The Reliability of Expert Evidence in Canada: Safeguarding Against Wrongful Convictions

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This paper analyzes Canada's common law as it currently stands regarding expert evidence and key inquiries and reports on expert evidence and wrongful convictions done in Canada and on forensic science. The analysis will demonstrate how Canada's laws, inquiries, and reports have not gone far enough to ensure expert evidence is reliable in order to protect innocent citizens from wrongful conviction. I propose that to truly safeguard against the admission of improper expert evidence in trials Canada must (1) heighten the standard expert evidence must meet to be considered reliable (2) foster a system of peer-reviewed research, training, accreditation, and accountability in forensic science disciplines in Canada, and (3) ensure that all legal actors (i.e., police, lawyers, and judges) receive continued training on best forensic science practices and their limits and have free access to information and education on forensic science disciplines when needed. This paper will discuss how systemic changes in forensic science disciplines in Canada, continued education in forensic sciences for legal actors, and changes in the law of reliability of evidence are necessary to prevent improper expert evidence from continuing to contribute to wrongful convictions.

I Introduction

Wrongful convictions are a reality in any justice system. In Canada, the main recourse for the wrongfully convicted is Ministerial review by the Minister of Justice but Ministerial review is only available after all other appeal routes have been exhausted. In past decades, there have been many inquiries on wrongful convictions in Canada that have resulted in practical and systemic

recommendations to better the criminal justice system. It is my view that Canadian common law, judicial review, and these inquiries have not done enough to safeguard against wrongful convictions. Judicial review for miscarriages of justice is rare and inquiries are infrequent and tend to come about because of grave wrongdoings on the part of the justice system. Inquiries also produce recommendations, not law.

Inquiries in Canada have shed light on issues involving expert witnesses and expert evidence. There is a growing understanding in the legal world that much forensic science and medical evidence presented by experts in courts is not reliable.[1] Forensic science is a highly respected discipline. Science is relied upon to reveal truths about the world and humanity. It saves lives and improves the world. In the legal world, however, science has the power to save or destroy lives. Forensic science evidence is a common feature in criminal trials. While expert evidence in criminal trials is meant to aid in the fact-finding process, the seemingly infallible nature of expert witnesses and evidence—as implied by the title "expert"—can lead to miscarriages of justice. Lawyers and judges often struggle to understand and apply basic scientific concepts which inhibits judges in their role as gatekeepers of admitted evidence and lawyers in their role as advocates. Canadian inquiries and data on exonerations have shown that forensic science has played a role in a large percentage of wrongful convictions. In most cases where forensic science was a contributing factor to a miscarriage of justice, the forensic science evidence admitted at trial was either wrong or exaggerated.[2] The issue with improper expert evidence cases is always that the admitted evidence was unreliable and the checks and balances we have in place in our legal system were unable to show that the evidence was unreliable. Admissibility standards, judicial discretion to exclude evidence, and appeals did not work to reveal that the expert evidence was unreliable. Unreliable evidence being used to falsely corroborate a false narrative in trials is a problem. The admission or belief in unreliable evidence or the qualification of an unqualified expert witness invalidates the trial process and subsequent appeals. Admitting unreliable evidence invalidates a verdict. As addressed in R v. Mohan,

> There is a danger that expert evidence will be misused and will distort the fact-finding process. Dressed up in scientific language which the jury does not easily understand and submitted through a witness of impressive antecedents, this evidence is apt to be accepted by the jury as being virtually infallible and as having more weight than it deserves.[3]

The infallibility of expert evidence is one aspect of the issue. Numerous systemic issues increase the risk that expert evidence admitted at trial may not be reliable. For instance, the underfunding of legal aid and a lack of independent oversight on the handling of expert evidence can lead to unreliable evidence getting past the system's checks and balances.[4] Retaining an expert witness costs much time and money. Accordingly, a wrongfully accused person may not have the resources needed to defend themselves against an expert.

