Case

Tyrell died at the age of four years after being brought to the hospital by his caregiver. The caregiver reported that the previous night Tyrell had been jumping on the couch at home and had fallen off and hit his head (Inquiry Report, Vol. IV, 2008). Dr. Smith performed the autopsy and concluded that Tyrell had died of a head injury, but one that was beyond what would be attributed to a household fall (Inquiry Report, Vol. IV, 2008). As a result, Tyrell's caregiver was charged with second-degree murder (Inquiry Report, Vol. IV, 2008). A stay of proceedings was requested against the caregiver after considerable conflicting expert opinion (Inquiry Report, Vol. IV, 2008).

Valin's Case

Valin was found dead in her bed at the age of four years after having been cared for by her uncle the previous evening. Dr. Smith was consulted on Valin's case and concluded that she had "died of cardio-respiratory arrest due to asphyxia" and also that he had found evidence of sexual abuse (Inquiry Report, Vol. IV, 2008, p. 961). Valin's uncle was charged with first-degree murder and aggravated sexual assault, and later convicted of first-degree murder⁷⁷ (Inquiry Report, Vol. IV, 2008). It has now been concluded that Valin died of natural causes, but Valin's uncle spent 12 years in prison before Dr. Smith's errors were identified⁷⁸.

⁷⁷ [Mullins-Johnson] at para. 4.

⁷⁸ Ibid at para. 6.

Data Collection

In order to obtain sufficient data on the eight cases of interest, Inquiry documents and court documents were collected and analyzed. These documents included the Report, transcripts, party submissions and responses, and Ontario court judgments. The four volumes of the Report were released on October 1, 2008 and the transcripts, party submissions, and party responses were retrieved on the Inquiry website. All court documents were retrieved using LexisNexis *Quicklaw* through the University of Ottawa library website.

In order to find case law relating to each of the eight cases of interest, a keyword search was conducted from keywords and names used in the Report. For example, a keyword search might include the phrase ‘expert evidence’, Dr. Charles Smith’s name, the child or parent names, or even the trial judge’s name if it had been mentioned in the Report materials. Often this proved difficult, since although the children’s names were used in the Report materials, the case law often only used the initials of the children and/or caregivers and parents. It was through this lengthy search that it became clear there would only be enough information available on eight of the twenty original cases. While there was limited or no case law material available on the cases of Nicholas, Tiffani and Tyrell, there was sufficient information available in the Report and party submissions to be able to discuss Dr. Smith’s errors in these cases⁷⁹.

Any results found through the keyword searches in *Quicklaw* on the remaining cases were filtered to the use of only Ontario court judgments. Any judgments which were of little use, mainly those from the Court of Appeal which did not discuss the actual case facts, were

⁷⁹ While it could be argued that the differences in the type of data source (i.e. case law vs. report materials) could affect the type of information retrieved on the case, it was generally found that information on the cases was relatively consistent between the case law and the Inquiry materials. The descriptions and facts available in the case law often, if not always, mirrored that which was provided in the Report, therefore it did not appear to be a concern that the information available on Nicholas, Tiffani and Tyrell was only from the Inquiry materials and not from the case law.

excluded in favour of more detailed judgments.

Data Analysis

The use of content analysis was appropriate for this study, as it provides an unobtrusive form of analysis which is useful for analyzing text rather than direct observations, and allows for large quantities of qualitative materials to be used to identify consistencies and meanings or patterns and themes within them (Patton, 2002). This content analysis involved two processes. The initial process involved developing a coding scheme which would be used in the analysis of the data. A coding scheme provides a framework by which data can be organized and described, and also builds a foundation for the interpretative phase, where meanings and patterns will be extracted from the documents (Patton, 2002).

The coding scheme was originally developed from the legal literature on problematic medical expert evidence and testimony by categorizing and labelling the primary patterns in the literature which would suggest problematic expert evidence; this involved organizing the data into topics by examining what was within the text of the literature and giving it a name or label, or, as was often the case, using terms and labels that were found directly in the legal literature (Patton, 2002).

This process was done in the initial stages of the study, prior to examining the case law or reading the Report materials. It was then determined whether there were recurring themes and patterns that could be sorted into categories. Once this 'analyzing for convergence' was done, the 'divergence' was examined whereby the coding scheme was further adjusted as necessary by building on the already existing items; this included incorporating any further patterns of problematic expert evidence, ultimately ending up with categories that had any regularities integrated and grouped together (Patton, 2002). A number of indicators were then created from

the literature which would serve as a way of measuring the presence of each category from the coding scheme. These indicators came primarily from the literature on expert evidence of Jaffe (1999) (procedural errors), Sopinka (1999) (testifying outside expertise), Davis and Follette (2003) (acting as a hired gun), Gold (2003) (unreliable methods), Oh (2004) (acting as a hired gun) and Anderson (2005; 2009) (unreliable methods). Further indicators were created by the researcher as overarching themes taken from the literature (disagreement among experts, inappropriate testimony and concern with maintaining authority). A final indicator of ‘default diagnosis’ was added to the list of indicators after having read the Inquiry materials, as it was apparent that this was an issue that often factored into Dr. Smith’s approach, and it therefore seemed an important addition to the coding scheme. All of these indicators will be discussed in detail in the later data analysis section.

The second process involved using the initial coding scheme as a guide in the process of examining the data. The focus was on either the presence or the absence of the indicators listed in the coding scheme, noted through certain words or statements used by the trial judge (in the case law material) or the Commissioner (in the Report). The text of the Report, party submissions, and relevant case law materials were then examined for recurring words or themes that would coincide with the already existing categories. For example, in examining the data on each of the cases, certain concepts were sought in the text and then recorded. This included any mention of concepts such as “flawed pathology,” “unreliable methods,” “procedural errors,” “confirmation bias,” “irrelevant testimony,” “inappropriate testimony,” “conflicting expert opinion,” and so on⁸⁰.

Any indication of the required criteria was recorded in chart form in order to keep track

⁸⁰ A full description of the problematic aspects of medical expert testimony used in this thesis can be found in the Analysis in Chapter VI

of which cases demonstrated which criterion and why. By creating a chart for each concept, a cross-case comparison of the concepts was possible to determine which errors were most dominant in the eight cases of interests, and which ones yielded the most interesting results. This review of documents as a data collection method was useful for this study because it was an unobtrusive and nonreactive method which permitted a 'rich' collection of data to ensure a better understanding of the cases of Dr. Smith as they relate to flawed medical expert evidence and miscarriages of justice (Marshall & Rossman, 1999). This method is viewed as an objective and neutral way of obtaining a description of content and is useful for describing and interpreting information (Marshall & Rossman, 1999).

Research Limitations

A potential weakness of this method has to do with the span of inferential reasoning, which entails interpretation by the researcher (Marshall & Rossman, 1999). Since the researcher is responsible for composing the list of concepts and their indicators, it is possible that subjective inferences will affect how the concepts and data are interpreted and used. In order to mitigate this concern and ensure that only correct and objective operational measures were used, the majority of the indicators were taken directly from the legal literature, with one addition taken later from the Inquiry materials. The remaining indicators were created by the researcher, however, the indicators were only given categorical labels that incorporated the information already available in the literature on flawed medical expert evidence. For example, from the literature it was clear that if there was a great deal of conflicting expert evidence, this could be indicative of flawed evidence. At this point, the researcher created the indicator of 'disagreement among experts' in order to incorporate instances where there was conflicting evidence or experts that disagreed with another expert's opinion. There should therefore be less

subjectivity in the study than if the indicators had been created only by the researcher with no aid from the legal literature already available.

Another limitation of this study, as previously mentioned, is that a study of this one instance of flawed medical expert evidence cannot be generalized to all medical experts. The errors that Dr. Smith made are clearly not those that would be reflected in the work, evidence and testimony of all medical experts. With that in mind, this case still demonstrates the possibility of such errors and highlights the most problematic aspects of having medical expert evidence present in the courts. It is important to note from these cases that major deficiencies have occurred, and assuredly could happen again. This allows for recognizing errors which have previously been overlooked and for setting a standard against which to judge flawed expert evidence.

A third limitation of this study has to do with the problems relating to the collection of data on each of the cases of interest. As mentioned, in a number of cases it was difficult to match the child names to the actual initials used in the case law, therefore making it difficult to find Ontario judgments relating to each of the eight cases of interest. For the most part this problem was overcome, and it was only in three of the eight cases where there was an inability to locate case law. However, there was sufficient information available on these cases in both the Report and the party submissions to be able to make comments on Dr. Smith's errors in each of these cases. Since the information from the Report and associated submissions was all based in sworn testimony, party statements and police reports, it was assumed to be reliable information.

Chapter V

Exploring the Flawed Medical Expert Evidence of Dr. Charles Smith

In order to answer the research questions stated in the earlier methodology section, the analysis will be divided into two chapters, with the first chapter examining the findings of the study and the second chapter exploring an analysis of those findings. The findings chapter will include a discussion of the specific problems identified in each of the eight cases of interest. The errors will be examined by considering whether they can be attributed to either a lack of good science, presumably having occurred in the early stages of Dr. Smith's methods and procedures, or can be attributed to a lack of objectivity, wherein the errors likely occurred during Dr. Smith's interactions with police and the Crown or during his testimony given in court.

Findings: Examining the Problematic Aspects of Dr. Smith's Evidence

The eight cases of interest, including Amber, Jenna, Nicholas, Paolo, Sharon, Tiffani, Tyrell and Valin, were explored to establish the extent to which Dr. Smith's testimony was prejudicial, misleading or negligent, or contributed to a miscarriage of justice or wrongful conviction through inaccurate or flawed evidence. Whether or not Dr. Smith's evidence was flawed depends to a large extent on whether or not his evidence was based in good science, rested on reliable methods and procedures and stayed within the limits of his expertise. This can also be examined based on the extent to which he demonstrated objectivity in his procedures, opinion and testimony. The following section will outline the findings that emerged from these cases.

Examining Dr. Smith's Errors in Amber's Case

After exploring all of the materials available on Amber's case, there were ten notable examples of error made by Dr. Smith identified in either the case law materials or the Goudge Inquiry documents. In Amber's case there was considerable variation of errors, with problems ranging from Dr. Smith's initial approach to the case, to procedural errors made along the way, to the way in which he testified in court.

Amber's death at the age of sixteen months led to the subsequent suspicion of her babysitter, whose care she was in at the time her fatal injuries occurred. At the time of Amber's death in July 1988, Dr. Smith had no formal training and very little experience conducting autopsies in criminally suspicious cases (Inquiry Report, Vol. II, 2008). Regardless of his inexperience, he conducted the autopsy without ever requesting assistance from someone more qualified. Dr. Smith failed to make contact with any of the relevant physicians or surgeons that would have been familiar with Amber's case prior to conducting his examination, an act which would have not only been relevant, but likely necessary in order to conduct a thorough examination and investigation. It may have also improved the quality of his examination and prevented him from making errors later in Amber's case. In light of this omission, Dr. Smith was criticized by the trial judge for not thoroughly investigating all relevant facts and not keeping adequate records of his work and findings (Inquiry Report, Vol. II, 2008).

Moreover, Dr. Smith was criticized for not being able to articulate the processes by which he drew inferences on the cause and timing of Amber's death⁸¹. He was consequently unable to be examined as to his evidence and the methods by which he obtained that evidence, making it impossible to demonstrate whether or not his conclusions were based in sound, reliable methods.

Dr. Smith was further criticized for discounting relevant bruising because it did not

⁸¹ [M. (S.)] at para. 111.

support the opinion he had already formed about Amber's case; his opinion that the bruises were irrelevant was in spite of the fact that other experts had previously noted them as being significant (Affected Families Group, 2008). Prior to even conducting the autopsy, Dr. Smith stated that it was going to be a 'fishing expedition' and that all of the experts were already pessimistic about the outcome (Affected Families Group, 2008). It appears from these two examples that Dr. Smith began Amber's case with suspicions that favoured the babysitter as being responsible for Amber's death. Additionally, Dr. Smith stated that efforts would have to be made to "look for evidence which might prove the babysitter to be innocent" (Affected Families Group, 2008, para. 111). What this suggests is that Dr. Smith assumed from the beginning that the babysitter was guilty and that there was no need to prove this guilt; rather there would have to be an effort made to prove her *innocence*. Dr. Smith was using a 'default diagnosis' that assumed child abuse from the beginning accompanied by a high level of suspicion without having any evidence to support such an assumption.

Later in Amber's case, Dr. Smith made claims during his testimony that he had more than enough evidence to suggest that Amber's fall was not an ordinary household fall but that her death was non-accidental in nature, thus making it criminally suspicious. However, he failed to ever divulge this evidence or demonstrate how he came to this conclusion⁸². This, in light of the evidence, appears to be due to his failure to maintain adequate records, and because his findings were not specific enough to justify the fact that he did not allow for any alternative conclusions, such as the fall described by Amber's babysitter. Dr. Smith's evidence was clearly not adequately supported by his findings, and the dogmatism used in his conclusions was therefore unsubstantiated.

Despite lacking familiarity and knowledge of the current and relevant literature, Dr.

⁸² [M. (S.)] at para. 63.

Smith insisted on speaking on the topic of lethal falls, stating that a child could not die from a fall down five steps, that “you have to drop [children] from more than three storeys in order to kill more than half of them” (Inquiry Report, Vol. II, 2008, p. 12). Not only was his opinion regarding how far one would have to drop a child inappropriate, Dr. Smith was simply unqualified to make such a statement.

In light of Dr. Smith’s evidence, there were considerable disputes between Crown and defence witnesses on the medical theory regarding lethal falls. Experts that disagreed with Dr. Smith on the topic of lethal falls included leading forensic pathologists, neuropathologists and biomechanics experts. The standing of the experts in disagreement with Dr. Smith should have resulted in the consideration that Amber’s fall could have been responsible for her death. In his complete refusal to consider contradictory evidence however, Dr. Smith demonstrated a key example of his blatant and ongoing intransigence in his own opinions.

Further to testifying on a topic that was beyond his expertise, Dr. Smith also demonstrated many examples of inappropriate testimony. He used an inappropriate anecdote when discussing how far one would have to drop children in order to kill them, and he also used the concept ‘bolt out of the blue’ to indicate that although Amber may not have been provocative by nature and Shelly may not have acted harshly towards Amber in the past, there was still a chance that it could happen without warning⁸³ (Inquiry Report, Vol. II, 2008). This anecdote was Dr. Smith’s supporting evidence for the opinion that Shelly might have been driven to shake Amber to death, despite this behaviour being completely out of character for both Shelly and Amber. In further support of his theory, Dr. Smith also referred to the term ‘poison hours’ to refer to the late afternoon hours where an individual could be suffering from hunger and fatigue,

⁸³ Ibid at para. 119(1), 158.

and therefore would be likely to act out of character⁸⁴. Dr. Smith's last attempt to demonstrate how Amber may have provoked Shelly was to use his own personal life as an example to explain how his son wakes up like a "bear", and that Amber may have woken up in a similar manner⁸⁵. These anecdotes were not based in science and therefore should not have been used in court⁸⁶.

Examining Dr. Smith's Errors in Jenna's Case

Jenna had been in the care of her babysitter the evening of her death on January 22, 1997, however there was an ongoing debate among experts as to whether Jenna's fatal injuries had occurred during the time she was with the babysitter, or earlier when she had been in the care of her mother. The case law material and Inquiry documents made mention of a total of eight serious errors made by Dr. Smith in Jenna's case, including problems with his methods, procedures, conflicting evidence and testimony; many of these problems concerned the timing of Jenna's fatal injuries. Much like in Amber's case, Dr. Smith was criticized for being unable to articulate the processes which supported his opinion on the cause and timing of death. Again, this was due to his ongoing failure to formally and properly record, document and report his procedures, methods and conclusions (Inquiry Report, Vol. II, 2008).

Because Dr. Smith failed to formally and properly document his opinions on the timing of Jenna's death, his evidence was especially confusing as he provided several different opinions about this (Inquiry Report, Vol. II, 2008). A procedural error such as this is especially problematic in a case like Jenna's since the timing of Jenna's injuries would have placed her in the care of two possible caregivers at the time of her death; either her mother or her babysitter.

⁸⁴ Ibid at para 119(2)

⁸⁵ Ibid at para 158

⁸⁶ Amber's was the one case out of the eight cases of interest that involved a specific mention of inadequate supervision of Dr. Smith, when Dr. Cairns, Deputy Chief Coroner of Ontario until 2008 admitted that he did not have the expertise to assess the soundness of Justice Dunn's criticisms of Dr. Smith (Affected Families Group, 2008, para 51a). This statement by Dr. Cairns suggests that Dr. Smith was not properly supervised at the time that he was performing Amber's post-mortem examination. It seems likely from the information available on the way the OCCO was managed that Dr. Smith was rarely, if ever, under proper supervision while on staff at the OPFPU at SickKids.

Because of Dr. Smith's inconsistency on timing, Jenna's mother was initially suspected and charged with second-degree murder. Once Dr. Smith's mistake was finally realized, the charges were withdrawn against Jenna's mother and it became clear that Jenna had been in the care of her babysitter at the time of her fatal injuries. This, however, was not realized until two years following the charge of Jenna's mother.

Much of this drastic error was due to the fact that Dr. Smith lacked the training and experience needed to take on the difficult task of dealing with multiple abdominal injuries and the timing of those injuries, consequently resulting in his opinion repeatedly changing (Inquiry Report, Vol. II, 2008). Because he was unqualified he was unable to properly pinpoint the timing of the fatal injuries, resulting in the wrong individual being suspected of Jenna's death. In a case such as this, Dr. Smith should have recognized his limits rather than offering an opinion and misleading evidence.

In fact, considerable disagreement among experts on the timing of Jenna's injuries signalled Dr. Smith's inexperience. Dr. Sigmund Ein, a staff surgeon at the Division of General Surgery at SickKids, concluded that Jenna had suffered her fatal injuries on the evening of her death, which would have implicated the babysitter (Inquiry Report, Vol. II, 2008). This opinion was in disagreement with Dr. Smith's original opinion that the injuries occurred while Jenna was in the care of her mother. Dr. Smith eventually made verbal statements which suggested his agreement with Dr. Ein, but when he was asked to confirm his agreement in writing, he refused to respond (Inquiry Report, Vol. II, 2008).

Further problems include the fact that Dr. Smith did not conduct a complete sexual assault examination and he failed to take any swabs during his examination. Although he collected a hair from Jenna's body, he failed to submit it for forensic analysis (Affected Families

Group, 2008; Inquiry Report, Vol. II, 2008). Dr. Smith further denied knowledge of the hair when directed to the emergency room record which noted the presence of a hair on the body, blatantly withholding pertinent evidence that may have been extremely important to the investigation and lying to cover up his error (Inquiry Report, Vol. II, 2008).

Dr. Smith claimed, when asked why he did not perform a sexual assault examination, that he and the sexual assault expert had agreed that there was no evidence of sexual abuse (Inquiry Report, Vol. II, 2008). He also claimed that the officer present at the autopsy did not believe that the hair found on Jenna's body was relevant or necessary to seize; neither the sexual assault expert nor the officer present at the autopsy ever corroborated these claims (Inquiry Report, Vol. II, 2008). Dr. Smith made misleading statements in order to make himself seem competent, and he appeared to be more concerned with covering up his errors than offering reliable and cooperative assistance to the investigation.

Moreover, Dr. Smith's autopsy notes indicate that he received information prior to conducting the autopsy on negative, psycho-social factors about Jenna's family. This information included that Jenna's parents used cocaine, that the mother had gone out for coffee the night of Jenna's death but not returned for six hours, and that Jenna's mother might be a sex-trade worker (Affected Families Group, 2008). As a result, Dr. Smith appeared to approach this case using a common set of shared assumptions regarding Jenna's mother, suggesting that he may have come to his conclusions by relying too heavily on sociological information and not enough on actual post-mortem findings.