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[1] Gary Emond & Kent Roach, "A Contextual Approach to the Admissibility of the State's Forensic Science and Medical Evidence" (2011) 61 U Toronto LJ 343 at 344 (*Emond & Roach*).

[2] *Ibid* at 360.

[3] *R v Mohan*, 1994 CanLII 80 (SCC), [1994] 2 SCR 9, at para 23, online: <https://canlii.ca/t/1frt1> [*Mohan*].

[4] Gary Emond & Emma Cunliffe**,** "Reviewing Wrongful Convictions in Canada" (2017) 64 C.L.Q. 473.

My paper will analyze Canada's common law as it currently stands on expert evidence and key Canadian inquiries and reports on expert evidence, forensic science, and wrongful convictions. From this analysis, I will demonstrate that our current legal standards have not gone far enough to ensure expert evidence is reliable to protect innocent citizens from wrongful convictions. I will propose that to truly safeguard against improper expert evidence being admitted in trials we must (1) heighten the standard that expert evidence must meet to be considered reliable, (2) foster a system of peer-reviewed research, training, accreditation, and accountability in forensic science disciplines in Canada, and (3) ensure that all legal actors (i.e., police, lawyers, and judges) receive continued training on best forensic science practices and their limits and have free access to information and education on forensic science disciplines. I propose that these systemic changes in forensic science disciplines in Canada, along with continued education in forensic sciences for legal actors, and changes in the law of reliability of evidence are necessary to prevent wrongful convictions.

II The Law of Expert Witnesses in Canada:

The Criminal Code and the Canada Evidence Act[5] govern expert witness rules in Canada. The common law governs expert evidence legal rules in all provinces where these statutes are silent. Under criminal law in Canada, there must be enough evidence to convict beyond a reasonable doubt. Expert testimony and expert forensic science testimony is admissible in Canada, but there are limits. The trial judge must ensure that throughout the expert's testimony, the testimony remains within the proper scope of expert evidence and that the evidence itself is properly the subject of the expert evidence. The trial judge must not assign any weight to expert evidence that goes beyond its proper scope.[6] Lawyers should critically assess the opinion, properly present the opinion, relate the opinion to the issue, and recognize and respect the limits of the opinion and the expert. Science is also constantly evolving; therefore, all participants of the justice system must be diligent in considering those advancements and their impact on prior theories.[7]

Established in Mohan, the four criteria necessary for expert evidence to be admitted at trial are: (1) relevance, (2) necessity in assisting the trier of fact, (3) the absence of any exclusionary rule and (4) a properly qualified expert.[8]

Evidence is relevant if it is logically relevant. Judges must weigh what the evidence is worth versus its cost, its reliability versus its effect on the trial process, whether the time spent on the expert evidence is worth it, and whether it would mislead the jury more than it would be helpful and reliable to them. In other words, the trial judge must consider whether the evidence is likely

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[5] *Criminal Code*, RSC 1985, c C-46, s 696.1, online: <https://laws-lois.justice.gc.ca/eng/acts/c-46/page-107.html#h-130261>; *Canada Evidence Act*, (R.S.C., 1985, c. C-5), s. 7, online: <https://laws-lois.justice.gc.ca/eng/acts/c-5/page-1.html#h-137457>.

[6] *R. v Sekhon*, 2014 SCC 15, at paras 47-48, online: <https://canlii.ca/t/g35qf#par47> [S*ekhon*].

[7] For example, see *Truscott (Re)*, 2007 ONCA 575 at para 777, online: <https://canlii.ca/t/1snwd#par777> [*Truscott*].