Examining Dr. Smith's Errors in Nicholas' Case

Nicholas died in November 1995 at the age of eleven months. At the time of his fatal injuries, he had been in the care of his mother, who was later placed under suspicion due to

evidence given by Dr. Smith. In this case, there were four notable errors made by Dr. Smith and they were largely due to Dr. Smith's tendency to subjectively approach cases with the assumption that his role was to exclusively support the case being built by the Crown.

During the investigation stage, reference to Dr. Smith's reputation actually appears to have been used as an investigative tool by the police during the interrogation of Nicholas' mother. She was told that the head pathologist of Ontario (Dr. Smith) was not the type of man who would make "idle speculation" and that he had "empowered the knowledge" to the police that Nicholas' death was not natural (Affected Families Group, 2008, para. 124). These types of statements strongly suggest that Dr. Smith may have been working for the police investigation, rather than conducting an objective autopsy aimed at finding the truth behind Nicholas' death.

Dr. Smith also refused to acknowledge contradictory facts which arose that may have pushed the death investigation toward the correct answer, thus demonstrating a confirmation bias which clouded his ability to adequately consider conflicting evidence. Dr. Smith overstated his opinion on the cause of Nicholas' death by indicating that he was 99% sure that Nicholas' death was non-accidental despite contradictory information, and he later admitted that he had done so because he considered himself to be responsible for supporting the Crown's position (Affected Families Group, 2008).

Dr. Smith's belief that his role was to support the Crown's case may explain why he testified with such certainty on the cause of Nicholas' death. When reporting back to the Inspector after having met with Nicholas' mother, Dr. Smith stated that her demeanour was like talking to someone about a "load of gravel" rather than about her child's death (Affected Families Group, 2008, para. 125d). It is clear that Dr. Smith had an opinion about Nicholas' case from the very beginning, and one which supported the ongoing Crown investigation; this appears

to have affected his opinion in such a way that resulted in him testifying in a manner that was far from objective and impartial.

Dr. Smith also came to his initial conclusions that Nicholas' death was a result of non-accidental injury only "in the absence of an alternate explanation" (Affected Families Group, 2008, para. 111). This suggests that Dr. Smith assumed that Nicholas' death was suspicious only because there was no alternate explanation which he saw as feasible. However, as noted by forensic pathologist Dr. Pollanen, this type of reasoning has zero basis in science, and it should not be assumed that something is suspicious simply because there is no evidence to the contrary (Affected Families Group, 2008).

Dr. Smith's evidence to justify that the cause of death was non-accidental was that it was caused by a blunt head injury (Affected Families Group, 2008). Dr. Mary Case was asked to offer a second opinion and she disagreed with Dr. Smith on the presence of a head injury, stating that his evidence was in the area of "irresponsible testimony" (Affected Families Group, 2008, para. 135b). The original diagnosis was that Nicholas' death was a 'Sudden Unexplained Death'; this would suggest that there was no known history to explain the death, and nothing in the forensic investigation could explain how it occurred (Inquiry Report, Vol. II, 2008). Dr. Smith, however, clearly neglected to acknowledge any facts which may have supported this original conclusion, instead insisting that there was evidence of a head injury.

Furthermore, throughout the investigation, Dr. Smith insinuated that other experts had agreed with his opinion that Nicholas' death was attributable to blunt head trauma. These statements were later referred to by those involved as being completely exaggerated; apparently the experts that Dr. Smith claimed had agreed with him had either never agreed with him, or at least had not been in agreement to the degree that he claimed (Affected Families Group, 2008).

Examining Dr. Smith's Errors in Paolo's Case

Paolo died in May 1993 at the age of eight-and-a-half months. His death was originally considered to have been due to Sudden Infant Death Syndrome, but his parents were later placed under suspicion after they brought another injured child to the hospital a year later. In Paolo's case, there were three major errors made by Dr. Smith that were significant and noteworthy. While Paolo's case does not pose major concerns with respect to who may have caused his death, Dr. Smith's testimony in this instance illustrates his persistent subjectivity and the inappropriateness of his testimony.

It appears as though Dr. Smith may have relied too heavily on extraneous sociological factors regarding Paolo's family, of which he had knowledge prior to performing the examination⁸⁷. Dr. Smith came to the conclusion that Paolo's death was non-accidental in nature after having been informed of other injuries that Paolo had suffered during his lifetime. While this information may have been relevant to a thorough investigation, it appears to have been this information, and not actual autopsy findings, which lead Dr. Smith to reject the original diagnosis of Sudden Infant Death Syndrome and instead focus on the case as criminally suspicious.

Dr. Smith came to his conclusions only 'in the absence of alternate credible explanations', demonstrating a 'default diagnosis' and a 'think dirty' approach which assumed that an unexpected child death should be approached with a high level of suspicion, and included an assumption of child abuse simply because of no other apparent explanation⁸⁸. Regardless of whether there was in fact child abuse involved, to assume the death was caused by that simply because there was no proof otherwise is an unscientific way of determining the cause of death.

⁸⁷ [M. T.] at para. 9.

⁸⁸ Ibid at para. 11; R. v. Trotta (2004), O. J. No. 2439 at para. 2.

The greatest difficulty in Paolo's case had to do with Dr. Smith's ongoing use of graphic, inappropriate and unnecessary language and examples in his evidence and testimony. His descriptions of the possible ways in which Paolo may have died by strangulation was criticized by the trial judge as being vivid and detailed, as well as unnecessary and speculative⁸⁹.

Examining Dr. Smith's Errors in Sharon's Case

Sharon died in June 1997 at the age of seven-and-a-half years after being found in the basement of her home with wounds that initially placed her mother under suspicion, but were later found to be due to canine bites. There was a great deal of information available on Sharon's case, which provided insight into the 9 most disconcerting aspects of Dr. Smith's errors. These were primarily related to his lack of experience and subsequent flawed procedures, and again there was a significant amount of disagreement by other experts regarding Dr. Smith's evidence.

Initially, Dr. Smith failed to take the standard and appropriate samples when he did not shave the scalp and send it away for appropriate testing and also when he lost a cast of Sharon's skull (Affected Families Group, 2008). Dr. Smith also failed to ensure that appropriate photographs were taken, and sent the body for burial before other more qualified experts had the time to examine it (Affected Families Group, 2008). The standard medical practices required of him were clearly not followed, and the way in which he handled Sharon's examination appears unprofessional.

Another problematic aspect of Dr. Smith's procedures was that he had discussions with the police prior to conducting the examination and gave an oral opinion to the police prior to submitting his report, despite the fact that the coroner's investigation is supposed to be separate from the police investigation. It was argued in this case that since Dr. Smith failed to keep his work separate from the ongoing police investigation, he forfeited the necessary objectivity that is

⁸⁹ [M. T.] at para. 96.

expected of him in his work on post-mortem examinations⁹⁰. Dr. Smith relied on this initial verbal contact with the police as part of the continuum suggesting that the autopsy evidence was being gathered in furtherance of the criminal proceedings⁹¹. This suggests that Dr. Smith was acting to assist the police in their investigation of Sharon's mother, rather than objectively conducting the autopsy. Dr. Smith himself even admitted that he was under the impression that he was supposed to assist and support the Crown's case (Affected Families Group, 2008).

In fact, Dr. Smith's role was to aid the investigation, not gather evidence for an anticipated criminal proceeding. However, there is evidence that Dr. Smith and the OCCO were consulted in order to support the Crown's case. A memo from the co-Crown to the Crown Law Officer suggested that Dr. Wood (of the OCCO) was consulted in order to "nip [the defence's dog attack] theory in the bud" (Affected Families Group, 2008, para. 269). It is clear from the statements in this memo, as well as from Dr. Smith's own admissions, that the OCCO was asked to provide an opinion that already aligned with the case the prosecution was building; not to provide an opinion that was actually based on objective autopsy findings.

The primary issue in this case appears to be that Dr. Smith failed to request that a qualified forensic pathologist perform, or at least assist, the autopsy even though he was not qualified by training or experience to give an opinion on stab wounds or dog bites (Affected Families Group, 2008; Inquiry Report, Vol. II, 2008). Despite being completely inexperienced in the area of animal wounds, Dr. Smith repeatedly insisted that Sharon's death had not been caused by an animal attack, but instead had been caused by more than 80 stabbing wounds likely caused by a sharp object like scissors or a knife⁹².

Because of his inexperience, he misinterpreted the wound edges, patterns and tracks, and

⁹⁰ [Reynolds] at para. 1.

⁹¹ Ibid at para. 6.

⁹² Ibid at para. 2.

failed to consider the distribution of the wounds and how they weighed heavily in favour of a dog attack (Inquiry Report, Vol. II, 2008). Despite the fact that Dr. Smith was made aware that a pit bull terrier was in the basement at the time of Sharon's death, he continued to assert that the cause of death was multiple stab wounds and vehemently reject the possibility of a dog attack. His inexperience and the fact that he testified far beyond his area of expertise in this case had serious implications for those involved – specifically the mother, who was wrongly suspected of murdering her child.

Dr. Christopher Milroy, a forensically trained and certified pathologist with experience in the area of stab wounds and dog bites, strongly disagreed with Dr. Smith's opinion and testified that Dr. Smith made a number of very serious errors in his conclusions⁹³ (Inquiry Report, Vol. II, 2008). There was ongoing disagreement from other experts on Dr. Smith's opinion, and his failure to retract his views and completely disregard that expert opinion appears to have been a result of his desire to avoid the professional embarrassment which would be associated with reversing his prior opinion (Inquiry Report, Vol. II, 2008). He appeared to demonstrate self-aggrandizement in this case, wherein he clearly wanted to appear secure and confident in his conclusions in order to increase his influence and stature within his professional community. This concern appears to have been placed above the need for objective and reliable expert opinion.

An error which also occurred in this case, as well as a number of times throughout Dr. Smith's history, is that his written report of autopsy, which is supposed to be provided forthwith, was not prepared until eight months after he conducted the autopsy (Affected Families Group, 2008). In fact, a summons was needed to force Dr. Smith to produce the report, demonstrating

⁹³ Dr. Milroy was on the Chief Coroner's Review Panel and testified at the Inquiry into Pediatric Forensic Pathology in Ontario.

serious issues of irresponsibility and negligence. The report, once prepared, did not properly document his findings, and Dr. Smith had failed to report on the conversations that he and the OCCO had with the police during the investigation regarding the presence of a dog in the home at the time that Sharon died (Affected Families Group, 2008). This omission further demonstrates his failure to conduct standard procedures and properly document and record his findings, as well as his inability to ensure that there are no discrepancies between his written report and his oral evidence.

Examining Dr. Smith's Errors in Tiffani's Case

Tiffani died in July 1993 at the age of three-and-a-half months. Her cause of death was initially concluded to be undetermined, but suspicion was later placed on her parents following evidence given by Dr. Smith. There was limited material available on Tiffani's case, however there were two errors noted with respect to the subjective way in which Dr. Smith approached the case and his inappropriate use of certain medical terms and definitions.

Dr. Smith was criticized for describing asphyxia as a cause of death, as the panel of Inquiry reviewers believed that it should only be used to describe a *mode* by which death can occur (Closing Argument, 2008). In general, asphyxia appears to have a very vague and ambiguous meaning and should therefore not have been used definitively or with conviction (Closing Argument, 2008). Dr. Smith was further criticized for coming to the diagnosis of asphyxia in the absence of any pathology findings on post-mortem examination, as well as for using obsolete, non-specific signs of asphyxia (Closing Argument, 2008). Dr. Smith did not use definitions that were considered standard or had general acceptance within the relevant scientific community, but used unreliable terms and classifications in his determination of the cause of death.

Also in Dr. Smith's conclusions on the cause of death, he noted healing rib fractures, which, "in the absence of a reasonable explanation" should be considered non-accidental in nature (Affected Families Group, 2008, para. 111). Dr. Smith was criticized, as in many of the other cases, for using the statement 'in the absence of a reasonable explanation'. It has been argued that this is an indolent way of drawing conclusions, and that Dr. Smith should not have assumed the worst simply because there was no evidence to the contrary; "[this] form of reasoning has no basis in science" (Affected Families Group, 2008, para. 113).

Examining Dr. Smith's Errors in Tyrell's Case

Tyrell died in January 1998 at the age of four years after having been in the care of his caregiver, who claimed that Tyrell had fallen off the couch and hit his head. Dr. Smith's evidence insisted that the injuries sustained could not have been attributable to such a household fall, and the caregiver was subsequently placed under suspicion. The materials available on Tyrell's case revealed six problematic aspects of Dr. Smith's evidence. One of the more disturbing was the fact that Dr. Smith testified with respect to a profile of the type of individual who might commit "an asphyxia-type homicide of a child" (Closing Argument, 2008, para. 1022). This 'profile' was not based on any scientific literature, theory, or research, nor was this profile accepted within the relevant scientific community. In testifying to this type of profile, he was testifying completely beyond his ability and outside of his expertise.

While Dr. Smith's report fails to contain any information about how the cause of death was determined, it does contain highly prejudicial information about Tyrell's family history which appears to have affected Dr. Smith's thinking about the case (Affected Families Group, 2008). Furthermore, and similar to Amber's case, Dr. Smith testified outside his expertise with respect to whether or not short, household falls could kill a child. He was criticized by other

experts for giving this opinion on lethal falls, as they believed that although the type of fall as described may have been unlikely to cause death, it still should have been considered and not immediately discounted (Closing Argument, 2008). Dr. Smith, however, failed to consider all possible causes of death, subsequently approaching the case with a default diagnosis and discounting prematurely the possibility that the household fall could have been responsible for Tyrell's injuries. Additionally, during his testimony on lethal falls, Dr. Smith used inappropriate and graphic statements. He described in vivid and unnecessary detail how injuries such as Tyrell's would be expected if the child had been struck by ten blows in succession, but that these injuries could not be attributed to a household fall (Closing Argument, 2008). These statements were unnecessary and upsetting to those in court, and as noted in Paolo's case, were not only avoidable, but were in fact irrelevant to his opinion.

There were considerable conflicting reports from several experts regarding Tyrell's injuries and what they could be attributed to – so much so that a stay of proceedings was requested by the Crown (Inquiry Report, Vol. IV, 2008). Much like in Amber's case, Dr. Smith's narrow-minded and unwavering insistence that his opinion was correct and his refusal to acknowledge contradictory opinions demonstrate poor science and work ethic and an inability to admit when he may be mistaken.

Examining Dr. Smith's Errors in Valin's Case

Valin died in June 1993 at the age of four years after having been in the care of her uncle, William Mullins-Johnson, who was later placed under suspicion as a result of Dr. Smith's evidence. Valin's case demonstrated seven errors with respect to Dr. Smith's evidence; however, the outcome of this case had by far the most devastating effects for those involved. The fact that William Mullins-Johnson spent approximately twelve years in prison, despite

having nothing to do with Valin's death, can now be attributed to errors made by Dr. Smith – errors ranging from his inexperience, to procedural errors made throughout his examination, to his complete disregard for conflicting medical evidence.

To begin with, Dr. Smith had never before been involved in a post-mortem examination involving an allegedly sexually abused child, but he still conducted the examination without requesting assistance (Inquiry Report, Vol. II, 2008). In light of his inexperience, Dr. Smith misunderstood the normal post-mortem changes to have been bruising indicative of manual strangulation during the commission of a sexual assault (Inquiry Report, Vol. II, 2008). Had Dr. Smith actually been qualified to conduct post-mortem examinations, he would have been able to recognize the difference. Instead, he gave incorrect and misleading evidence which resulted in the wrongful conviction of William Mullins-Johnson.

The issues that led to this devastating outcome began in the initial stages of this case, when Dr. Smith misplaced microscopic slides and tissue blocks, and instead of looking for them when asked to return them, he lied and said he did not have them and that he had personally returned them months ago (Inquiry Report, Vol. II, 2008). The process of Dr. Smith failing to respond to requests for the autopsy materials lasted for a year and a half, at which point the slides were eventually found by an administrative assistant in Dr. Smith's office (Inquiry Report, Vol. II, 2008).

Dr. Smith's procedures were further questioned when it was determined years later that there was never any direct or forensic evidence linking Mullins-Johnson to Valin, there was no reliable evidence that Valin had recently, or ever, been sexually assaulted, there was no reliable evidence that Mullins-Johnson had previously abused Valin sexually or otherwise, and there was

never any evidence of motive for him to do so⁹⁴. Dr. Smith's opinion that he saw recent signs of sexual assault was based solely on photographs taken of the victim by another individual (Inquiry Report, Vol. II, 2008). Dr. Smith was inexperienced at the time that he offered an opinion, and despite the obvious need for it, he failed to request assistance from a properly qualified expert.

Dr. Smith's original conclusions on the cause of death were that "in the absence of a reasonable explanation by history [Valin's injuries] indicate non-accidental trauma including sexual abuse" (Affected Families Group, 2008, para. 111). As mentioned, Dr. Smith was not qualified to be offering an opinion in this case. Despite this fact, he had a 'default diagnosis' in place that the death was suspicious, and this 'think dirty' approach caused him to use too high a level of suspicion, resulting in him finding injuries and evidence of abuse that were never there.

Dr. Smith was hired by the prosecution and his opinions appeared to support the prosecution's version of the events. He was unwilling to consider any conflicting evidence from other medical experts that did not agree with the case already built by the prosecution. There was ongoing disagreement among experts as to whether or not there was ever any sexual assault and the recentness of the assault if it had occurred. Dr. Smith gave an opinion that there was recent sexual assault and that Valin's death had occurred during that assault (Inquiry Report, Vol. II, 2008). This resulted in Valin's uncle, whose care she was in at the time, being charged with first-degree murder and aggravated sexual assault. There is now, however, expert evidence which shows that there was never any evidence of sexual assault, either during the time of Valin's death or ever in her life, and that her death was actually due to natural causes⁹⁵. This case demonstrates complex and conflicting expert evidence with respect to cause of death as well

⁹⁴ [Mullins-Johnson] at para. 6.

⁹⁵ Ibid at para. 6.

as timing of death, and illustrates yet another example of Dr. Smith being the misguided expert, in part because of his inexperience and because he continuously insisted on testifying outside of his area of expertise.

Conclusion

This chapter has outlined the findings of this study by discussing the specific errors made by Dr. Smith in each of the eight cases of interest. These cases demonstrate instances of Dr. Smith being unqualified to perform examinations and offer opinions, failing to use reliable methods and conduct the appropriate procedures, and his overarching tendency to approach cases subjectively and with predisposed beliefs already in place about the outcome. These cases also demonstrate that there was consistent disagreement from other experts with Dr. Smith's opinion and evidence, and his ongoing inability to acknowledge or consider this conflicting evidence.

The following chapter will analyze these errors by responding to the research questions posed earlier in the study.

Chapter VI

An Analysis of Flawed Medical Expert Evidence

This chapter will be divided into two sections in order to analyze the flaws made by Dr. Smith in the cases of interest. The first section will respond to the first research questions by exploring what it was about Dr. Smith's evidence that was so significantly flawed in the eight cases of interest, and what the most disturbing aspects of his evidence were. This will be explored by relating the findings to the literature with respect to what the literature on problematic medical expert evidence has defined as flawed medical expert evidence and testimony, specifically that which would demonstrate poor science practices and a lack of objectivity. Problematic aspects of Dr. Smith's evidence will be examined by determining what the most prevalent flaws were attributed to, and what appears to have been at the root of Dr. Smith's failings.

The second section will respond to the second research questions by examining why, despite all of the rules and guidelines governing the admissibility of medical expert evidence, Dr. Smith's evidence was admitted in the eight cases of interest. This question will be answered by examining whether or not Dr. Smith's evidence adhered to the admissibility standards which govern expert evidence in court, including a discussion of whether or not the evidence given in each of the cases of interest was in fact relevant, necessary, was not subject to any exclusionary rules, and that Dr. Smith was properly qualified to testify as an expert.