[8] Mohan, *supra* note 3 at paras 17-22.

to assist the jury in the fact-finding mission of the trial or distort the fact-finding mission. The weight society gives to expert evidence is also considered in its relevance assessment. The weight society gives to the expert evidence is determined based on whether the jury is likely to be able to keep an open mind and objectively assess the evidence or whether they will be overwhelmed by the mystic infallibility of the evidence. In society, labelling evidence as "expert" and "science" incidentally assigns a heightened value to that evidence. The pursuit of science and expertise is noble and generally trustworthy. Hence, it makes sense that people often see scientific evidence as infallible, concrete proof. Accordingly, Mohan identifies the high-value society sometimes assigns expert evidence as a criterion for admission evaluation.

Finding the expert evidence necessary means that the information is likely to be outside the experience and knowledge of a judge or jury. The "necessary" criterion demonstrates that despite the risks involved in admitting expert evidence, it is often necessary. Experts are considered experts for a reason. Countless disciplines would be outside of the expertise of the average legal professional or jury member. Because much expert evidence can be considered outside the experience of a judge or jury, judges must further evaluate the evidence based on how it might distort the fact-finding process. The expert evidence can be wholly outside of the experience of a judge or jury, but if that evidence gets in the way of the fact-finding process of the trial, it must not be admitted. The entire purpose of admitting evidence in a trial is to aid in fact-finding.

There are also exclusionary rules to consider when evaluating the admission of expert evidence. Some such exclusionary rules include, but are not limited to, credibility, character evidence, legal opinions regarding domestic laws, and privilege. Finally, you need a properly qualified expert for the expert testimony and evidence to be admitted.[9] A properly qualified expert is shown to have acquired special or peculiar knowledge through study or experience in respect of matters on which they undertake to testify. As mentioned, the trial judge must ensure that throughout the expert's testimony, the testimony remains within the proper scope of the expert evidence and that the evidence itself is properly the subject of the expert.[10] The trial judge must not assign any weight to expert evidence that goes beyond its proper scope. As soon as an expert's testimony goes beyond the bounds of their expertise, the expert becomes unqualified (in that area), and the evidence, if admitted, invalidates the entire trial process and its goal towards finding the truth. Accordingly, all evidence admissibility is conditional on the fact that its impact on the trial process must not be greater than its value.[11] Hence, novel scientific evidence, that has not had as much research establishing its validity, requires special scrutiny.

White Burgess Langille Inman v Abbott and Haliburton Co, ("White Burgess") added on the criteria that a properly qualified expert must also be impartial, independent, and unbiased.[12] Expert witnesses have a duty to the Court to give fair, objective, and non-partisan opinion evidence. They must be aware of their duty and be able and willing to carry it out. If an expert

[9] *Ibid.*

[10] Sekhon, *supra* note 6 at para 47.

[11] Mohan, *supra* note 3 at para 22.

[12] White Burgess Langille Inman v Abbott and Haliburton Co, 2015 SCC 23, at para 54, online: <https://canlii.ca/t/ghd4f#par54>. [*White Burgess*].

witness does not meet this threshold requirement, their evidence should not be admitted. Once this threshold is met, concerns about an expert witness's independence or impartiality should be considered as part of the overall weighing of the costs and benefits of admitting the evidence. The expert's opinion must be impartial in the sense that it reflects an objective assessment of the questions at hand. It must be independent in the sense that it is the product of the expert's independent judgment, uninfluenced by who has retained them or the outcome of the litigation. It must also be unbiased in the sense that it does not unfairly favour one party's position over another. The acid test referenced in White Burgess is the common law test used for considering bias.[13] The acid test evaluates whether the expert's opinion would change depending on which side they were retained by (i.e., the Crown or the accused in a criminal trial). The consideration of an expert's bias is an important factor in the admissibility of expert evidence. Expert witnesses are brought into trials to provide information and understanding on areas unfamiliar to the judge or jury. Experts do not testify in a trial to advocate for whichever party they were retained by.