Part I - Exploring the Most Frequent and Disturbing Aspects of Dr. Smith's Evidence

After analyzing and organizing each of Dr. Smith's errors in the eight cases of interest into categories, it was clear that there was a broad spectrum of problematic issues with respect to the evidence and testimony provided by Dr. Smith.

The first section of this analysis will respond to the first research question which asked generally what it was about Dr. Smith's evidence that was so significantly flawed in the eight cases of interest, and what the most disturbing aspects of Dr. Smith's evidence were. The first sub-question asked to what extent the evidence given by Dr. Smith was based in good science. The data clearly indicated that Dr. Smith made many errors in his methods, procedures and presentation of the evidence; it is clear that this evidence was not based in good science. In fact, of all the indicators gathered from the legal literature on flawed medical expert evidence which would suggest a lack of good science, Dr. Smith demonstrated many, if not all, of them⁹⁶.

Exploring the Practice of Good Science

Exploring the Concept of Unreliable Methods

In order to demonstrate good science, an expert would have to have used reliable methods, which would include being able to be examined as to his evidence and the methods used and also to have strictly adhered to standard medical procedures which hold acceptance in the scientific community (Anderson, 2005, 2009; Gold, 2003). Adhering to standard medical

⁹⁶ Given the nature and extent of the errors made by Dr. Smith, there will be some overlap between categories as it was sometimes difficult to keep the categories exclusive of one another and separate each indicator into one specific category. For example, an indicator of testifying outside of one's expertise may also be an indicator of unreliable methods. Therefore there may be instances of some errors being indicative of more than one error.

practices would also include having used accepted definitions that have been applied previously to the same type of condition, profile or diagnosis, and which have been published in peer reviewed journals (Anderson, 2009; Gold, 2003).

In four of the eight cases of interest there were distinct examples of unreliable methods on the part of Dr. Smith⁹⁷. These cases include Amber, Jenna, Tiffani and Tyrell, and in each of the cases Dr. Smith's methods were considered unreliable because of his use of inadequate definitions or theories that were not accepted by the scientific community, or because he failed to clearly articulate the methods and procedures by which he came to his conclusions.

In Amber and Jenna's cases, Dr. Smith was unable to articulate the methods used and the way in which he drew his inferences from the evidence. This was due in large part because he failed to properly document and record his procedures and methods, making it impossible for anyone to be able to replicate his findings and conclusions. As noted by Anderson (2005, 2009), being able to be examined as to one's methods and procedures is a necessary requirement of good science practices.

In Tiffani and Tyrell's cases, Dr. Smith used definitions which were not considered standard or accepted within the scientific community, including inappropriate use of 'asphyxia' in Tiffani's case, and a character profile in Tyrell's case which was not peer-reviewed and had not been previously applied to the same type of profile. Improper use of medical terms and definitions such as those demonstrated by Dr. Smith, according to Anderson (2005, 2009) and Gold (2003) would be indicative of unreliable methods and, in general, poor scientific practices.

These errors, which have been categorized as problems of unreliable methods,

⁹⁷ It is worth noting that in seven other cases, taken from the original twenty cases that the reviewers had issue with but not included in the eight cases of interest, there were also concerns of unreliable methods related to Dr. Smith's inadequate use of the concept 'asphyxia'. In these cases Dr. Smith was criticized by the panel of reviewers for using an unreliable and inadequate definition of 'asphyxia', but these cases are not discussed in any further detail because of limited material available on them (Closing Argument, 2008)

demonstrate problems which can occur at the early stages of medical expert evidence when an expert fails to use appropriate definitions in his opinion or fails to properly document and record the methods and procedures used to develop that opinion.

Exploring the Concept of Procedural Errors

To further demonstrate ‘good science,’ Jaffe (1999) argues that there would have to be an absence of any significant procedural errors, which would include not conducting a complete examination, withholding or misplacing pertinent evidence, not requesting assistance when needed, using inadequate techniques and failing to collect appropriate samples and photographs. It would also include an absence of any discrepancies between oral and written reports, and an absence of inappropriate influence from extraneous sociological factors (Jaffe, 1999). Examples of additional procedural errors would include serious time delays between conducting the examination and submitting the report and failing to enlist the assistance of more qualified experts in the examination (Inquiry Report, 2008). Jaffe (1999) further notes that in order to avoid procedural errors, an expert’s conclusions should be properly supported by his findings, and the findings should therefore be specific enough to justify the stated conclusions.

In four of the eight cases of interest, Dr. Smith demonstrated serious procedural errors in the ways in which he drew conclusions and offered an expert opinion. These cases included Amber, Jenna, Sharon and Valin.

These four cases illustrate that Dr. Smith demonstrated many, if not all, of the indicators of serious procedural errors noted by Jaffe (1999) and in the Report (2008). From the very beginning of Amber’s case, Dr. Smith failed to investigate all relevant facts by failing to discuss the case with the physicians and surgeons that had already worked on Amber’s case. In both Jenna and Sharon’s cases, he failed to perform appropriate examinations and take appropriate

samples, and in Jenna, Sharon and Valin's cases, he either withheld pertinent evidence, or misplaced samples, casts and slides which would have been important to not only his own evidence, but the investigation as a whole.

In Sharon's case, Dr. Smith demonstrated serious issues of timeliness when it took him eight months to finally submit his report. Similarly in Valin's case, it took approximately a year-and-a-half to receive a response to requests for autopsy materials, and at that point the materials were retrieved by an office assistant, not by Dr. Smith.

In both Amber and Valin's cases, despite finding himself in an area beyond his expertise, Dr. Smith failed to request assistance from more qualified experts, which resulted in him offering unreliable and inappropriate evidence and testimony. In Amber, Jenna and Sharon's cases Dr. Smith failed to properly and formally document his findings, which resulted in his findings not supporting his conclusions and not being specific enough to justify the fact that he refused to acknowledge any alternative conclusions for the child's cause of death. Finally, in Sharon's case, Dr. Smith participated in discussions with the police, despite the fact that his investigation should have been kept separate from that of the police.

All of these examples of flawed evidence demonstrate serious procedural errors which can be made in medical expert evidence.

Exploring the Concept of Testifying Outside of Expertise

The final indicator taken from the literature that would demonstrate good science, as noted by Sopinka, et al. (1999), is that an expert should testify only in areas in which he or she is specifically qualified; otherwise that opinion would not be based on reliable science. In five of the eight cases of interest, Dr. Smith demonstrated clear instances of testifying outside of his area of expertise, offering opinions that were not based on good science in Amber, Jenna, Sharon,

Tyrell and Valin's cases. What resulted from Dr. Smith's inexperience in these cases were some very serious errors and significant suffering by the individuals that were wrongly suspected of killing a child. Dr. Smith's tendency to testify outside of his area of expertise resulted in his misinterpretation of wounds, timing of injuries and causes of death.

In Amber's case, Dr. Smith was unqualified to conduct an autopsy in a criminally suspicious case, and similarly in Valin's case, Dr. Smith had never before been involved in a post-mortem examination involving an allegedly sexually abused child. Likewise in Jenna's case, Dr. Smith did not have the required training needed to deal with a difficult task involving multiple abdominal injuries and the timing of those injuries, and in Sharon's case he testified with respect to wound patterns that he had no knowledge or training in.

In both Amber and Tyrell's cases he testified with respect to conditions and profiles that he created without having based them in literature or scientifically accepted opinions. In all five of these cases, Dr. Smith was aware that the evidence was beyond his knowledge or experience, and that he was unqualified to offer an opinion. In all of these cases, however, he conducted the examination or offered an opinion regardless of his inexperience and, latterly, his opinion, his findings, or his conclusions were shown to be incorrect by an actual expert in the related field.

Exploring the Practice of Objective Methods, Procedures and Testimony

This section will respond to the second sub-question, which asked to what extent Dr. Smith remained objective in his methods, procedures and testimony. It is apparent that Dr. Smith rarely, if ever, remained objective in his methods, procedures and testimony in the eight cases of interest and in light of this, the evidence of his inability to remain objective will now be discussed as it relates to the literature on subjective expert evidence.

Exploring the Concept of a ‘Hired Gun’

Oh (2004) has demonstrated that experts at times act as ‘hired guns’, individuals who are partisan experts and offer evidence only in support of the side that hired them. Likewise, the expert may demonstrate a confirmation bias, whereby any new information is made to fit preconceptions learned from the police or the Crown, or simply ignored altogether (Davis & Follette, 2003). While this is not entirely unanticipated in a situation where an expert is hired by one side, a real concern arises when that partisan expert begins to take his or her position so seriously that he or she fails to acknowledge any contradictory information which may dispute that opinion, or which may in fact negate his or her evidence. In seven of the eight cases of interest, Dr. Smith demonstrated this tendency and either vehemently disagreed with or completely ignored any contradictory information and evidence given by other experts, including the cases of Amber, Jenna, Nicholas, Paolo, Sharon, Tyrell and Valin⁹⁸.

In both Nicholas and Sharon’s cases, Dr. Smith actually admitted that he believed he was expected to assist and support the Crown’s case, resulting in him ignoring any evidence and opinions which may have contradicted the Crown’s criminal case. In all seven cases, in fact, Dr. Smith appeared to demonstrate a similar confirmation bias by making his evidence fit with the investigations already built by the police and Crown. He relied heavily on sociological factors in many of the cases, a tendency which seems to suggest that he allowed extraneous information about the victims’ families to affect the way in which he conducted his examinations.

In Amber’s case, he discounted relevant bruising because it did not align with the already negative opinion formed about the autopsy and Amber’s babysitter. In Nicholas’ case, Dr. Smith

⁹⁸ It is also worth noting that in three of the original twenty cases that were not included in the eight cases of interest it has been noted that Dr. Smith may have relied too heavily on extraneous sociological factors that he learned through the police or the Crown prior to conducting the autopsy or providing an opinion (Closing Argument, 2008, para 571, 943, 958, Inquiry Report, Vol IV, 2008). This appeared to result in Dr. Smith drawing conclusions that were based primarily on the sociological information relayed to him, rather than on actual autopsy findings.

refused to acknowledge contradictory facts which did not align with his opinion of child abuse. In Jenna, Paolo and Tyrell's cases, Dr. Smith relied too heavily on extraneous sociological information about the families, suggesting that irrelevant information may have inappropriately prejudiced his examination and analysis. In Valin's case Dr. Smith refused to acknowledge conflicting evidence and instead aligned his testimony completely with the Crown's case, resulting in an innocent man spending 12 years in prison.

Exploring the Concept of 'Default Diagnosis'

Another indicator of a lack of objectivity was defined by the Affected Families Group (2008) as a 'default diagnosis', which occurs when individuals see themselves as advocates for the child, resulting in a default diagnosis of child abuse in cases of unexpected child death. In these instances, the individuals investigating unexpected child deaths tend to use a 'think dirty approach', whereby they are highly suspicious during their investigation (Affected Families Group, 2008). It has been noted, however, that this form of reasoning has no basis in science, and that something should not be assumed simply because there is no evidence to the contrary (Affected Families Group, 2008).

Dr. Smith appeared to have used a 'default diagnosis' or 'think dirty' approach in six of the eight cases of interest, namely Amber, Nicholas, Paolo, Tiffani, Tyrell and Valin. These cases all demonstrated how the use of a 'default diagnosis' can result in the misinterpretation of evidence and increase the possibility of drawing incorrect conclusions. Examining a case with suspicious preconceptions already in place increases the risk that one might overlook pertinent evidence, or even deliberately ignore conflicting evidence that may affect or weaken the suspicions already held about the case.

Many of the statements made in Dr. Smith's autopsy reports were suspicious in nature,

and the comments he made to police officers and court officials were often pessimistic, suggesting he had a negative outlook about the cases from the beginning. In Amber and Tyrell's cases, Dr. Smith went into the examination with a negative opinion already in place about the outcome. He assumed from the beginning that the babysitter in each of the cases was guilty, and so conducted his examination with conclusions already formed. In Nicholas, Paolo, Tiffani and Valin's cases, he determined the cause of death only in the absence of any alternate explanations, suggesting that the deaths were suspicious in nature simply because nothing suggested otherwise. As previously noted, this is an uninformed way of drawing conclusions and this type of reasoning has no basis in science (Affected Families Group, 2008).

Exploring the Concept of Disagreement among Experts

Another indicator of a lack of objectivity would include instances where there is considerable conflicting opinion or disagreement among experts with respect to the evidence found, the methods by which that evidence was obtained, or what the evidence suggested. This type of disagreement would also include instances where there was a conflicting opinion brought to the expert's attention, but the expert refused to change or reconsider his or her original opinion.

In six of the eight cases of interest, there was blatant disagreement among experts in the area in which Dr. Smith was offering an opinion, namely that of Amber, Jenna, Nicholas, Sharon, Tyrell and Valin. This disagreement included disputes on medical theory and disagreement on the timing of injuries and death, as well as the actual manner by which the injuries were inflicted and the way in which the death occurred. This disagreement highlighted many instances in which Dr. Smith was unqualified to be giving an opinion, as well as his tendency to testify beyond his expertise despite not having the required training and experience

in the area of issue.

In Amber and Tyrell's cases, there was significant disagreement regarding medical theory on lethal falls, and in Nicholas, Sharon and Valin's cases there were disputes regarding the cause of injuries and death. In Jenna's case, there was significant disagreement regarding the timing of Jenna's injuries, including at what point the fatal injuries had actually occurred. All of the contested areas were relevant to the central issue of whether the death resulted from suspicious or natural causes, and often it resulted in certain individuals being implicated in the death.

What is most troubling about these case examples is that in all of the six cases where there was disagreement among experts, Dr. Smith ended up being the one in the wrong. In the instances of multiple experts disagreeing with Dr. Smith's initial conclusions, there were a number of times where he failed to even acknowledge that disagreement. The fact that there were repeatedly instances where other more qualified experts disputed Dr. Smith's opinion, evidence, or testimony demonstrates that Dr. Smith's evidence was rarely, if ever, based in the current and relevant literature, medical theory and practices of his field.

Exploring the Concept of Inappropriate Testimony

Another indicator of a lack of objectivity, as discussed in the Inquiry (2008), includes instances where experts demonstrate inappropriate testimony. This was evident in Dr. Smith's testimony as he used slang and inappropriate anecdotes in an insensitive and unprofessional manner. In three of the eight cases of interest there were serious concerns noted by the trial judge or the Commissioner of the Inquiry about Dr. Smith's use of inappropriate language or examples in his testimony. Notable examples were found in Amber, Paolo and Tyrell's cases.

In Amber's case Dr. Smith used multiple inappropriate and irrelevant anecdotes to support his theory that the babysitter was responsible for Amber's death. In Paolo and Tyrell's

cases, he used graphic and inappropriate language that was criticized by the trial judges for being completely unnecessary and speculative. As illustrated in these three cases, Dr. Smith tended to approach his testimony in a way that was far too informal for use within a courtroom and he was repeatedly criticized by trial judges for using unnecessary detail, as well as using inappropriate, non-scientific anecdotes, concepts and terms.

Exploring the Concept of a Concern with Maintaining Authority

A further indicator of an expert failing to remain objective in his or her science results from a concern with maintaining an appearance of authority among his or her peers and other professionals. Dr. Smith demonstrated considerable self-aggrandizement in the cases of interest, a tendency which would suggest that he was more concerned with maintaining an appearance of authority than providing objective evidence and testimony. This type of behaviour would include making misleading statements in order to cover up errors, failing to retract one's views despite conflicting evidence, and in general demonstrating a desire to appear secure and confident in ones conclusions in order to increase influence and stature within the professional community as well as with the police and investigating authority figures (Inquiry Report, 2008).

In at least three of the eight cases, this was clearly evident, in particular in Jenna, Nicholas and Sharon's cases. In both Jenna and Nicholas' cases, Dr. Smith lied about other experts and professionals corroborating his opinion in order to cover up errors he made during the examination. In both of these cases the individuals he claimed agreed with him had either never done so, or had not agreed to the extent stated by Dr. Smith. In Sharon's case, despite being aware of a dog in the home at the time of Sharon's death, and despite clear evidence that the dog was responsible for Sharon's wounds, Dr. Smith vehemently insisted that his initial conclusion that the wounds were caused by scissors or a knife was correct. This appears to have

been done in an effort to appear confident in his original opinion, and to avoid looking incompetent to the other professionals involved.

The examples taken from the eight cases of interest demonstrate some of the more serious flaws in Dr. Smith's expert evidence, including problematic aspects of his procedures and methods, the disturbing errors made in his expert evidence, and the troubling aspects of his testimony in court. It is clear from these example that Dr. Smith's evidence was not based in good science, as evidenced through his unreliable methods, his many procedural errors, and his tendency to testify outside of his area of expertise. Furthermore, Dr. Smith himself failed to remain objective in both his presentation of science and his testimony by demonstrating behaviour indicative of acting as a 'hired gun' and using a 'default diagnosis'. In addition, there was almost always significant disagreement by other experts on his opinion. A further indication of his failure to remain objective is that he often demonstrated inappropriate testimony, and was concerned with maintaining an appearance of authority and competence at the expense of objectivity and truth.

In light of these errors and flaws which demonstrated Dr. Smith's poor science and subjective tendencies, the following section will consider the distribution of the errors made, including an analysis of which problematic aspects of Dr. Smith's methods, procedures and testimony appear to be largely responsible for the flaws in his evidence.

Examining the Distribution and Most Problematic Aspects of Dr. Smith's Errors

Dr. Smith demonstrated a vast array of procedural errors throughout his involvement on the eight cases of interest, including failing to perform complete and appropriate examinations, failing to take appropriate swabs, samples, photographs, or failing to send away for the appropriate tests, failing to adequately record and document his procedures and findings and

demonstrating serious time delays between conducting his examination and providing a report of his opinion. Further procedural errors included failing to enlist the help of other experts who were better qualified in the area the opinion was requested in and withholding or misplacing pertinent evidence that was relevant and vital to the investigation process. All of these errors demonstrated Dr. Smith's tendencies of chronic tardiness, his disregard for standard procedures, and his ongoing failure to prepare the appropriate and required records and reports.

Instances of Dr. Smith having acted as a hired gun were represented across many of the cases of interest, with this type of behaviour evident in seven of the eight cases of interest. Similarly, Dr. Smith demonstrating a default diagnosis or there being a presence of disagreement from other experts were both present in six of the eight cases of interest.

Despite the frequency and distribution of errors made by Dr. Smith, what became apparent throughout the materials available on the eight cases of interest were the overarching themes of the errors made. There was a reoccurring theme which seemed evident across the cases and which may have been responsible for the majority of Dr. Smith's errors; in all of the cases there appeared to be an almost stubborn insistence of Dr. Smith that his evidence and opinions were infallible. This may be attributed to the fact that he wanted to maintain an appearance of competency and authority among his peers, or because he was unwilling to admit error when faced with conflicting evidence. Dr. Smith repeatedly refused to recognize conflicting evidence, he often refused to admit his own error or mistakes and he repeatedly insisted on testifying in areas that were well beyond his area of expertise. All of these things appear to be due to the fact that Dr. Smith wanted to appear as though he was more qualified and capable than he actually was.

Dr. Smith demonstrated a clear lack of 'good science' in his use of unreliable methods,

his demonstration of a significant number of procedural errors, his refusal to acknowledge and accept conflicting expert opinion, and his tendency to testify outside of his area of expertise. He likewise demonstrated a serious lack of objectivity in his procedures and practice, by acting as a ‘hired gun’ and approaching cases with a ‘default diagnosis’ in mind, as well as by testifying inappropriately and demonstrating a concern with maintaining authority over offering objective evidence and opinion. However, while all of these individual failings are problematic, what is even more puzzling is the fact that Dr. Smith was ever assigned to these cases in the first place.