Nonetheless, it is easy for people to become entrenched in the position of the side that retained them as an expert witness. Additionally, in some scientific fields, there are a limited number of experts qualified to testify or who might have been available to work on a case. This gives rise to the issue of experts being called to testify in a trial they are too close to and thus, cannot help but be biased about. At the least, an expert's suspected bias can affect the admissibility of the evidence or the weight that evidence is given.

One other case of note on the law of expert evidence is the American case, Daubert v Merril Dow Pharmaceuticals Inc, ("Daubert")[14] In Daubert, the majority found that scientific evidence must be both relevant and reliable. In determining relevancy and reliability, the Court must consider whether the theory or technique has been (1) tested, (2) published or peer-reviewed, (3) has a known rate of error, and (4) is generally accepted in the forensic science discipline's community. In meeting these criteria, known colloquially as the Daubert criteria, expert scientific evidence is considered to be demonstrably reliable. Although Daubert is an American case, recent Canadian decisions in the wake of Daubert and high-profile public inquiries into wrongful convictions have begun to accept the idea that judges should play a more pronounced gate-keeping role in determining threshold reliability and admissibility of expert scientific evidence.[15]

III Canadian Inquiries

In addition to the law that governs expert witnesses and expert evidence in Canada, there have been inquiries and reports over the years providing recommendations to ensure experts and expert evidence are used appropriately.

[13] *Ibid.*

[14] Daubert v Merril Dow Pharmaceuticals Inc, 113 S Ct 2768 (USSC 1993), online: <https://supreme.justia.com/cases/federal/us/509/579/> [*Daubert*].

[15] Emond & Roach, *supra* note 1 at 345.

The Kaufman Report,[16] released in 1998, was a report headed by the Honourable Fred Kaufman to address the wrongful conviction of Guy Paul Morin in 1992. The Kaufmann Report set out several recommendations for expert witnesses such as: using appropriate language, avoiding overstating opinions, ensuring opinions are understandable, enhancing communication with justice system participants, and preserving evidence.

The most notable inquiry into expert witnesses and wrongful convictions in Canada is the Ontario-based Goudge Inquiry.[17] The Goudge Inquiry, headed by the Honourable Stephen T. Goudge, was the third public inquiry in a decade to examine the role of forensic science and medicine in wrongful convictions. The Goudge Inquiry recommended better training, research and governance for forensic science and medicine, and it also recommended that judges should assume a more robust gate-keeping role for all forensic sciences in a trial context. Further, experts must ensure the level of certainty is clear and that controversial opinions are not oversold and stay within their limits of expertise. Experts must accurately and fairly communicate their opinion, remain objective and detached from the investigation, and stay within the limits of their expertise. Lawyers must accurately present opinions in a manner that will assist the jury in being able to accept or reject them and be prepared, educated, vigilant against weaknesses, errors, and omissions and must not exploit witnesses.

The Goudge Inquiry was created to find out what went wrong in the practice and oversight of pediatric forensic pathology in Ontario between 1981 and 2001, especially as it related to the criminal justice system and recommendations to restore and enhance public confidence in pediatric forensic pathology. The Goudge Inquiry arose after a number of evidence issues came to light in cases that involved Dr. Charles Smith as an expert witness in pediatric forensic pathology. Dr. Smith was a renowned expert in child pathology in Ontario who turned out to have lied about the extent of his qualifications. His improper expert evidence and testimony lead to numerous miscarriages of justice.

The case of William Mullins-Johnson brought Dr. Smith's improper conduct to light. William Mullins-Johnson was convicted of the first-degree murder of his niece. Dr. Smith testified that the girl had been strangled and sexually assaulted when Mullins-Johnson was babysitting her. Mullins-Johnson spent 12 years in jail and was later found to have been wrongfully convicted due to Dr. Smith's improper expert evidence. The Goudge Inquiry revealed that in all but one of Dr. Smith's 45 cases where he acted as an expert witness, the results of the examinations were highly suspect. The Inquiry resulted in 169 Recommendations that led to the redesign of the Forensic Pathology and Coroner Systems in Ontario as well as a significant review by the Police.