In the majority of these cases, he was never qualified to offer an opinion. In particular, he was never qualified to conduct the autopsies or post-mortem examinations on which his opinions were based. A number of the procedural errors are more than likely attributable to the fact that he was never qualified to conduct the work assigned to him, and this is also likely the reason behind the ongoing presence of significant disagreement among other experts on Dr. Smith’s work. Furthermore, Dr. Smith’s lack of qualification resulted in his tendency to testify outside of his area of expertise. Since he was unqualified to be conducting examinations and providing opinions in the first place, his testimony respecting this opinion would be far beyond his expertise. In addition, Dr. Smith presented himself in a confident manner and was adamant regarding his conclusions. He publicly never recognized or acknowledged his limitations, and instead always insisted on his competency and accuracy.

In light of Dr. Smith’s evident lack of qualification in the cases of interest, the following section will now examine the extent to which the admissibility guidelines for expert testimony in Canadian case law were applicable in Dr. Smith’s case.

Part II: Exploring the Application of the Admissibility Guidelines to Dr. Smith's Evidence

The second research question asked why, despite all of the rules and guidelines governing the admissibility of medical expert evidence, Dr. Smith's evidence was admitted in the first place in the eight cases of interest. Specifically, this question asked to what extent the admissibility guidelines as outlined in *Mohan* were adhered to when Dr. Smith gave evidence in the cases of interest⁹⁹. It is important to examine the admissibility criteria in relation to Dr. Smith's evidence, as it may be able to explain, to some extent, why Dr. Smith's evidence was admitted as evidence despite it clearly being so problematic. If the admissibility criteria had been properly and strictly adhered to, then perhaps Dr. Smith's evidence would have never had the chance to cause such distress in the first place.

It is also important to examine exactly why these rules, which are clearly laid out to avoid the presence of unreliable expert evidence in the courts, were not followed. An examination of how the rules were overlooked, or why they were not strictly adhered to, will provide a further understanding of why Dr. Smith's evidence was admitted, when in hindsight it was clearly not being provided by a properly qualified expert. This discussion will include an examination of the role of the gatekeeper, the role of the Crown and defence attorneys, and the role that an expert's reputation appears to play in determining admissibility.

Examining the Lack of Adherence to the Admissibility Criteria

As discussed in chapter two, the admissibility criteria from *Mohan* require that expert testimony is admissible in court when it is relevant, necessary, there is no exclusionary rule and

⁹⁹ The parameters with respect to the admissibility of expert testimony were examined with respect to seven of the eight cases, in Nicholas' case there were never any actual criminal charges pursued, therefore the admissibility criteria of expert evidence were not applicable to this case

when the expert is a properly qualified expert. While Dr. Smith's errors have been discussed in detail, what follows is an examination of whether the evidence that he presented actually met the threshold reliability standards of the admissibility criteria for use of expert evidence in court. This will further expand on the issue of whether or not the judge as gatekeeper and the Crown and defence attorneys played their appropriate role in challenging this evidence, as well as the extent to which an expert's reputation may influence the acceptance of his or her evidence. By examining the cases within the framework of the admissibility criteria, it will be possible to see if errors also occurred at the level of the criminal justice system in allowing this evidence, notwithstanding the errors made by Dr. Smith in his evidence, opinions and testimony.

The criterion of relevance, on the surface, appears to have been adhered to with respect to whether the time and effort involved in hearing the evidence was in proportion to its value, and whether the influence of the evidence on the trier of fact was not "out of proportion to its reliability"¹⁰⁰. Likewise, the necessity requirement that the evidence be necessary to assist the trier of fact and that the evidence be required to reach the correct result was also, in a strict sense, met. There was also no apparent exclusionary rule which would have prevented the evidence from having been heard, and the evidence appears to have complied with the standard rules of evidence. While the expert evidence of a forensic pathologist was both relevant and necessary to reach the correct result in such cases, the problem lies with the fact that Dr. Smith was not the appropriate or properly qualified expert who should have been fulfilling this role.

If an expert can be said to be properly qualified, it requires that he or she has special or peculiar knowledge in the relevant area, and that he or she has obtained this knowledge through study and experience in that field¹⁰¹. Without a doubt, this appears to be the most problematic

¹⁰⁰ [*Mohan*] at para. 18.

¹⁰¹ *Ibid* at para. 27.

admissibility criteria with respect to Dr. Smith's evidence in the cases of interest. It is now clear that the majority of Dr. Smith's flaws and errors can be attributable to the fact that he was neither properly qualified to perform the examinations and autopsies he conducted, nor was he qualified to offer an opinion in areas that were well beyond the limits of his expertise. Despite this fact, Dr. Smith took on each of these cases without assistance from more qualified experts, refusing to acknowledge any assistance which came in the form of other expert opinion.

As noted in the cases of Amber, Jenna, Sharon, Tyrell and Valin, there were clear examples of instances where Dr. Smith testified completely outside of his area of expertise, or demonstrated negligence in opinion because of lack of qualification or knowledge in the associated topic. A brief summary of Dr. Smith's lack of qualification include the following:

1. In Amber's case, Dr. Smith had no formal training and very little experience in conducting autopsies in criminally suspicious cases. He also testified with respect to lethal falls in children, a topic in which he was not trained or knowledgeable;
2. In Jenna's case, Dr. Smith was unqualified to provide an opinion in a complex case that involved multiple injuries and the timing of those injuries;
3. In Sharon's case, Dr. Smith gave evidence on knife and scissor wounds and canine bites despite being completely unqualified to testify with respect to these areas;
4. In Tyrell's case Dr. Smith outlined the profile of the type of individual that might commit an asphyxia-type homicide of a child despite being completely unqualified to testify with respect to this area and not basing his profile in any scientific theory;
5. In Valin's case, Dr. Smith had never before been involved in a post-mortem examination involving an allegedly sexually abused child, and was therefore not qualified to draw conclusions and offer an opinion in this case.

It is clear from these examples that the criterion that expert evidence only be given by a properly qualified expert was not adhered to with respect to Dr. Smith's evidence. He was not a forensic pathologist, and in each of the cases the special knowledge and evidence of an individual trained and knowledgeable in pediatric forensic pathology would have been required to fulfil the other requirements that the evidence be both relevant and necessary. The problem,

however, is that Dr. Smith was not a qualified forensic pathologist; he was a pediatric pathologist. A pediatric forensic pathologist was required to examine the bodies in criminally suspicious cases and determine the cause of death and the manner in which it occurred; a pediatric pathologist such as Dr. Smith, however, would not be trained in conducting post-mortem examinations and recognizing forensically significant markings, nor would he be trained in the processes of the legal system (Johnson-McGrath, 1995). A pediatric pathologist is trained only in clinical pathology and his or her role is to provide assistance in the medical management of patients (Inquiry Report, Vol. I, 2008).

The most disturbing aspect of the admissibility of Dr. Smith's evidence is why this fundamental rule was not adhered to in the first place. The law provides for a basic, comprehensive guideline by which to measure expert evidence in order to avoid confounding the legal process. However, despite the rule in place which prevents unqualified, unreliable expert evidence from being heard, this rule was not strictly adhered to with respect to Dr. Smith's evidence. It would seem that the judge, in the role as gatekeeper, failed in this respect.

The criminal justice system describes the role of the gatekeeper as one which requires careful scrutiny at the gate of admissibility in order to avoid expert evidence from having too easy an entry and to avoid it having a prejudicial effect on the jury or trial¹⁰². In the examined cases, Dr. Smith did not have the necessary training or experience to testify in the areas he was providing evidence in, nor was he knowledgeable of the literature pertaining to certain conditions and profiles he referred to. There were a number of examples where the judge failed in his or her gatekeeping role, such as in Amber, Sharon and Valin's cases, where Dr. Smith had little to no experience performing post-mortem examinations of such a specific nature, however this was not acknowledged. This suggests that neither the judge nor defense counsel in these cases properly

¹⁰² [J.-L.J.] at para. 28; [D.D.] at para 51.

examined Dr. Smith's qualifications and failed to realize that he was an unqualified expert.

Similarly in Amber and Tyrell's cases, Dr. Smith offered opinions on conditions and profiles that were not based on scientific literature or research. Again, the gatekeeping function was absent as the judge and defense counsel again did not effectively assess where Dr. Smith's opinion was actually coming from and the extent to which it was supported in the literature. The admission of this evidence without proper scrutiny suggests that the system failed in these cases, with both judges and attorneys failing to perform their roles.

The fact that both the judge and attorneys failed to perform their own gatekeeping functions raises a further concern with respect to exactly why a complete investigation was not performed on Dr. Smith's evidence. The literature on problematic medical expert evidence, as well as the data available on the cases of interest, indicate that this may have been a result of the problem that reputations pose for the criminal courts and the criminal justice system; oftentimes an apparent social status, label or reputation can affect the perceived value and capability of that individual, and this is what appears to have happened when Dr. Smith testified (Astley, 1985; Collins & Evans, 2006; Grint, 2005; Thye, 2000). It would seem that the courts were influenced by Dr. Smith's reputation, despite the fact that this reputation was not based on actual contributions or performed capabilities. The gatekeepers in the cases that went to court accepted Dr. Smith's reputation at face-value without properly investigating its basis.

The role that reputation plays is especially problematic, given the fact that an individual such as Dr. Smith, who was not experienced or qualified in many of the areas he testified in, was promoted and held in such high regard within his professional community. The appropriate response when Dr. Smith was asked to provide an opinion should have been his honest and forthcoming admittance that some areas may have been beyond his capability. However, this

was not what happened, and such instances should normally give rise to the gatekeeping function of judges and attorneys; such a function serves to prevent junk science and misleading experts from providing opinions in the first instance. The cases examined demonstrate clear examples of the gatekeeping function failing due, in large part it would appear, to the fact that the expert's credentials overshadowed his actual capability. While Dr. Smith's case may have been an anomaly in this regard, no matter how apparently reputable and impressive an individual's reputation may appear, it is still the role of the gatekeeper to conduct a full investigation of those credentials in order to ensure that the expert is specifically qualified and has relevant and extensive experience. This study illustrates the errors that can occur when reputations are not scrutinized or challenged and only further emphasizes the significance of the gatekeeper function.

Chapter VII

Discussion and Concluding Remarks

In order to better address the original research questions of this thesis, it is important to examine the findings of the study within the context of both the literature on flawed medical expert evidence and the theoretical framework of social constructionism. The first section of this chapter will reconsider the research questions and attempt to answer them by addressing the link between social constructionism and Dr. Smith's testimony. In particular, two main themes emerged from this study: (a) how Dr. Smith's evidence and testimony were affected by social constructs, such as biases and learned thinking styles, which led to numerous errors and mistakes in judgment, and (b) how Dr. Smith as a legitimate qualified expert was in fact a social construction. These themes were reflected in the manner in which Dr. Smith was perceived by his peers and the courts, which in turn resulted in his evidence being presumed admissible. Moreover, Dr. Smith himself appeared to believe that he was properly qualified, which resulted in further self-aggrandizement.

The conclusion of this chapter will consider best practice recommendations, including an examination of some of the more significant recommendations that emerged from the Goudge Inquiry and their relation to this study, as well as a discussion of possible future directions for research.

Social Constructionism and the Medical Expert Testimony of Dr. Smith

In order to better understand Dr. Smith's involvement in the cases of interest, it is important to provide a context for how his evidence and testimony were accepted and interpreted; the theory of social constructionism provides that framework. It appears from the findings that Dr. Smith, as an expert forensic pathologist, was socially constructed in such a way that his inexperience and his flaws were overlooked when he was asked to perform post-mortem examinations and offer an opinion in the cases of Amber, Jenna, Nicholas, Paolo, Sharon, Tiffani, Tyrell and Valin. This appears to have been due in large part because he was socially constructed as a legitimate authority when in fact he was not one, and he was perceived this way in part because of the positions he was placed in at the OCCO as well as the way he testified in court. The social constructs that affected Dr. Smith's evidence in the first place, such as personal biases, assessments and preconceptions, will be examined in the first section with the intention of fitting these errors within the context of social constructionism, followed by a discussion of how Dr. Smith's qualifications and testimony were also socially constructed.

Theme I – The Social Construction of Dr. Smith's Evidence and Testimony

The purpose of this thesis was to provide answers to several research questions regarding a number of cases of miscarriages of justice that occurred largely due to errors made by Dr. Smith. The first question asked:

1. What was it about Dr. Smith's evidence that was so significantly flawed in the eight cases of interest, and what were the most disturbing aspects of Dr. Smith's evidence?

This question examined to what extent the evidence given by Dr. Smith was based on good science and the extent to which he remained objective in his methods, procedures and

testimony. The findings clearly indicate that Dr. Smith's evidence was not based on good science due in part to the fact that in five of the eight cases, he testified far beyond his knowledge and experience, and in four of the cases he demonstrated unreliable methods and numerous procedural errors. These errors can be understood as resulting in part from a construction of his evidence as reliable and methodologically sound. Mehta (2002) claims that science itself is a social construct because it has been affected and constructed by those individuals that create it, while Merlino, et al. (2008) similarly argue that science is affected by human agency, norms and values. Dr. Smith's opinions were clearly affected by subjective influences, which in turn had an impact on the way he observed and interpreted the facts of each case.

Many of Dr. Smith's procedural errors were due to actions he took which resulted in certain facts being missed or ignored. For example in Jenna and Sharon's cases, Dr. Smith's failure to conduct and submit standard testing on the samples directly affected the reliability of his evidence. Because of Dr. Smith's determination that the hair found on Jenna's body was insignificant, Jenna's mother was wrongly suspected; had that hair been sent for analysis, it may have linked the babysitter to Jenna's death earlier¹⁰³. Similarly in Sharon's case, had Dr. Smith sent away for the appropriate testing immediately and not relied upon his own ill-informed opinions, he may have realized sooner that Sharon's wounds were due to a dog attack, rather than occurring at the hands of her mother¹⁰⁴.

In his analysis of case materials, Dr. Smith demonstrated many instances of unreliable methods, including flaws in the cases of Amber, Jenna, Tiffani and Tyrell. In these instances,

¹⁰³ In fact, the babysitter, J D , was only linked to Jenna's death approximately four-and-a-half years following her death, and did not actually plead guilty to manslaughter until nearly ten years following her death. Moreover, Jenna's mother's charges were not withdrawn until approximately two years following Jenna's death, at which point it became clear that the child had not been in her mother's care at the time of her fatal injuries (Inquiry Report, Vol IV, 2008)

¹⁰⁴ Louise Reynolds, Sharon's mother, was in custody for 22 months without bail awaiting trial, prior to her being released without charge. During that time, her other two children were removed from her care by authorities (Inquiry Report, Vol IV, 2008, [*Reynolds*] v *Kingston (Police Services Board)*, 2006, para 48)

errors occurred because of Dr. Smith's use of definitions and theories which were not acceptable within the scientific community, as well as a failure to articulate his methods and procedures. The reason that these initial problems went unnoticed and Dr. Smith was permitted to give evidence was due to a widely held belief that he was someone who was practised in science. His reputation, his position within the OCCO and his time spent practising pathology led people to believe that he was someone who was capable and who would use reliable methods and appropriate definitions and theories. However, these assumptions only led to further errors throughout Dr. Smith's involvement in the cases of interest.

It is also apparent from the findings that Dr. Smith demonstrated a disturbing lack of objectivity in his methods, evidence and testimony, as demonstrated by the fact that in seven of the cases, Dr. Smith acted as a hired gun, manipulating and aligning his evidence to fit with the case already being built by the police or Crown. In six of the cases, he demonstrated a default diagnosis and presumed suspicious child death without having proper justification for doing so. Furthermore, in six of the cases his testimony met significant disagreement from other experts; disagreement which he neither acknowledged nor considered despite it often being from more qualified experts. Lastly, in three of the cases, he demonstrated completely inappropriate testimony by using unscientific anecdotes in his opinion and using graphic, unprofessional and disturbing language in his testimony. One example of this was in Paolo's case, where Dr. Smith vividly described how Paolo may have died by strangulation; these comments were criticized by the trial judge as being unnecessarily detailed and completely speculative¹⁰⁵.

All of these errors can be understood as a result of the way in which Dr. Smith interpreted and conducted his examinations and came to his conclusions. Lowy (1988) argues that science is affected by social processes, such as the way individuals are trained, preconceptions and

¹⁰⁵ [M. T.] at para. 96.

anticipations, and individual ways of understanding and observing problems. It seems that Dr. Smith's understanding of certain phenomena resulted in a predetermined approach and preoccupation with eradicating child abuse as well as a propensity to "think dirty"; this fixation appears to have been present in the approaches of others at the OCCO as well, leading Dr. Smith to approach cases suspiciously with a default diagnosis of abuse (Inquiry Report, Vol. III, 2008). During the time that Dr. Smith was with the OCCO, there was a justifiable concern with the number of child abuse cases that were either never reported or detected, or which never came to be prosecuted; Dr. Smith was a part of a culture which aimed to reverse these trends, and this "caused him to become too invested in many of these cases" (Inquiry Report, Vol. I, 2008, p. 17-19).

For example, preconceived ideas, gleaned from the police in Sharon's case about her mother being a suspect, resulted in Dr. Smith tailoring his findings to fit the police story. Similarly in Amber's case, Dr. Smith ignored contradictory information which would have suggested that Amber had died from a household fall because of a predetermined belief that the babysitter was guilty of abuse. Also, he allowed negative social fact information about Jenna, Paolo and Tyrell's parents or caregivers to affect his interpretation of each of these cases. Upon learning, for example, that Jenna's mother may have been a sex-trade worker and that Paolo had been admitted to the hospital in the past, Dr. Smith made prejudiced assumptions about the outcome of the examinations. He tended to record this information while failing to record the actual details of the autopsy, suggesting that extraneous factors shaped his opinion just as much, if not more than actual pathology findings. Best (2001) discusses how science is susceptible to human error, specifically to the predisposed subjective beliefs and interpretations of those conducting the science; this was clearly the case with Dr. Smith's science.

It has been discussed in the Inquiry documents that there was a concern with eliminating child abuse at the OCCO, and this appears to have prevented Dr. Smith from being open to any information that conflicted with a finding of child abuse. Lowy (1988) suggests that learned ways of thinking can act as a social process which affects the objectivity of science. In both Amber and Tyrell's cases, Dr. Smith suspected the babysitters of child abuse without there being any evidence to support such a belief. After making these assumptions, Dr. Smith appeared to interpret any findings on autopsy in a way that would support a finding of suspicious death.

Social processes also appeared to affect Dr. Smith's objectivity when he refused to acknowledge, and often completely ignored, conflicting opinions of other experts. For example in both Amber and Tyrell's cases, he ignored conflicting expert testimony which challenged his opinion on the medical theory regarding lethal falls. In Nicholas, Sharon and Valin's cases, there were disputes regarding the timing and cause of fatal injuries, yet Dr. Smith continuously held the position that his opinion on timing was correct. It has now been shown that in all of the cases, Dr. Smith's flawed opinion was actually the one that was undeniably inaccurate.

Dr. Smith's lack of objectivity was also apparent in his blatant fixation with maintaining his position as an authority in forensic pathology. His preoccupation with promoting himself in a positive light led to excessive self-aggrandizement, which in turn negatively affected the evidence and testimony he was offering. His evidence was constructed through his continuous manipulation and interpretation of the facts in ways that would support the case being built by the police or the Crown. More often than not, he continued to assert his opinion despite conflicting opinions in an attempt to salvage his own reputation. Examples of this self-aggrandizement include Sharon's case, where Dr. Smith repeatedly argued that the wounds were inflicted by a knife or scissors, despite contradictory evidence which pointed towards a dog

attack. In this case he continued to assert his initial opinion in order to prevent professional embarrassment, and in many of the cases, blatant lies and misleading statements were proof of Dr. Smith's preoccupation with self-aggrandizement. For example in Valin's case he insisted that he had returned autopsy materials when they were still in his office, and in Jenna and Nicholas' cases he lied that other experts had agreed with his opinion. These case examples demonstrate that Dr. Smith's evidence was constructed in order to fit his own agenda and promote himself as "the" expert in pathology on non-accidental child death.