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[16] Fred Kaufman, The Honourable, *Searching for Justice: An Independent Review of Nova Scotia's Response to Reports of Institutional Abuse*, (Nova Scotia, CA: Province of Nova Scotia, 2002), online: <https://novascotia.ca/just/kaufmanreport/fullreport.pdf>.

[17] Stephen T Goudge, The Honourable, *Inquiry into Pediatric Forensic Pathology in Ontario*, (Ontario, CA: Ontario Ministry of the Attorney General, 2008), online: <https://wayback.archive-it.org/16312/20211208090616/> <https://www.attorneygeneral.jus.gov.on.ca/inquiries/goudge/report/index.html> [*Goudge*].

The Goudge Inquiry found that Forensic pathologists should avoid misleading language, such as the phrase "consistent with" and adopt neutral language that clearly reflects the limitation of the opinion expressed. Judges should consider whether there are parts of the proposed expert evidence that are sufficiently reliable to be admitted and others that are not or must be modified to be admitted. There must also be a reliability threshold ensuring the expert has adequately considered alternative explanations, used appropriate language, and determined whether the opinion can be expressed in a manner allowing the judge to reach an independent opinion as to reliability. All participants in the criminal justice system must recognize that they have an important role to play in ensuring the reliability of expert medical evidence in criminal proceedings. Judges, lawyers, police officers and expert witnesses must be as rigorous as possible when dealing with expert medical evidence. In summary, the Goudge Inquiry resulted in the following important recommendations for the use of expert evidence: (1) the opinion should be set out in writing in clear, plain language; (2) the expert should state the facts on which the opinion is based, and the reasoning process used to reach it; (3) it should be determined whether the expert relied on the views of other experts when arriving at their opinion; (4) the expert should identify and evaluate other alternative explanations associated with the medical findings and reported history; (5) alternative explanations should be identified and evaluated; (6) the expert should identify any area of controversy and how it factors into the opinion — if there is controversy in the science, it needs to be explained in the circumstances of the case; (7) the expert should articulate limitations; (8) Crown counsel should not ask questions of expert witnesses that would make them stray outside of the limits of their expertise; (9) the expert should articulate their degree of confidence; (10) and finally, it was proposed that the National Judicial Institute consider developing additional programs for judicial education on scientific reliability and scientific method, and for the Canadian Judicial Council to prepare a Canadian equivalent to the Reference Manual on Scientific Evidence that exists in the United States.[18]

IV The Hart House Report

After the Goudge Inquiry, another inquiry, referred to as the Hart House Report, was conducted.[19] While the Hart House Report was not intended to make recommendations to State agencies, medical examiners, or courts, but it did raise issues and suggestions for stakeholders involved in forensic science in Canada. The Hart House Report supported critical analysis of the forensic sciences and its service delivery systems, an evidence-based approach to the disciplines, and a healthy intellectual climate of service, teaching, and research. The report found that the science underpinning many Canadian court cases requires scrutiny and that bad science cannot be the foundation for a just peace, where establishing and maintaining a just peace is the core mission of the Canadian government. The Hart House Report determined that the expert-knows-best paradigm of expert witness testimony is obsolete. As mentioned, the "expert knows best" mystic infallibility is a concern when admitting expert evidence and can lead to the admission of improper forensic evidence and wrongful convictions. The report also asserts that a way to better forensic

[18] *Ibid.*

[19] Michael Pollanen, (ed) et al. *Forensic Science in Canada: A Report of Multidisciplinary Discussion*, (Ontario, CA: Centre for Forensic Science and Medicine, University of Toronto), online: <https://www.crime-scene-investigator.net/forensic-science-in-canada.pdf> [*Hart House Report*].

science in Canada is for forensic experts to give as much attention to teaching and research as they do to service. Thus, teaching and research should be a bigger focus for forensic experts. If forensic scientists keep up with research in their field, it will better ensure the validity of the science as well as their qualifications in their field. If forensic science actors also focused on informing State actors and lawyers about their discipline, it would help judges in their gatekeeper role and allow attorneys to have the knowledge and understanding to do their due diligence when selecting experts to testify.