Theme II – The Social Construction of Dr. Smith as a Properly Qualified Expert

The second central research question asked:

2. Despite all of the rules and guidelines governing the admissibility of medical expert evidence, why was Dr. Smith's evidence admitted in the first place in the eight cases of interest?

This question examined to what extent the admissibility guidelines as outlined in *Mohan* were adhered to when Dr. Smith gave evidence in the cases of interest. As mentioned earlier in the analysis chapter, the findings indicate that Dr. Smith's testimony did not pass the admissibility criterion that the evidence be given by a properly qualified expert; Dr. Smith was not specialized in pediatric forensic pathology and the evidence he gave did not reflect consensus among authorities in the relevant scientific community. The many serious and egregious errors committed by Dr. Smith in compiling and presenting his findings illustrate that while he may have been capable of functioning as a pathologist, which was his actual training, he was beyond his expertise while testifying as a pediatric forensic pathologist. For example in Valin's case, the fact that he was not experienced as a forensic pathologist resulted in him interpreting normal post-mortem changes to be indicative of assault. Likewise in Sharon's case, he misinterpreted canine bites as scissor wounds due to his inexperience working with wound tracks and patterns.

In many of these cases evidence from a qualified forensic pathologist was relevant, necessary and required, however, Dr. Smith did not have that training and was therefore never qualified to give evidence and testify, rendering his testimony inadmissible.

As many social constructionist perspectives suggest, medical experts can make a contribution to society in providing expert testimony about increasingly complex scientific phenomena, and are often viewed by society as reliable and trustworthy (Dawson, 1981; Gergen, 1999; Hibberd, 2005; Lieberman, 1995; Meckler & Baillie, 2003; Strati, 1998). Moreover, Grint (2005) defines a legitimate authority as an individual who puts forth a persuasive authority style, has a positive reputation and holds substantial career advancements, as well as someone who holds distinguished professional titles or positions in the top of his or her field. Dr. Smith was clearly constructed as a legitimate authority – he put forth a persuasive authority style in his personal presentation and self-aggrandizement, and he held a distinguished position within the OCCO and was considered the expert to testify in cases of unexplained child death.

In fact, Dr. Smith's evidence became admissible in court in part due to this construction of him as a properly qualified expert. Despite the 'qualifications' which placed him in a position of authority, he was actually only in that position because no one else was interested in the role of Director of the Ontario Pediatric Forensic Pathology Unit; "he was willing to fill a void that no one else wanted to fill" (Inquiry Report, Vol. I, 2008, p. 13). The unfortunate result was that evidence was presented in court that should never have been heard as it was neither reliable nor admissible in the first place. He was unqualified in all of the cases of interest because of his lack of training in forensic pathology, and was especially unqualified in Amber, Sharon and Tyrell's cases, where his inexperience led him to testify in further specializations beyond his expertise, such as lethal falls, canine and scissor wounds and profiles of individuals likely to commit

asphyxia-type homicides. In each of these cases he was unable to support his evidence with science, up-to-date literature or theory, and thus gave speculative, misleading and unreliable testimony. This fact was overlooked, however, due to erroneous beliefs regarding Dr. Smith's reputation and capability. Dr. Smith lacked the training to conduct the autopsy or provide an opinion in these cases, but because of his position as an expert within his field and because of his own unfounded confidence in his ability, no one thought to question him on a case-by-case basis.

Astley (1985) notes a problematic aspect of legitimate authorities that is consistent with the problems noted in Dr. Smith's cases. When individuals like Dr. Smith are viewed positively and are believed to be reliable, they tend to be questioned less and their work tends to be evaluated using internalized judgments of reputation rather than direct assessments of that work (Astley, 1985). Dr. Smith's evidence was accepted without any actual assessment or evaluation of his work in each isolated case, and he was therefore given more credit than he was due, in large part because he held a position that was beyond his actual qualifications and capability. As previously discussed, this uncritical acceptance of Dr. Smith's evidence was due to his own failure to admit his inexperience, as well the failure of the gatekeeper role of both judges and attorneys to ensure that they call witnesses who are properly qualified, knowledgeable and experienced in the specific area.

Collins & Evans (2006) further note that the social construction of the expert often has to do with the credit given to the label 'expert', rather than the actual demonstrated competence and capability of that expert. Dr. Smith's reputation, reinforced by his being called to testify on many occasions, preceded him. Judges and counsel were reluctant to question his methods and conclusions given his reputation and their relative ignorance regarding pathology and science in general. Consequently, his errors were not only overlooked but compounded.

Best Practice Recommendations

It is evident now that many of the errors made in the eight cases of interest could have been prevented had there been more efficient means of managing expert evidence in place at that time. It has already been established that Dr. Smith was not a properly qualified expert in most of the cases where he offered an opinion, and this was due to the fact that this *Mohan* admissibility criterion was not properly adhered to in the cases that made it to court¹⁰⁶. Many of the recommendations from the recent Goudge Inquiry, however, promise to shed considerable light on the future management of expert evidence in the criminal justice system.

The Goudge Inquiry made a total of 169 recommendations, covering everything from amending the Coroner's Act, ensuring continuing education for forensic pathologists, enhancing oversight, increasing effective communication within the criminal justice system, and the role of the court in admissibility of expert evidence. These recommendations are too extensive to cover completely in this thesis, however there are a number of recommendations which warrant discussion with respect to this study and Dr. Smith's evidence in the eight cases of interest.

As noted by Paciocco (2009), the most valuable and profound contribution to come out of the Goudge Inquiry are the recommendations that require an "Evidence-Based Approach" in evaluating expert evidence. This approach, also briefly discussed by Dr. Pollanen in the case of *R. v. Allen*, is contrary to the "my opinion" or "trust me" approach, which tends to be less amenable to analysis by the court¹⁰⁷. An evidence-based approach to expert evidence requires "critical analysis of peer-reviewed literature and attention to primary reviewable evidence from

¹⁰⁶ This error cannot be attributed solely to the courts, however. Given his history and reputation, Dr. Smith had become a well established expert witness in spite of his relative lack of experience in pediatric forensics. The blame should likely lay at the feet of Dr. Smith himself for testifying outside his area of expertise as well as with his supervisors at the OCCO. For many years he was left to his own devices without any supervision and without anyone providing the necessary checks and balances that may have caught some of his errors much earlier or questioning the fact he was testifying in this area in the first place.

¹⁰⁷ [Allen] at para 167

the post-mortem examination” (Paciocco, 2009, p. 146). This approach requires objective thinking rather than a “think dirty” approach, decreasing the likelihood of a confirmation bias which could result in the interpretation of evidence to fit a preconceived theory (Inquiry Report, Vol. III, 2008). Alternatively, the “trust me” approach, which appears to have been used with Dr. Smith’s testimony in many cases, appears to rely on labels and credentials rather than proof of reliable methods and procedures that can be replicated and analyzed.

Paciocco (2009) outlines four predicates for successful execution of the evidence-based approach. The first requires that the theory or technique, as well as the use of that theory or technique, must be reliable (Paciocco, 2009). This requirement involves examining the training and experience of the expert, ensuring accurate recording of the evidence and a clearly articulated reasoning process, demonstrating sound reasoning for rejecting any alternate conclusions, and ensuring quality assurance and peer-review (Paciocco, 2009). Such a recommendation would prove effective in cases such as Amber, Jenna, Sharon and Valin’s, where Dr. Smith had no formal training in conducting criminally suspicious or sexual assault autopsies, nor those that involved multiple abdominal injuries or wound patterns. It would also be an effective solution against experts failing to articulate and record the processes involved in drawing inferences, as well as failing to provide reasons for rejecting any alternate causes of death. In general, this requirement would prevent unreliable evidence from ever reaching the stage of testimony, ensuring that untrained, unqualified ‘experts’ are recognized as such prior to causing any significant harm through testifying outside their area of expertise.

The second predicate of the evidence-based approach is that the expert must not demonstrate bias and must “keep an open mind to a broad menu of possibilities” (Inquiry Report, Vol. III, 2008, p. 376). Paciocco (2009) argues that biases are often “unconsciously held” in

instances where someone is “attracted to a particular outcome” and wherein a natural tendency leads that individual to interpret or “search for evidence that supports the desired conclusion” (p. 151). Adhering to this requirement of objectivity would also ensure that experts certify that they understand their duty is to the court and that “this duty overrides any obligation to the person from who they receive instructions or payment” (Paciocco, 2009, p. 152). If an evidence-based approach is used, the expert begins from a “neutral position, approach[es] every autopsy systematically, and, from there, [is] guided to conclusions by the objective evidence” (Inquiry Report, Vol. III, 2008, p. 376).

This recommendation may prevent cases like Amber, Sharon and Tyrell’s in the future where, for example, Dr. Smith was attracted to an outcome that favoured abuse, and failed to allow for alternate conclusions or provide any reasoning for rejecting the possibility that there was a cause of death other than what he had already determined. The requirement that the expert must certify his or her duty to the court would prevent experts from being able to say that he or she believed his or her role was to support the Crown and that that expert therefore adapted evidence to fit with that case. Dr. Smith was so committed to the outcome of eradicating child abuse that he often searched for and interpreted evidence in a way that aligned with this goal (Inquiry Report, Vol. I, 2008).

The third predicate that Paciocco (2009) discusses requires that the expert demonstrate objectivity in his or her work and that the collection of evidence is exhaustive and complete. The expert must also ensure that he or she rejects any information not vital to the theory or technique being used and must articulate any extraneous influences that that expert may have been exposed to (Inquiry Report, Vol. III, 2008). This would involve conducting a full investigation before rendering an opinion, including (as applicable) attending the scene, maximizing communication

with any professionals and individuals involved with the case, collecting all medical records and arranging for timely toxicology testing and samples (Paciocco, 2009). Information which is irrelevant or speculative should not be transmitted to the expert in order to avoid issues of ‘noble cause distortion’ or confirmation bias, and the pathologist must take all necessary precautions to avoid being influenced by extraneous considerations (Inquiry Report, Vol. III, 2008).

Had this requirement been in effect in many of Dr. Smith’s cases, it would have been obvious that he failed to collect all relevant information, such as connecting with other surgeons and physicians and sending away for appropriate tests. Likewise, this recommendation is effective for preventing irrelevant information, such as prejudicial social fact evidence, from affecting the science and the expert opinion.

The final predicate outlined by Paciocco (2009) requires that the expert include with his or her opinion “the complete reasoning process that led to it, and must be candid about the shortcomings of the theory or technique and the opinion reached, offering fair guidance on the level of confidence that can be placed in the opinion expressed” (p. 147). The explanation of the reasoning process should be given in understandable language, and the expert should also discuss any limitations of his or her opinion, such as any scientific controversy in the theories or definitions being used in the opinion (Inquiry Report, Vol. III, 2008). This would be an effective solution for cases like Sharon’s where Dr. Smith failed to acknowledge that he had no experience in canine wound patterns, or in cases such as Amber and Tyrell’s, where Dr. Smith failed to acknowledge the shortcomings in the theory regarding fatal falls in children.

The implementation of an evidence-based approach to the provision of expert testimony in Canadian courts is an important step forward. Had this approach been used with Dr. Smith’s evidence, most, if not all, of the errors noted in the cases of interest would have been prevented,

and as a result there would have been significantly less suffering for those involved. Dr. Smith's errors illustrate the possible problematic effects of the use of expert testimony when it is accepted uncritically in courts. In light of the exhaustive coverage of the Goudge Inquiry, and given that the Attorney General is acting on the Goudge recommendations by such means as creating a 'Dr. Smith Compensation Framework Advice Committee', a 'Shaken Baby Syndrome Review Team' and strengthening Ontario's Death Investigation System¹⁰⁸, there will now be preventative measures in place which will hopefully prevent similar mistakes from occurring again in the future.

Concluding Remarks

It is apparent from the findings of this study that the majority of the errors in the cases of interest were in large part due to the individual failings of Dr. Smith. These failings were attributed to a great extent to Dr. Smith's ongoing self-aggrandizement, his overconfident approach, his disregard for other expert opinion and his continuing desire to remain an authority in his field. However, it is important to recognize that these individual failings were repeatedly and negligently overlooked, not only by those responsible for monitoring and supervising Dr. Smith, but also by others in the criminal justice system. This study contributed to raising many concerns about the function of the gatekeeper, and individuals acting in this role failed repeatedly with respect to Dr. Smith's testimony. This may have been due primarily to an uncritical acceptance of Dr. Smith's supposed positive reputation and qualifications.

The role of gatekeeper is a vital role in the criminal justice system, and this study demonstrated that this function, when not executed properly, can result in devastating consequences for the individuals involved. Similarly, this study highlighted concerns regarding

¹⁰⁸ Ministry of the Attorney General (2008, Dec. 2). *Acting on the Goudge Report into Child Pediatric Forensic Pathology in Ontario*.

the role of the attorneys, and how they likewise failed to call witnesses that were reliable and qualified.

This study also underlined the importance of considering the construction of juridical truth, and how an individual who may be constructed as an expert at one point in time can also be constructed as unqualified and negligent. For many years the criminal justice system defined Dr. Smith as a reputable expert who was capable of providing reliable expert testimony, which resulted from an uncritical acceptance of reputation. Years later, that same individual has now been deconstructed as a reliable expert. It is undeniable that Dr. Smith failed in many regards. However, it is also undeniable that the criminal justice system also failed, especially with respect to its gatekeeping function. While it may be easy to focus on the individual failings of Dr. Smith, it is just as important to focus on the failings of the criminal justice system and how its construction and deconstruction of what is considered right and wrong is also problematic. Further study into the specific failings of the associated institutions and criminal justice system, rather than just individuals, could provide further and more in-depth insight into the systemic deficiencies that allowed Dr. Smith's flawed evidence to slip through the cracks.

As shown through this case study, a large part of the problem with Dr. Smith's evidence appears to have been due to his belief that his role was to support the police investigation or prosecution case, subsequently allowing bias and subjective constructs to affect and prejudice his opinion and testimony. Although experts are often retained by either the Crown or the defence, it is important that the expert remains objective and provides a non-biased opinion, not misleading the court for fear that it may weaken that side's case. Further examination into the communication between forensic experts, police investigators and Crown attorneys could

provide insight into the issue of ‘hired guns’ and partisan experts, and perhaps shed further light on what forensic experts believe to be their role in criminal cases.

It appears best, at this point in time, to consider science in a light which neither views medical expertise as completely reliable, nor as completely ineffective to the criminal process. Courts have consistently in the past viewed medical expertise as infallible, however in more recent times, it has become increasingly clear that the expert should not be placed above human error, and should be recognized as being capable of demonstrating subjectivity or flaws in his or her science and research. While there have been innumerable contributions of science to society in many realms, it is clear that in the area of expert testimony, any science presented in court needs to be handled with care and scrutinized cautiously at the gate of admissibility. Prior to even reaching this stage, it is even more important that the evidence be based on good science and reliable methods, and approached at all times with objectivity and a goal towards unbiased fact-finding. It appears promising that the recommendations laid out in the Goudge Inquiry will address these problematic aspects of expert evidence, increasing the assessment and careful consideration of expert testimony in the future.

While it can be hoped that other experts would not conduct themselves in the way that Dr. Smith did, there still needs to be proper and active oversight in order to ensure that, should there be another individual with similar tendencies, such problems will be recognized early enough to prevent the serious effects and devastating suffering that Dr. Smith’s errors caused. As previously mentioned, it is clear that there were significant systemic failings at the OCCO during the time that Dr. Smith practised, however these failings were not covered in detail in this thesis in order to avoid overwhelming the data available on Dr. Smith’s errors. While there was only one noted instance (Amber’s case) where there was a clearly stated admission of Dr. Smith

having been improperly supervised, it appears from information on the OCCO that supervision was seriously absent at the time that Dr. Smith worked there. There were shortcomings in the oversight mechanisms in forensic pathology in general during the time that Dr. Smith was practising, and the problems associated with Dr. Smith were therefore not attributable only to him (Inquiry Report, Vol. I, 2008).

The oversight mechanisms in place from 1981 to 2001 were both inadequate to the task and inadequately used by those who were responsible for using them (Inquiry Report, Vol. I, 2008). This study focused less on the issues with the Coroner's system as a whole, and therefore the primary discussions did not delve very deeply into the actual systemic issues present at the time during which Dr. Smith practised. An analysis of the problematic aspects of the Coroner's system could comprise an entirely separate discussion all together, and any further examination in this thesis would have overwhelmed the more specific data on Dr. Smith as a medical expert. Despite the definite systemic deficiencies and the fact that Dr. Smith was rarely, if ever, properly supervised, there still remain a number of personal failings made by Dr. Smith on an individual level. Future research examining the roles that Dr. Smith's superiors and peers played, however, would allow a further and more holistic examination of the problematic aspects involved with the use of medical expert evidence in criminal cases.

The most disconcerting problem, by far, involved with the use of medical expert evidence in criminal trials is the concern that unreliable or biased expert opinion may lead to a wrongful conviction. Huff et al. (1996) define a wrongful conviction as an individual who has "been arrested on criminal charges [and has] either plead guilty to the charge or [has] been tried and found guilty; and who, notwithstanding plea or verdict, [is] in fact innocent" (p. 10). With respect to this study, there was only one of the eight cases which included an instance of a

wrongful conviction. William Mullins-Johnson was charged with and convicted of murdering his niece, Valin. His charge and conviction were based substantially, if not entirely, on evidence provided by Dr. Smith and his testimony in court. Mullins-Johnson has now been exonerated in light of evidence that conflicted with Dr. Smith's opinion, though his release from prison did not occur until twelve years following his incarceration; he has not yet been compensated for his ordeal.

While only this one case resulted in an actual wrongful conviction, there were other immeasurable miscarriages of justice involved in each of the cases of interest. Aside from Mullins-Johnson, none of the individuals involved were actually wrongfully convicted of murder; nonetheless, in six of the cases the parent or caregiver was charged with second-degree murder or manslaughter, and the charges have since been withdrawn or a stay of proceedings requested or a new trial ordered. In the remaining case, there were no criminal charges pursued, but suspicion was placed on the mother and a subsequent Children's Aid investigation was pursued against her other child until a second opinion finally disproved Dr. Smith's evidence. Despite the fact that Dr. Smith's flawed evidence was recognized before these individuals were actually convicted, each of these cases involved devastating suffering for the parents, the surviving children and other family members, and had the serious potential to result in a wrongful conviction.

As stated by the Honourable Stephen T. Goudge:

The sudden, unexpected death of a child is a terrible tragedy. For the parents, the loss is shattering. It is all the more devastating when flawed pathology focuses suspicion on a grieving parent and invites legal proceedings to separate that parent from surviving children. It is of course no less troubling when flawed pathology imperils the search for the truth – wherever it may lead (Inquiry Report, Vol. III, 2008, p. 587.)

It is hoped that this study will contribute to the ongoing battle against wrongful convictions and be part of a comprehensive examination of the causes of wrongful convictions and miscarriages of justice in the criminal justice system. The cases of Amber, Jenna, Nicholas, Paolo, Sharon, Tiffani, Tyrell and Valin, while grievous on so many levels, have aided in bringing the problematic aspects of medical expert evidence to the attention of the public, and will hopefully continue to raise awareness of the potential devastating problems associated with uncritical acceptance of this type of evidence. This study has served to provide a broad overview of some of the more disturbing cases discussed in the Inquiry, and provides a more specific and explanatory examination of the problems that affected Dr. Smith's evidence.

Understanding Dr. Smith's errors within the context of the literature on flawed medical expert evidence and fitting both the literature and the information available on Dr. Smith into the social constructionist perspective allowed for a more comprehensive understanding of not only Dr. Smith's errors, but the reasons how and why his flawed evidence was allowed into the criminal justice system in the first place. Combining the Inquiry documents, the case law and party submissions from the Inquiry allowed for a thorough understanding of the errors, but the theoretical framework and the legal literature on expert evidence allowed for a better understanding of how not only Dr. Smith failed, but the criminal justice system failed as well. This included the fact that the gatekeeper function was absent in the instances Dr. Smith gave evidence, and also the fact that the Crown and/or defence attorneys failed to ensure they were calling proper evidence. This study also focused on the problems associated with the issue of reputation, and how belief in reputations, rather than demonstrated capability, can pose serious problems within institutions, in this case specifically within the coroner's system and the criminal justice system.

This study raised awareness of the possible individual failings of medical experts, as well as the underlying causes and events that could lead to such flaws. Moreover, by examining the role of the criminal justice system in contributing to the admissibility of flawed expert evidence and ultimately miscarriages of justice, it is hoped that this will lead to an increase in future regulations and guidelines which will result in the reduction and eventual eradication of the use of flawed medical expert evidence in courts.

APPENDIX “A”

CASE DESCRIPTIONS OF THE 20 CASES EXAMINED AS PART OF THE CHIEF CORONER’S REVIEW AND THE INQUIRY INTO PEDIATRIC FORENSIC PATHOLOGY IN ONTARIO

CASE DESCRIPTIONS

CASE	PAGE
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CASES OF INTEREST

In the eight cases of interest, there was significant or adequate information, either in the Inquiry Report, party submissions from the Inquiry, court documents, or Ontario judgments that offered insight into some serious issues and errors made by Dr. Smith while he was appointed director of the OPFPU at SickKids between the years of 1991 and 2001. These cases include Amber, Jenna, Nicholas, Paolo, Sharon, Tiffani, Tyrell, and Valin.

Amber's Case

Amber was being cared for by her babysitter, Shelly M., on July 28, 1988 when, according to Shelly, Amber fell down five carpeted stairs in her family home (Inquiry Report, Vol. II, 2008). It appears from all testimonies and statements made in this case that there would be no reason to believe that Shelly would ever have any reason to harm Amber or treat her harshly, and it appeared that the two got along very well and were very affectionate toward one another.

The doctors at SickKids suspected that Amber's injuries were not accidental, and the hospital's Suspected Child Abuse and Neglect (SCAN) doctors agreed that the injuries were out of proportion to the reported history (Inquiry Report, Vol. II, 2008). Amber died on July 30, 1988 at the age of 16 months (Inquiry Report, Vol. II, 2008).

The concerns over Amber's injuries were never forwarded to the coroner, and the coroner subsequently concluded that Amber died from an accidental head injury, never ordering an autopsy (Inquiry Report, Vol. II, 2008). While Amber's original death certificate indicated that there would be an autopsy performed, at the coroner's request, Dr. Smith changed the death certificate to indicate that no autopsy would be performed (Inquiry Report, Vol. II, 2008). Dr. Smith testified to this indicating that he had suspicions regarding whether or not Amber's death

was accidental, but he either could not, or did not, convince the coroner that an autopsy should be performed¹⁰⁹.

When the SCAN doctors learned that there had been no autopsy, Dr. Smith approached the OCCO about an exhumation, and in August 1988, Amber's body was exhumed so that an autopsy, which Amber's parents believed had already occurred, could be performed (Inquiry Report, Vol. II, 2008). At the time Dr. Smith performed the post-mortem examination on Amber, he had neither formal training nor much experience in conducting post-mortem examinations in criminally suspicious cases (Inquiry Report, Vol. II, 2008). Prior to the examination, he did not speak with either the paediatric neuroradiologist or the paediatric neurosurgeon that performed the craniotomy on Amber¹¹⁰.

Dr. Smith concluded, based on the injuries observed, that Amber had been shaken to death, and that there was no way a household fall like the one described by Shelly could have caused Amber's death. It was following Dr. Smith's opinion on Amber's issues that the police arrested Shelly and charged her with manslaughter¹¹¹.

Dr. Smith testified that he "found nothing to suggest an accidental death or traumatic causes for the injuries" and that "he was sure that shaking had killed Amber"¹¹². He indicated that "there was no possibility whatsoever that a fall down the five carpeted stairs ... could account for [Amber's] death" (Inquiry Report, Vol. II, 2008, p. 12). Dr. Smith also stated that one would have to drop [children] from three storeys in order to kill half of them" and that "you have to drop them from more than three storeys in order to kill more than half of them" (Inquiry Report, Vol. II, 2008, p. 12).

¹⁰⁹ [M. (S.)] at para 53.

¹¹⁰ Ibid at para. 56.

¹¹¹ Ibid at para. 64.

¹¹² Ibid at para. 57-8.

Approximately ten experts were called by the defence, including leading forensic pathologists, neuropathologists, and biomechanics experts. The evidence was inconsistent on a few of the issues, but they all agreed that in rare circumstances a fall such as the one Amber took could cause serious injury and even death in infants and children (Inquiry Report, Vol. II, 2008).

Dr. Smith's evidence for the prosecution was emphatically rejected by Justice Dunn. His reason for the rejection was that Dr. Smith's forensic analysis and approach "lacked objectivity, failed to investigate thoroughly all relevant facts, and neglected to keep adequate records of his work and findings" (Inquiry Report, Vol. II, 2008, p. 13). Justice Dunn also felt that Dr. Smith lacked familiarity and knowledge of the current, relevant literature (Inquiry Report, Vol. II, 2008). Justice Dunn's reasons were based on serious issues regarding Dr. Smith's dogmatism, lack of objectivity and his competence (Affected Families Group, 2008).

Latterly in this case, the Complaints Committee for the College of Physicians and Surgeons of Ontario ("CPSO"), assisted by an expert panel, had also found that Smith's work "was not as thorough as it should have been and that he was overly dogmatic in stating his conclusions" (Affected Families Group, 2008, para. 80a).

Confirmation bias appeared to play a large role in the issues with Dr. Smith's evidence in Amber's case. This type of bias tends to lead an individual to search for information and interpret information in such a way that tends to confirm ideas or information that that individual has already received from either the police investigation, the Crown, or other parties involved in the case (Davis & Follette, 2003). For example, in Dr. Smith's testimony he referred to Amber's autopsy as a "fishing expedition" that all of the experts were already pessimistic about (Affected Families Group, 2008, para. 186). This type of statements suggests that Dr. Smith might have

approached Amber's autopsy having already formed a conclusion about the outcome being a pessimistic and suspicious one.

Another example that Dr. Smith might have been acting with a confirmation bias can be seen in the fact that Dr. Young informed the police that Amber's autopsy "should reveal evidence of bruising between the scalp and skull which would tend to support the babysitter's story," or otherwise there would be no bruising, which would suggest infant shaking (Affected Families Group, 2008, para. 188). In the autopsy, Dr. Smith did note bruising but discounted it as "being a trivial injury of little significance" (Affected Families Group, 2008, para. 189-190). It appears that Dr. Smith assumed at the time that the bruise would have predated the fall and therefore would not back up Shelly's report of Amber having fallen; this no longer appears to be the case (Affected Families Group, 2008)

At least four of the defence experts agreed that the bruising they observed would be consistent with the explanation given by Shelly about Amber's fall (Affected Families Group, 2008). Dr. Smith appeared to have been discounting any findings which did not fit the conclusions he had already formed about the case as a shaking death (such as the bruise, the unilateral subdural hematoma, the lack of any signs of prior abuse and the explanation provided by Shelly) (Affected Families Group, 2008).

Justice Dunn found serious issues with the fact gathering process, communication procedures, and the way medical opinions had been documented by the SickKids doctors, and thus concluded that he was not 'convinced beyond a reasonable doubt' that Amber was killed by shaking, and that the opinions about shaking should not be given much weight¹¹³.

There were considerable disputes between Crown and defence witnesses on medical theory, on whether shaking exists as a syndrome, as well as in other areas. The SickKids doctors

¹¹³ Ibid at para. 1; 91.

concluded that they had never seen a death in a child which came as a result of falling down five steps¹¹⁴. A number of defence witnesses were consulted as well, and while Justice Dunn admitted that he may not have agreed with all of their theories, they all agreed on one thing: “in their experience, in their appreciation of the current medical literature, in some cases their experimentation, in contradistinction to the doctors at SickKids, subdural haematomas and cerebral edema in infants are a very real possibility after a small household fall”¹¹⁵.

Indeed, while the ‘general thrust’ of the literature on shaking is that small falls do not kill, many of the defence doctors stated that the downfall with the literature is that it fails to consider the mechanics of the injury¹¹⁶. There are no details of the kinds of falls, or whether or not there had been impact to the head. Any doctor making a diagnosis should therefore be up-to-date on old as well as new studies and literature, and should be aware of problems in this literature when reporting the mechanics of the injuries¹¹⁷.

Justice Dunn also faulted Dr. Smith’s post-mortem report procedures, stating that Dr. Smith had the time to conduct a thorough autopsy report and was well aware that there was a high chance he would have to attend court as a witness¹¹⁸. Justice Dunn also noted from Dr. Smith’s report that there was “little in the report even to indicate a shaking diagnosis”¹¹⁹. This would suggest that Dr. Smith’s conclusions did not match the information recorded in his report, suggesting an inconsistency, and therefore unreliability, of opinion.

Dr. Smith compared Shelly’s build to his wife’s size and build when she was twenty-four years old in order to indicate that he thought Shelly was strong enough to shake Amber¹²⁰. Some

¹¹⁴ Ibid at para 72

¹¹⁵ Ibid at para 88

¹¹⁶ Ibid at para 104

¹¹⁷ Ibid at para 104

¹¹⁸ Ibid at para 111

¹¹⁹ Ibid at para 111-112

¹²⁰ Ibid at para 145

of the defence doctors, however, questioned whether or not a twelve year old such as Shelly would have the type of strength and muscle development that an adult would, and therefore disagreed with Dr. Smith's opinion; Justice Dunn agreed with the defence doctors¹²¹. Shaking cases also result in grip marks or evidence of abuse on the child; Dr. Smith himself reported that he found no such grip marks on Amber¹²².

Dr. Smith was criticized for using inappropriate anecdotes and slang terms in his testimony on Amber's case. Specifically, he referred to the concept 'bolt out of the blue' to indicate that although Amber may not have been provocative and Shelly may not have acted harshly towards Amber before, nor was there every any suggestion that this might happen, there was still a chance that it could happen without warning¹²³. This was supposed to explain how Shelly might have been driven to shake Amber to death, despite the behaviour described by Dr. Smith being completely out of character for both Shelly and Amber. This use of a slang concept by Dr. Smith was criticized by the trial judge.

Dr. Smith also referred to the term 'poison hours' to refer to the late afternoon hours where an individual could be suffering from hunger and fatigue, and therefore would be likely to act out of character¹²⁴. Again, this example was used to demonstrate how Amber might have woken up in a confrontational, yet completely out of character mood, thus provoking Shelly to shake her to death. Dr. Smith's last attempt to demonstrate how Amber may have provoked Shelly was to use his own personal life as an example to explain how his son wakes up like a

¹²¹ Ibid at para 146-7

¹²² Ibid at para 150

¹²³ Ibid at para 119(1), 158

¹²⁴ Ibid at para 119(2)

“bear”, and how Amber may have woken up in a similar manner¹²⁵ Again, the use of these concepts was criticized by the trial judge.

Justice Dunn ultimately found that there was enough sound and credible medical opinion on Ambers fall to conclude that it could have been the cause of Amber’s death; after a trial which lasted over a period of almost two years, Shelly was acquitted of manslaughter¹²⁶.

Jenna’s Case

Jenna Mellor died on January 22, 1997 at the age of 21 months¹²⁷. Jenna had been left in the care of a babysitter while Jenna’s mother, Brenda Waudby went out for the evening. Jenna was taken to the hospital that night, where she later died (Inquiry Report, Vol. IV, 2008).

Dr. Smith performed Jenna’s autopsy, concluding that Jenna had died from blunt abdominal trauma (Inquiry Report, Vol. IV, 2008). Jenna’s mother was charged with second-degree murder on September 18, 1997, charges that were not withdrawn until June 15, 1999.

The criminal case against Jenna’s mother rested primarily on Dr. Charles Smith’s opinion (Inquiry Report, Vol. II, 2008). However, after hearing conflicting opinions from several different experts whom all suggested that Jenna had suffered her fatal injuries at a time when her mother was not with her, the Crown withdrew the charge (Inquiry Report, Vol. IV, 2008).

Dr. Smith’s major failing was in his interpretation of the timing of the multiple abdominal injuries, but he also failed to conduct a proper sexual assault examination or take appropriate swabs. Rather than notify anyone of a hair found on the body, he collected it and kept it in a drawer in his office for months following Jenna’s death, never specifically photographing it, documenting it, or providing it to the police (Inquiry Report, Vol. II, 2008; Affected Families Group, 2008). Dr. Smith claimed, when asked why he did not perform a

¹²⁵ Ibid at para. 158.

¹²⁶ Ibid at para. 173-4.

¹²⁷ [Waudby] at para. 3.

sexual assault examination, that he and the sexual assault expert had agreed that there was no evidence of sexual abuse (Inquiry Report, Vol. II, 2008). He also claimed that the officer present at the autopsy did not believe that a hair found on Jenna's body was relevant or necessary to seize (Inquiry Report, Vol. II, 2008). Both of these statements were completely misleading and were used only to cover up his own errors; neither the sexual assault expert nor the officer present at the autopsy ever corroborated these claims (Inquiry Report, Vol. II, 2008). Dr. Smith clearly lied and made misleading statements in order to make himself seem less incompetent, and appeared to be more concerned with covering up his errors than offering reliable and cooperative assistance to the investigation.

Cases such as Jenna's where there are multiple injuries require sound forensic pathology knowledge – Dr. Smith lacked the training and experience to take on such a difficult task (Inquiry Report, Vol. II, 2008). Due to this lack of training and experience, Dr. Smith was not able to distinguish between injuries, and was not able to determine the proper timing of said injuries; these errors resulted in charges that never should have been laid.

Dr. Smith's error was significant to the death investigation because the timing of the injuries would exclude either one of the suspects depending on what time the fatal injuries took place. If the fatal injuries had occurred 24 or 28 hours prior to her death, as Dr. Smith initially indicated, then Jenna was in the care of her mother at the time the injuries took place (Inquiry Report, Vol. II, 2008). If, however, the injuries occurred in the evening of her death, as Dr. Smith agreed later, then that put her in the care of her babysitter at the time of the injuries (Inquiry Report, Vol. II, 2008).

According to the expert forensic pathologists at the Inquiry, there was never any pathology evidence to support Dr. Smith's opinion that the injuries could have taken place 24 or

48 hours before death. It was found that Dr. Smith erred by grouping the abdominal injuries together as having all happened at the same time; what he failed to recognize was that discrepancies in timing would suggest that the injuries occurred on separate occasions (Inquiry Report, Vol. II, 2008).

There was nothing in the pathology that accounted for why the timeframes were expanded so that Jenna's mother came under suspicion, when in fact she should have clearly been excluded (Affected Families Group, 2008). In support of this statement, all experts who have subsequently reviewed Jenna's case have confirmed that she died within six hours of her injuries (Affected Families Group, 2008). This timing made it clear that Jenna was not in the care of the mother at the time the fatal injuries were inflicted.

The basis of Dr. Smith's error lies in the fact that he lacked basic knowledge about forensic pathology. While there are few pathologists who are expertly trained in forensic pathology, most generally stay away from offering opinions and testifying on cases that are criminally suspicious, or, are at least careful to obtain assistance and guidance from those that have the requisite knowledge and training. Dr. Smith, however, tended to work in isolation and did not seek advice or counsel from colleagues, even in extremely difficult cases (Inquiry Report, Vol. II, 2008). The major issue in this case was that Dr. Smith was not aware of the limits of his expertise, he failed to stay within them or ask for assistance, and in doing so he exaggerated his abilities to the court.

The CPSO Complaints Committee likewise found in Jenna's case that Dr. Smith failed to review clinical information, failed to "conduct an adequate examination with respect to sexual assault," and they also concluded that his estimates regarding the timing of the fatal injuries were far too broad (Affected Families Group, 2008, para. 80b). They found his opinion and testimony

deeply flawed, and believed that he failed to meet forensic pathology standards (Affected Families Group, 2008, para. 82). In general it appears as though this case is paramount in questioning Dr. Smith's competence with respect to autopsy procedures and offering opinions, his lack of accuracy and credibility with respect to his work, and his potential obstruction of justice (Affected Families Group, 2008).

There were obvious problems in Jenna's case regarding confirmation bias, for example there was information in Dr. Smith's autopsy notes that indicates that he received information prior to performing the autopsy. This information included that Jenna's parents used cocaine, that Jenna's mother had gone out for a coffee the night of Jenna's death, not returning until 6-7 hours later, and that Jenna's mother "might be a prostitute" (Affected Families Group, 2008, para. 226). This information appears to have affected and influenced Dr. Smith's analysis and conclusions, and it appears that he failed to maintain neutrality and objectivity when conducting Jenna's autopsy.

Dr. Smith also became involved in the child protection proceedings, and offered an opinion on May 6, 1999 regarding Ms. Waudby's youngest child, stating "I guess I'll be doing his autopsy too" (Affected Families Group, 2008, para. 249). This inflammatory comment was provided to Kawartha Haliburton CAS despite the fact that Dr. Smith agreed with Dr. Ein's opinion that Jenna died within six hours of the fatal injuries, which would have cleared Ms. Waudby of any suspicion in Jenna's death (Affected Families Group, 2008). Again, Dr. Smith appeared to rely too heavily on extraneous factors in his analysis of Jenna's death.

On May 7, 1999, Ms. Waudby's youngest child was removed from her care (Affected Families Group, 2008). On June 15, 1999 the charges were finally withdrawn against Ms. Waudby, but only under the Crown's conditions that she plead guilty to an offence under section

79(2)(a). At this point, Ms. Waudby's other daughter had spent more than a year and a half in foster care, and Ms. Waudby had never spent a single night with her son. To this day, Ms. Waudby's name remains on the Child Abuse Registry (Affected Families Group, 2008).

Nicholas' Case

Nicholas' case is an important one which demonstrates the potential negative consequences that can result from utilizing a 'think dirty' approach and assuming a non-accidental death simply because there is no evidence to prove otherwise. While there is not a great deal of information available on Nicholas' case, it is important to mention some of the key concerns in order to emphasize the problems that come along with the use of a 'think dirty' approach.

Nicholas died on November 30, 1995 at the age of 11 months. His mother, Lianne Gagnon, had said that Nicholas had crawled underneath a sewing table, fallen over from a standing to sitting position, and then lost consciousness (Inquiry Report, Vol. IV, 2008).

Nicholas' death was originally considered a 'Sudden Unexplained Death', but in November 1996 this was determined to be unsatisfactory after being reviewed by the Regional Coroner and the case was referred to the Pediatric Death Review Committee (Affected Families Group, 2008, para. 208).

Dr. Smith was assigned to review the case, and concluded that "in the absence of an alternate explanation, the cause of death of this young boy is attributed to blunt head injury" (Affected Families Group, 2008, para. 209). Dr. Smith appeared to use a 'think dirty' approach when he assumed that the death was non-accidental simply because there was no proof showing otherwise (AGF, 2008, para. 210).

Most of Dr. Smith's initial consultation report which suggested that Nicholas' death was non-accidental was eventually shown to be incorrect; despite being informed of his errors, Dr. Smith demonstrated a key aspect of confirmation bias by refusing to acknowledge or consider any contradictory information which would have discounted his findings and pushed the investigation toward the correct conclusion (Affected Families Group, 2008). There were also complaints in Nicholas' case that raised a number of questions about systemic issues. Particularly, Nicholas' grandfather believed that Dr. Cairns was on an expedition to eliminate child abuse in Ontario, and this appeared to have clouded the judgment of Drs. Cairns and Smith, as well as impairing the objectivity and credibility of OCCO (Affected Families Group, 2008).

The OCCO received a second opinion from Dr. Mary Case, who concluded that she would not have attributed Nicholas' death to a head injury, because there was no evidence which would suggest such a finding. She later referred to Dr. Smith's conclusions as being in the "area of irresponsible testimony" (Affected Families Group, 2008, para. 135b). Dr. Case, Dr. Cairns, and the CPSO noted that Dr. Smith had insinuated that other experts backed up his opinion in an effort to add weight to his own opinion; this insinuation was apparently exaggerated and overstated (Affected Families Group, 2008). Dr. Smith clearly made misleading statements in order to maintain an appearance of confidence and capability by suggesting that other experts agreed with his opinions, when in fact, this was not the case.

Child protection proceedings were initiated directly following the criminal investigation, as Nicholas' mother was pregnant and was also attending school in order to become a teacher (Affected Families Group, 2008). Dr. Smith attended a meeting with the CAS on May 7, 1998, at which point he told them "he was 99% sure that [Nicholas' death] was a non-accidental death" (Affected Families Group, 2008, para. 218). After receiving the opinion from Dr. Mary Case,

however, the CAS withdrew its application. The Crown and the police also did not pursue any criminal charges with respect to Nicholas' death (Inquiry Report, Vol. IV, 2008). Had there never been other expert opinions obtained, however, there may not have been anything to conflict with Dr. Smith's opinion, and this case could have led to the wrongful conviction of Nicholas' mother.

Since charges were never pursued in this case, there is not an extensive amount of material on this case and not a lot of detailed analysis of Dr. Smith's errors. What is clear is that, as in many other cases, Dr. Smith irresponsibly assumed that Nicholas' death was non-accidental simply because there was an 'absence of alternate explanation'. This use of a 'think dirty' approach was lazy and irresponsible and resulted in Nicholas' mother being unjustly suspected of killing her child.

Paolo's Case

On May 29, 1993, Paola died at the age of eight-and-a-half months. The day following his death, a local pathologist performed the post-mortem examination and found that Paolo's death was due to Sudden Infant Syndrome (Inquiry Report, Vol. IV, 2008). Almost a year later, Paolo's parents brought a second, one month old child to the hospital with an injured femur. This incident led to the reopening of Paolo's case, and in July 1994 his body was exhumed and Dr. Smith performed a second autopsy (Inquiry Report, Vol. IV, 2008).

Dr. Smith concluded that the cause of Paolo's death was undetermined, but non-accidental in nature in the absence of "an alternate credible explanation for the injuries"¹²⁸. He rejected the idea that Paolo died of SIDS, largely in part because of the "many significant injuries [Paolo] had suffered during his lifetime"¹²⁹.

¹²⁸ [M.T.] at para 11; [Trotta] at para. 2.

¹²⁹ [M.T.] at para. 9.

Marco Trotta, Paolo's father, was convicted of second degree murder, aggravated assault, and assault causing bodily harm, receiving life imprisonment with 15 years parole eligibility. Anisa Trotta, Paolo's mother, was charged with manslaughter, criminal negligence causing death, and failing to provide the necessities of life, and was acquitted of manslaughter but convicted of the other charges, receiving five years in custody (Inquiry Report, Vol. IV, 2008).

The main problem with Dr. Smith's evidence in this case had to do less with his procedures, and more with his inappropriate and unnecessary use of anecdotes and explicit language. Justice Doherty found that Dr. Smith's use of graphic and potentially prejudicial language in his description of the possible ways in which Paolo might have died by strangulation was vivid and detailed, as well as unnecessary and speculative¹³⁰.

The Trottas appealed to the Supreme Court of Canada, an appeal which was allowed on November 8, 2007, with their convictions set aside and a new trial ordered. Since this case currently has a new trial pending, there was limited detailed information available on Dr. Smith's errors. What this case does demonstrate, despite the limited material, is that Dr. Smith tended to use inappropriate language in his testimony and reports, and created ill-fitted examples to demonstrate his point that were both needlessly graphic and unprofessional.

Sharon's Case

Louise Reynolds was charged on June 26, 1997, with the second degree murder of her daughter, Sharon. Dr. Charles Smith conducted the post mortem examination on the child in June 1997 and determined that her death was caused "by the loss of blood resulting from multiple stab wounds", consistent with having been caused by scissors¹³¹. Dr. Smith was wrong, however, and the stab wounds were eventually shown to be dog bites (Inquiry Report, Vol. II,

¹³⁰ Ibid at para. 96.

¹³¹ [Reynolds] at para. 1.

2008). Louise Reynolds was charged with murdering her daughter on the basis of Dr. Smith's opinion, despite the fact that there was a pit bull terrier located in the basement of Ms. Reynolds' home at the time of the child's death that Dr. Smith was aware of.

One of Dr. Smith's first errors was that he gave an oral opinion to the police despite the fact that the coroner's investigation is supposed to be separate from the police investigation. It was argued in this case that Dr. Smith failed to keep his work separate from the ongoing police investigation and therefore forfeited the necessary objectivity which is expected of him in his work on post-mortem examinations¹³². Furthermore, Dr. Smith failed to shave Sharon's scalp and send it away for appropriate testing, he lost a cast of Sharon's skull, and he failed to take appropriate photographs – all standard procedures which would have been expected in a case such as Sharon's (Affected Families Group, 2008).

Dr. Smith maintained his assertion that Sharon died due to a loss of blood caused by more than 80 stab wounds made by either a knife or scissors, and vehemently argued that it was not caused by dog bites¹³³. When Dr. Smith performed the autopsy, he had virtually no training or previous experience in either identifying stab wounds or dog bites. Because of his inexperience in these areas, his opinion led to a very significant misdiagnosis (Inquiry Report, Vol. II, 2008).

Ms. Reynolds was not released on bail until two years following the death of her daughter and during this time her other two children were removed from her care by authorities¹³⁴. After a second post-mortem examination was performed, which included Dr. Smith among other pathologists, it was determined that dog bites were responsible for at least some of the child's

¹³² Ibid at para. 1.

¹³³ Ibid at para. 2.

¹³⁴ Ibid at para. 48.

injuries¹³⁵. Based on these results, the second degree murder charges against Ms. Reynolds were withdrawn.

It was found that Dr. Smith erred by misinterpreting the wounds and wound tracks on Sharon's body, failing to recognize a canine bite mark pattern found on some of Sharon's injuries, misinterpreting injuries to Sharon's scalp, and failing to consider that the distribution of the injuries strongly suggested a dog attack (Inquiry Report, Vol. II, 2008). These errors were noted by Dr. Christopher Milroy, a forensically trained and certified pathologist with experience in the area of stab wounds and dog bites, who testified at the Inquiry. Aside from his errors regarding the wounds, Dr. Smith's report was also very late in this case¹³⁶, basically coming on the eve of the preliminary Inquiry.

Following the exhumation of Sharon's body, both Dr. Cairns and Dr. Young, the Chief Coroner for Ontario from 1990 to 2004, were aware that there was a concern of a miscarriage of justice in Sharon's case. They were aware around this time that Dr. Smith had lost the cast of Sharon's skull and that many of the wounds on Sharon's body were actually dog bites; contrary to the opinion Dr. Smith had originally given (Affected Families Group, 2008).

Sharon's case demonstrated the serious problems that can arise when experts fail to recognize the limits of their expertise. Dr. Smith had little experience in working with penetrating wounds but still performed the autopsy at the request of Dr. Young, never having visited the scene of Sharon's death, and never requesting assistance by a forensic pathologist, such as Dr. Chiasson (Affected Families Group, 2008).

While Dr. Smith said that he believed that Dr. Wood, a forensic odontologist would be consulted on Sharon's case, this showed to be inconsistent for a number of reasons. First of all,

¹³⁵ Ibid at para 3

¹³⁶ In several instances, including Sharon's case, the Crown was forced to go so far as to issue a summons for Dr. Smith due to his frequent issues with timeliness (Affected Families Group, 2008, para 131)

Dr. Wood testified that he was not consulted on Sharon's case until many months later (Affected Families Group, 2008). Secondly, Dr. Smith willingly released Sharon's body for burial only three days following her autopsy, even though at this point, Dr. Wood had not even had the chance to examine the body (Affected Families Group, 2008).

There is also some evidence which suggests that Dr. Smith and the OCCO were consulted in order to support the Crown's case. A memo from the co-Crown to the Crown Law Officer suggested "that Dr. Wood was being consulted to "*nip [the defence's dog attack] theory in the bud*" (Affected Families Group, 2008, para. 269). While Dr. Wood admitted that the phrasing of the memo was unfortunate, he later gave an opinion regarding the wounds that "was unequivocal in rejecting the possibility of a dog attack" (Affected Families Group, 2008, para. 270). Dr. Wood's review was only of some of the photographs of the body, and was not based on an actual examination of the body, but it still "left no room for doubt" in the rejection of the dog attack theory (Affected Families Group, 2008, para. 270).

In further support of the theory that the OCCO were acting in favour of the Crown, Dr. Smith acknowledged that when he testified at the preliminary Inquiry he "assumed the role of supporting the Crown's position and dismissing the dog attack theory, notwithstanding that he knew by that time that he was supposed to be neutral and objective" (Affected Families Group, 2008, para. 275). Not only did Dr. Smith fail to maintain objectivity, he also suggested that he was 'uniquely qualified' with respect to Sharon's wounds, because different wound patterns occur in children than in adults (Affected Families Group, 2008, para. 278). What Dr. Smith failed to recognize was that, while he may have been qualified in the area of the pathology of children, he was in no way qualified to offer an opinion on wounds and their tracks – either in children or in adults.

Through his “misleading and emotive testimony” Dr. Smith contributed to the discrediting of the defence’s theory that Sharon’s death was the result of wounds caused by a dog attack, although he was not the only one to exhibit tunnel vision (Affected Families Group, 2008, para. 280). The Kingston police also persisted in looking for proof that Sharon’s mother had killed her, even though they were aware that the results of the exhumation showed that a dog was responsible for almost all of Sharon’s wounds (Affected Families Group, 2008). In late January 2001, the charges against Ms. Reynolds were withdrawn (Inquiry Report, Vol. II, 2008).

Tiffani’s Case

Tiffani died on July 4, 1993 at the age of three-and-a-half months (Inquiry Report, Vol. IV, 2008). A local pathologist performed the autopsy and found nothing suspicious, initially concluding that the cause of death was undetermined (Inquiry Report, Vol. IV, 2008). After it was discovered that multiple rib fractures had been overlooked, Tiffani’s body was exhumed and Dr. Smith performed a second post mortem examination (Closing Argument, 2008).

Dr. Smith concluded that the cause of death was asphyxia, and noted that there were 8 to 9 rib fractures of varying ages (Closing Argument, 2008). Tiffani’s parents were charged with failing to provide the necessities of life and aggravated assault, and later a charge of manslaughter was added (Inquiry Report, Vol. IV, 2008). The court discharged Tiffani’s parents of manslaughter and aggravated assault, but Tiffani’s parents pleaded guilty to failing to provide the necessities of life (Inquiry Report, Vol. IV, 2008). There was not a lot of information available on Tiffani’s case, so the review of Dr. Smith’s errors in this case is limited. It is important to include Tiffani’s case in a discussion of Dr. Smith’s errors, however, as the main issue in this case was that Dr. Smith used problematic definitions that were not accepted within the scientific community at the time he used them. Dr. Smith was criticized for using ‘asphyxia’

as the cause of death when it is a term that has a very ambiguous meaning and should therefore be used only as a *mode*, not as a *cause* of death (Closing Argument, 2008, para. 484). Dr. Smith also came to his conclusion that Tiffani's injuries were non-accidental in nature only in the 'absence of any other reasonable explanation'; this phrase has been used by Dr. Smith a number of times and has been repeatedly criticized by the individuals that reviewed his cases (Affected Families Group, 2008, para. 111).

Tyrell's Case

Tyrell was brought into a local hospital on the morning of January 19, 1998 by his caregiver, and later transferred to SickKids where he died on January 23, 1998 at the age of four years (Inquiry Report, Vol. IV, 2008). The caregiver reported that the previous night Tyrell had been jumping on the couch at home and had fallen off and hit his head (Inquiry Report, Vol. IV, 2008). Dr. Smith performed the autopsy and concluded that Tyrell had died of a head injury, and Tyrell's caregiver was charged with second-degree murder on January 6, 1999 (Inquiry Report, Vol. IV, 2008).

Dr. Smith stated that he was aware that the descriptions of Tyrell's fall were inconsistent, and that the fall had not actually been witnessed by the caregiver; he believed in this case that the injuries were beyond what would be attributed to a household fall (Closing Argument, 2008). Dr. Smith's errors in this case had to do with testifying outside of his expertise and not acknowledging conflicting evidence from other experts. He made specific mention of literature that he said described the necessary degree of force required for a fatal fall, but admitted that there would be people who would disagree with these conclusions based on the literature; other doctors felt that the injuries could be explained by a fall as described by Tyrell's caregiver (Closing Argument, 2008).

Dr. Crane asserted that it is an expert's responsibility to consider all possible causes, and that despite the uncertainty of a fall such as Tyrell's having a fatal outcome, it should have been considered and not immediately discounted (Closing Argument, 2008). Dr. Smith, however, did the opposite, and never even allowed for consideration of the fact that Tyrell's injuries could have been sustained during such a fall as described by his caregiver.

Additionally, Dr. Smith also made inappropriate statements and used inappropriate anecdotes, declaring that injuries such as Tyrell's would be expected if "the child had been struck by 10 blows in succession," but that those types of injuries would not be expected from a household fall (Closing Argument, 2008, para. 1021). Lastly, Dr. Smith also outlined the type of profile of an individual who might commit "an asphyxia-type homicide of a child" (Closing Argument, 2008, para. 1022). This type of statement was not only inappropriate, but was beyond the limits of his expertise and was not a profile which was taken from the literature or agreed upon in within the scientific community.

While Dr. Smith's post-mortem report refers to the cause of death as 'CNS trauma', it does not contain any history, nor does it contain any information on how he came to that the cause of death (Affected Families Group, 2008, para. 293). The Final Autopsy Report does, however, contain highly prejudicial family history information, making it difficult to say whether this type of information may have weighed on Dr. Smith's thinking about the case (Affected Families Group, 2008). Dr. Smith appeared to be concerned with recording the wrong type of information, choosing to carefully record prejudicial and extraneous information about the family, while failing to record his procedures and methods.

Dr. Smith testified outside of his expertise in this case by repeating opinions about whether or not short falls can kill, using wording that mirrored his opinion in Amber's case

(Affected Families Group, 2008). Dr. Smith told the police that “children do not die from accidental falls of this nature,” despite the fact that he concluded in his report that “there is considerable uncertainty as to the mechanism of the head injury” (Affected Families Group, 2008, para. 299-300). Dr. Smith clearly contradicted himself by stating an opinion that seemed indisputable in its wording, while simultaneously suggesting that he was unsure as to the mechanism of the injury.

The Crown requested a stay of proceedings against the caregiver in this case after hearing several conflicting expert opinions that disagreed with Dr. Smith on Tyrell’s cause of death (Inquiry Report, Vol. IV, 2008).

Valin’s Case

Valin died on June 26 or 27, 1993 at the age of four years. Valin’s mother found her face down on her knees in bed, and the ambulance attendants concluded that she was already dead at that time (Inquiry Report, Vol. IV, 2008). William Mullins-Johnson, Valin’s uncle, had been caring for her and her brother the evening before. Dr. Smith was consulted on Valin’s case, and he concluded that she had “died of cardio-respiratory arrest due to asphyxia” and also that he had found evidence of sexual abuse (Inquiry Report, Vol. IV, 2008, p. 961). William Mullins-Johnson was charged with first-degree murder and aggravated assault, including sexually abusing his niece (Inquiry Report, Vol. IV, 2008). However, there was never any pathological evidence that the child was sexually abused either at the time of her death, or any time during her life. It has now been concluded that the 4-year-old girl died of natural causes¹³⁷.

¹³⁷ [Mullins-Johnson] at para. 6.

Conflicting expert opinions were predominant in this case and evidence that was originally submitted to suggest abuse was, in fact, nothing more than the result of natural changes which occur to the body after death¹³⁸.

Because Dr. Smith did not understand that normal post-mortem changes include such things as bruising in the neck and dilation of the anus, Dr. Smith wrongly came to the conclusion that Valin had died of manual strangulation during the commission of a sexual assault (Inquiry Report, Vol. II 2008). When Dr. Smith provided his opinion and consultation report in this case, he had never been involved in a post-mortem examination involving a sexually abused child. He did not have the training or the experience to provide an opinion in this case, and should have recognized his limitations; he failed even to request assistance from someone more qualified to conduct a post-mortem examination in a case like Valin's. Dr. Smith also demonstrated a number of procedural errors in Valin's case, including misplacing microscopic slides and tissue blocks, not responding to requests for these materials, denying any knowledge of Valin's case as well as the materials involved, and lying about having personally returned materials, when in fact, they were sitting in plain sight in his office all along (Inquiry Report, Vol. II, 2008).

The conviction of Mullins-Johnson was the result of a rush to judgment based on flawed and incorrect expert opinion¹³⁹. Dr. Smith's lack of experience and training, and his failure to recognize this, had serious consequences in Valin's case. This case demonstrates an important example of the implications that expert testimony can have for criminal convictions. Mullins-Johnson spent 12 years of his life in prison for a crime he did not commit, and a crime for which there was never even any evidence it had occurred at all. Mr. Mullins-Johnson's conviction was

¹³⁸ Ibid at para. 15.

¹³⁹ Ibid at para. 22.

quashed and an acquittal entered on October 15, 2007.

ASPHYXIA CASES

In seven of the 20 cases examined by the reviewers (but not included in the eight cases of interest), Dr. Smith's diagnosis of asphyxia as the cause of death was challenged. These cases included Baby M, Baby F, Joshua, Katharina, Kenneth, Delaney and Tamara. The criticism of the reviewers was that "asphyxia is a mode, not a cause of death and should never be used to explain death because of its ambiguous meaning" (Closing Argument, 2008, para. 484). The second criticism the reviewers had with Dr. Smith's diagnosis was that they believed that Dr. Smith came to the diagnosis of asphyxia in each of these cases "in the absence of any pathology findings on post mortem examination; that is, he relied upon obsolete, non-specific signs of asphyxia" (Closing Argument, 2008, para. 484).

These cases are not discussed in any further detail beyond being described briefly in this Appendix, as there is very little detailed information available on them, making it impossible to speculate extensively on the errors Dr. Smith may or may not have made. In these seven cases, there was also a guilty plea made by the charged individual, either to the charge of second-degree murder (Kenneth and Tamara's cases), manslaughter (Baby M's case), infanticide (Baby F and Delaney's cases), or the individual plead guilty to first-degree murder but was found not criminally responsible due to mental disorder (Katharina's case). In one case, the charged individual pled not-guilty, but failed to call any evidence and was subsequently convicted of infanticide (Joshua's case). The main issue in all of these cases, as found in the available resources, was based in Dr. Smith's diagnosis of asphyxia as discussed in the previous paragraph. There were little if any further errors noted in the available information on these cases, which is why they are not examined in any further detail than within this Appendix.

Baby F's Case

Baby F was born and died on November 28, 1996 (Inquiry Report, Vol. IV, 2008). Baby F was found inside plastic bags inside her mother's closet by police (Inquiry Report, Vol. IV, 2008). A local pathologist conducted the autopsy, but Dr. Smith produced a consultation report and concluded that asphyxia was the cause of death based on "non-specific findings of asphyxia together with the circumstances in which Baby F was found" (Closing Argument, 2008, para. 541; 543). Baby F's mother pleaded guilty to infanticide. While Baby F's mother pled guilty to the charges, errors in Dr. Smith's evidence were noted in his use of the term 'asphyxia'. There were no further errors noted in the available material on this case.

Baby M's Case

Baby M was born and died on November 8, 1992, and was found, covered in blood, in a toilet in his mother's home by ambulance attendants (Closing Argument, 2008; Inquiry Report, Vol. IV, 2008). Dr. Smith performed the autopsy and opined that asphyxia had caused the infant's death (Inquiry Report, Vol. IV, 2008). The police charged Baby M's mother with second-degree murder, and in July 1994 she pleaded guilty to manslaughter after admitting that she had placed the baby in the toilet (Closing Argument, 2008; Inquiry Report, Vol. IV, 2008). Again, while the mother pled guilty to the charges, Dr. Smith's use of the term 'asphyxia' was criticized, but there were no further concerns noted with his evidence.

Delaney's Case

Delaney died on May 23, 1993 at the age of five months (Inquiry Report, Vol. IV, 2008). On the evening of May 22, 1993, Delaney was alone with his mother and cousin at a family member's home, and the next day Delaney's body was discovered by family members in the same room that his mother was in (Inquiry Report, Vol. IV, 2008). Delaney's mother confessed

to placing her hand in the child's mouth three times (Inquiry Report, Vol. IV, 2008). Dr. Smith received this information prior to completing his post mortem report, information which "gave context to the findings at autopsy which included a finding of an injury inside Delaney's throat and non-specific signs of asphyxia" (Closing Argument, 2008, para. 551).

Delaney's mother was charged with second-degree murder, which was later changed to infanticide. On April 26, 1994, Delaney's mother was convicted of infanticide (Inquiry Report, Vol. IV, 2008). Dr. Smith's major criticism in this case had to do with his use of the term 'asphyxia', but it should also be noted that given the information he received prior to performing the autopsy, Dr. Smith may have relied too heavily on extraneous factors and not enough on the objective autopsy findings, as was similarly found in several of the cases of interest.

Joshua's Case

Joshua died on January 23, 1996 at the age of four months. Joshua's mother, Sherry Sherret reported that she had found him blue and not moving when she had went to check on him that morning (Inquiry Report, Vol. IV, 2008).

Dr. Smith conducted the autopsy and concluded that Joshua's death was caused by asphyxia based on non-specific and microscopic findings, but also in part because of circumstantial information relayed to him about how Joshua's mother had attended the Trenton Memorial Hospital a month prior "where she advised medical staff that she was afraid she would kill her baby by smothering him" (Closing Argument, 2008, para. 571). When asked about the possibility of a non-accidental suffocation, Dr. Smith "acknowledged that such an event was possible if the infant was placed in a dangerous or potentially dangerous situation", for example, in a water bed (Closing Argument, 2008, para. 589).

Sherry Sherret was charged with first-degree murder, with the preliminary hearing taking place over 12 months. Her charge went from first-degree to second-degree murder, and then on January 4, 1999, the charge was changed to infanticide (Inquiry Report, Vol. IV, 2008).

Although Ms. Sherret pleaded not guilty to the charge, she elected not to call any evidence, and was subsequently convicted of infanticide (Inquiry Report, Vol. IV, 2008). What appeared to be the major error in this case was that Dr. Smith again relied too heavily on extraneous information relayed to him about Ms. Sherret prior to conducting the autopsy on Joshua.

Katharina's Case

Katharina died on September 15, 1995, at the age of three-and-a-half years (Inquiry Report, Vol. IV, 2008). The police found Katharina's body in her mother's apartment, and Katharina's mother confessed to smothering Katharina with a pillow (Inquiry Report, Vol. IV, 2008).

Dr. Smith was informed of this confession which "provided circumstantial information to explain the findings at autopsy which were the expected findings with a slow suffocation with a pillow" (Closing Argument, 2008, para. 559). Dr. Smith arrived at the conclusion that the cause of death was asphyxia based on the non-specific findings together with "a history that provided a reasonable explanation for those findings" (Closing Argument, 2008, para. 561). Katharina's mother was charged with first-degree murder, but at the preliminary hearing, her fitness to stand trial became an issue (Inquiry Report, Vol. IV, 2008). Over a year-and-a-half later, Katharina's mother was considered fit to stand trial and pleaded guilty to the charge of first-degree murder, but the court found her not criminally responsible in light of a mental disorder (Inquiry Report, Vol. IV, 2008).

While Dr. Smith's use of the term 'asphyxia' was again criticized in this case, it is also important to note that Dr. Smith was informed of circumstantial information prior to conducting the autopsy; information which may have inappropriately affected his analysis of the autopsy findings.

Kenneth's Case

Kenneth died on October 12, 1993 at the age of two years and five months. Kenneth's mother reported that she found Kenneth not breathing, tangled in his bed sheets (Inquiry Report, Vol. IV, 2008). Kenneth was taken to a local hospital and then transferred to SickKids where he later died (Inquiry Report, Vol. IV). Dr. Smith performed the autopsy and concluded that asphyxia was the cause of death (Inquiry Report, Vol. IV, 2008).

Kenneth's mother, Tammy Marie Marquardt, was convicted by jury of second-degree murder for smothering her son. Marquardt was diagnosed as having a paranoid personality disorder, as well as clinically displaying signs of a "borderline personality with significant difficulties surrounding interpersonal relationships displaying frequent emotional outbursts"¹⁴⁰.

The trial judge, Justice McIsaac, stated that he was satisfied that it was one of these emotional outbursts which led to the death of Kenneth¹⁴¹. Justice McIsaac was also satisfied that Kenneth was a target for his mother's pent up frustrations "related to the pathological relationship she had with her husband [whose] cavalier and uncaring treatment of Ms. Marquardt is ... more than a minimal cause of this death"¹⁴².

Dr. Smith conducted the autopsy on Kenneth, and his evidence was that the child's breathing would have had to have been obstructed for one to two minutes in order to cause the

¹⁴⁰ *R. v. Marquardt* (1995) O. J. No. 3248 at para. 5.

¹⁴¹ *Ibid* at para. 5.

¹⁴² *Ibid* at para. 8.

death¹⁴³ (Inquiry Report, Vol. IV). Dr. Smith found non-specific signs of asphyxia in Kenneth's case, and was aware that Kenneth's mother had indicated that Kenneth had suffocated in his bed sheets (Closing Argument, 2008). Dr. Smith was also aware at this point that "Kenneth had suffered from seizure activity in the past which could cause a death from asphyxia" (Closing Argument, 2008, para. 630). This was yet another case which demonstrated Dr. Smith's inaccurate and improper use of the term 'asphyxia', and also demonstrates his tendency to rely too heavily on extraneous information relayed to him prior to conducting his autopsy procedures.

Based on Dr. Smith's evidence and Ms. Marquardt's admissions following Kenneth's death, it was the Crown's argument that Marquardt had intentionally killed Kenneth¹⁴⁴. Marquardt was sentenced to life imprisonment with parole ineligibility for ten years. Marquardt appealed her conviction, but the appeal was dismissed on January 22, 1998 (Inquiry Report Vol. IV, 2008).

Tamara's Case

Tamara's mother reported that when she got home on the afternoon of February 8, 1999, she found Tamara cold and not breathing, at which point she took Tamara to the hospital where she was pronounced dead at the age of one year (Inquiry Report, 2008, Vol. IV).

Information received from Tamara's father was that he had "violently forced a bottle into her mouth as she choked and vomited," and from this information it was determined that he had used enough force to cause the injuries that Tamara sustained to her face, mouth and neck (Closing Argument, 2008, para. 513). Tamara's father, angry and frustrated, then left Tamara alone knowing that she was in distress. He was in a separate room from Tamara when her mother returned home and found the child, already deceased (Closing Argument, 2008).

¹⁴³ *R. v. Marquardt* (1998) O. J. No. 241 at para. 1.

¹⁴⁴ *Ibid* at para. 1.

Dr. Smith performed the post-mortem examination and concluded that the cause of death was “asphyxia associated with multiple traumatic injuries” (Inquiry Report, Vol. IV, 2008, p. 959). The police charged Tamara’s father with second-degree murder, to which he pleaded guilty on August 30, 2001 and was sentenced to three-and-a-half years in addition to his 15 months already served (Inquiry Report, Vol. IV, 2008). Again, this case was one in which Dr. Smith’s use of the term ‘asphyxia’ was criticized by the reviewers, but there were no further errors identified in the available material.

UNEXAMINED CASES

In five of the 20 cases (not included in the eight cases of interest), there is not enough information available to make any statements on Dr. Smith’s evidence. These cases include Dustin, Gaurov, Kasandra, Taylor, and Baby X¹⁴⁵, and are described briefly below simply because they were included in the 20 cases that the reviewers took issue with, although there is very little information available on these cases in order to truly understand Dr. Smith’s errors.

Dustin’s Case

Dustin died on November 18, 1992 at the age of two months. When Dustin’s father realized he was not breathing on the morning of November 17, he took Dustin to a local hospital, where he later died (Inquiry Report, Vol. IV, 2008). A local pathologist performed the autopsy and concluded that the cause of death was attributable to “(1) respiratory failure, secondary to bronchopneumonia and aspiration, and (2) massive subdural hematoma” (Inquiry Report, Vol. IV, 2008, p. 955). Dr. Smith was consulted for a second opinion and concluded that the cause of death was blunt trauma.

¹⁴⁵ Baby X’s case is still ongoing and therefore the pathology was not examined in the Inquiry into Pediatric Pathology in Ontario

Following Dr. Smith's opinion, Dustin's father was charged with manslaughter and failure to provide the necessities of life, and on April 21, 1995, Dustin's father pleaded guilty to the offence of aggravated assault and was sentenced to six months in custody (Inquiry Report, Vol. IV, 2008). While the information from the reviewers is minimal on Dr. Smith's errors, Dr. Smith himself now notes that he used colloquialisms and may have been inappropriately casual in his testimony, as well as being overly harsh when describing the original autopsy performed by the local pathologist (Closing Argument, 2008, para. 942).

Gaurov's Case

Gaurov died on March 20, 1992 at the age of five weeks. Gaurov's father reported that he had picked up his son after he heard him crying, and Gaurov "gasp[ed] and went limp" (Inquiry Report, Vol. IV, 2008, p. 955). Gaurov had been taken to the local hospital and then transferred to SickKids where he later died. Dr. Smith performed the autopsy and concluded that Gaurov died from Shaken Baby Syndrome (Inquiry Report, Vol. IV, 2008). Prior to performing the autopsy, Dr. Smith was aware of some information regarding Gaurov's history (Closing Argument, 2008). Gaurov's father was charged with second-degree murder, but later pleaded guilty to a charge of criminal negligence causing death (Inquiry Report, Vol. IV, 2008). The information is limited on Dr. Smith's errors in this case, but some of the comments made seem to indicate that Dr. Smith's evidence may have been influenced too heavily by extraneous information received prior to performing the autopsy.

Kassandra's Case

On April 9, 1991, Kassandra was found unconscious by ambulance attendants and taken to the local hospital, but was later transferred to SickKids where she died at the age of three-and-a-half years (Inquiry Report, Vol. IV, 2008). Kassandra's stepmother later admitted that she had

struck Kasandra on the head, although she did not believe it was enough to cause the child's death; Dr. Smith's autopsy findings appeared to support the stepmother's admission as he found the cause of death to be cranio-cerebral trauma (Inquiry Report, Vol. IV, 2008). Kasandra's stepmother was subsequently charged with manslaughter, pleaded guilty to the charge and was convicted (Inquiry Report, Vol. IV, 2008). Kasandra's stepmother's case has now been reopened, seventeen years after Kasandra's death.

The issues of this case, similar to many others, seemed only to be that Dr. Smith had received information concerning Kasandra's history and hospital records prior to performing the autopsy, and this information may have influenced the way he approached and analyzed the case.

Taylor's Case

Taylor Giba died on July 31, 1996 at the age of three-and-a-half months. According to Taylor's father, Taylor had slipped from his grasp while he was trying to put him in his crib, and that his father had raised his right thigh quickly in order to break the fall¹⁴⁶. Taylor had struck his head on his father's thigh and cried out, but then according to his father was quiet¹⁴⁷. Originally the father did not relay this information to the police, as he thought the child had died from choking on vomit, not from the impact with his leg¹⁴⁸.

A local pathologist performed the autopsy, and then later consulted with Dr. Smith (Inquiry Report, Vol. IV, 2008). The pathologist originally discovered a number of old healing rib fractures on Taylor, but indicated that these were not responsible for the child's death¹⁴⁹. The pathologists both agreed that the death was not caused by shaking, but was caused by some

¹⁴⁶ *R. v. Giba* (1999) O. J. No. 3764 at para. 24(l).

¹⁴⁷ *Ibid* at para. 24(m).

¹⁴⁸ *Ibid* at para. 24(h).

¹⁴⁹ *Ibid* at para. 10.

impact between the child's head and "a relatively massive but somewhat soft-surfaced object"¹⁵⁰. Both pathologists agreed that the injury would not have been caused by a routine fall around the home, and that the impact of the soft object would have had to have been "extremely forceful and violent" or of "very considerable force"; Dr. Smith believed that the injury would have had to have been caused by something other than a hard surface¹⁵¹.

Taylor's parents, Lanny Giba and Laura Wuola, were subsequently charged with second-degree murder, criminal negligence causing death, and failure to provide the necessities of life (Inquiry Report, Vol. IV, 2008). Following a preliminary hearing on June 30, 1997, the judge found that there would have been no motive for the crimes charged, and the court discharged Taylor's parents on all charges¹⁵². The hearing judge in this case, Justice Kozak, concluded that Dr. Smith's medical evidence was quite clear and that the testimony given by Lanny Giba was consistent with Dr. Smith's opinion¹⁵³. It is therefore unclear as to what Dr. Smith's errors were in this case.

Baby X's Case

Baby X died at the age of two in 1996, following a fall at a daycare facility (Inquiry Report, Vol. IV, 2008). Dr. Smith conducted the post-mortem examination, and at the request of Dr. Cairns arranged to meet with Baby X's mother at her home in order to discuss his findings (Inquiry Report, Vol. IV, 2008). The police intercepted the telephone call Dr. Smith made to Baby X's mother and contacted him to inform him that listening devices were installed in her home and that his conversation with the mother would likely be intercepted (Inquiry Report, Vol. IV, 2008). Dr. Smith maintained his meeting with Baby X's mother to discuss his results,

¹⁵⁰ Ibid at para. 11.

¹⁵¹ Ibid at para. 12-13.

¹⁵² Ibid at para. 28-29.

¹⁵³ Ibid at para. 29(8).

meeting with the police both before and after the meeting (Inquiry Report, Vol. IV, 2008). Since this investigation is still ongoing and the Inquiry did not examine the pathology, there is little documentation on Baby X's case. It does appear, however, from what little information is available on the case, that Dr. Smith's conversation and visit to Baby X's mother was inappropriate and problematic on a number of levels.

APPENDIX “B”

TIMELINE OF EVENTS

TIMELINE OF EVENTS

1980

Dr. Smith begins working as a pediatric pathologist at Toronto's Hospital for Sick Children

July 30, 1988

Amber dies at the age of 16 months

August 19, 1988

Dr. Smith performs Amber's autopsy

December 15, 1988

Police charge Amber's babysitter, S. M., with manslaughter

1991

Ontario Pediatric Forensic Pathology Unit created

July 15, 1991

Justice Dunn acquits Amber's babysitter, S. M., of manslaughter

1992

Dr. Smith appointed Director of the Ontario Pediatric Forensic Pathology Unit (OPFPU)

May 29, 1993

Paolo dies at the age of eight-and-a-half months

May 30, 1993

Local pathologist performs Paolo's post-mortem examination and concludes that death was attributable to sudden infant death syndrome

June 26-27, 1993

Valin dies at the age of 4 years

June 27, 1993

Local pathologist performs Valin's autopsy, concludes that she died of cardio-respiratory arrest due to asphyxia, and finds evidence of sexual abuse. William Mullins-Johnson is charged with first-degree murder and aggravated sexual assault. Dr. Smith provides a joint consultation report

July 4, 1993

Tiffani dies at the age of three-and-a-half months

July 5, 1993

Local pathologist performs autopsy on Tiffani and determines cause of death to be undetermined

July 13, 1993

Tiffani's body exhumed due to rib fractures that were overlooked on Tiffani's X-ray. Dr. Smith performs a second autopsy

July 23, 1993 Tiffani's parents charged with failing to provide the necessities of life and aggravated assault

March 25, 1994

Police add a further charge of manslaughter to Tiffani's parents

July 1994

Dr. Smith performs a second autopsy on Paolo after his body is exhumed due to a sibling being brought to the hospital with injuries

September 21, 1994

Jury convicts Valin's uncle, William Mullins-Johnson of first-degree murder

May 12, 1995

Court discharges Tiffani's parents of manslaughter and aggravated assault charges, and Tiffani's parents plead guilty to failing to provide the necessities of life

November 30, 1995

Nicholas dies at the age of 11 months

December 1, 1995

Local pathologist performs Nicholas' autopsy and concludes that cause of death is undetermined and findings are consistent with sudden infant death syndrome, provided all other aspects of investigation are negative

November 1996

Regional coroner refers Nicholas' case to the Pediatric Death Review Committee, which assigns the review to Dr. Smith

January 22, 1997

Jenna dies at the age of 21 months. Dr. Smith performs the autopsy

January 24, 1997

Dr. Smith provides a consultation report on Nicholas' case

June 12, 1997

Sharon dies at the age of seven-and-a-half-years. Dr. Smith performs the autopsy

June 26, 1997

Police charge Sharon's mother, Louise Reynolds, with second-degree murder

September 18, 1997

Police charge Brenda Waudby, Jenna's mother, with second-degree murder

January 23, 1998

Tyrell dies at the age of 4 years. Dr. Smith performs the autopsy

June 12, 1998

Jury convicts Paolo's father manslaughter, criminal negligence causing death and failing to provide the necessities of life, and Paolo's mother is charged with criminal negligence causing death and failing to provide the necessities of life. New trial currently pending

January 6, 1999

Police charge Tyrell's caregiver with second-degree murder

June 15, 1999

Crown withdraws charge against Jenna's mother after receiving the opinions of several experts suggesting that Jenna was not in her mother's care at the time of her fatal injuries

July 13, 1999

Second autopsy performed on Sharon determines that dog caused at least some of Sharon's injuries

2001

Dr. Smith stops performing criminally suspicious autopsies

January 22, 2001

Crown requests a stay of proceedings against Tyrell's caregiver after receiving conflicting reports from several experts

January 25, 2001

Determined that Sharon died as a result of a dog attack, and Crown withdraws second-degree murder charge against Sharon's mother, Louise Reynolds

June 7, 2005

Dr. Barry McLellan calls for a full review into the work of Dr. Smith in criminally suspicious cases and homicides in the 1990s (Chief Coroner's Review)

December 2006

Jenna's babysitter, J.D., pleads guilty to manslaughter

April 19, 2007

Dr. McLellan announces the results of the Chief Coroner's Review

April 25, 2007

Province of Ontario establishes the Inquiry into Pediatric Forensic Pathology in Ontario and appoints The Honourable Stephen T. Goudge as the Commissioner.

October 19, 2007

Court allows Valin's uncle, William Mullins-Johnson's appeal and acquits him of first-degree murder

November 12, 2007

Public hearings for the Inquiry into Pediatric Forensic Pathology in Ontario commence

February 29, 2008

Public hearings for the Inquiry into Pediatric Forensic Pathology in Ontario completed

March 31 and April 1, 2008

Oral closing submissions are heard in the Inquiry into Pediatric Forensic Pathology in Ontario

October 1, 2008

Report of the Inquiry into Pediatric Forensic Pathology in Ontario is released

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