The Hart House Report also acknowledges that forensic science lacks a national granting agency. In other words, many forensic disciplines are unregulated or do not have an overarching qualifying agency. Thus, ensuring an expert is properly qualified can be difficult. Canada's vast geographic ranges and federal and provincial divides also make forensic science funding and regulation difficult—all to the detriment of the criminal justice system that relies on expert evidence. The Report notes that the credentialling of forensic scientists in Canada is absent for some disciplines, fragmented in others, not universally accepted as necessary in some, and is not lawfully mandated for most disciplines in Canada. The report concludes that "volunteerism, good intentions, and ad hoc organizational efforts of Canada's forensic scientists are no substitute for a thoughtfully designed system of service delivery."[20] This conclusion can be applied to the admission of expert evidence in Canadian trials. An inadequate system of service delivery of forensic science in Canada makes it exceedingly difficult to ensure an expert witness is properly qualified and expert evidence is sound. Thus, we have a system where unqualified experts like Dr. Charles Smith can appear qualified when they are not.

Hence, the report suggests that organizations that provide forensic science services should develop accreditation. Systemically revamping forensic science practices and accreditation in Canada is an important and necessary step towards preventing wrongful convictions. If forensic science is scrutinized, evidence-based, objective, peer-reviewed, and researched before even being considered as admittable in court, it would go a long way towards ensuring the validity of expert evidence and that experts are properly qualified. Further, the education of judges, lawyers, police, and other forensic science service users would ensure that other justice system actors have the understanding necessary to evaluate expert witnesses and expert evidence—all necessary steps for preventing miscarriages of justice.

Although the recommendations in the Hart Report are not directed at expert evidence in the criminal justice system context, their recommendations could be used to ensure expert evidence is used correctly which would prevent miscarriages of justice. Specifically, the recommendations that more funding should be allocated, a research culture fostered, researchers should be encouraged to publish their findings in peer-reviewed journals, and research methodologies should be objective, and evidence-based. If the starting place for forensic science research rests in a system where research is objective, evidence-based, and peer-reviewed, the amount of invalid or unqualified expert evidence being presented and/or admitted in courts would decrease.

The final set of recommendations in the Hart House Report involves education and training. Multidisciplinary cross-training should be encouraged between police, scientists,

[20] *Ibid* at 105.

lawyers, and judges. Scientists should also obtain training and continuing education in best practices in writing reports and giving expert witness testimony. Finally, judges should also receive continuing education in forensic science, forensic pathology, and forensic psychiatry, including training in scientific literacy. In terms of practical changes that should be made to improve forensic science practises and reduce wrongful convictions, the report advocates for the following: peer review and quality management systems, accreditation programs and standards for each forensic science discipline, a systemic response to errors when they occur, and memoranda of understanding developed between forensic experts who testify in courts and the lawyers, judges, and clients, who use those services.[21]

V Preventing Wrongful Convictions: Systemic Reforms

Despite several reports and recommendations on forensic science practices and expert witnesses and evidence, the Canadian government has proven reluctant to adopt recommendations, particularly ones from provincial inquires.[22] Furthermore, Canadian judges, lawyers, and other legal actors have been slow to learn lessons from wrongful conviction reports and to adjust their behaviour to prevent systemic failures from reoccurring. One way to prevent improper expert evidence from contributing to miscarriages of justice would be to address the Hart House Report findings to focus on issues in forensic science and forensic science education before it enters a courtroom. As the Hart House Report revealed, forensic science disciplines in Canada suffer from a lack of funding and structure. In addition, it is difficult for those who use forensic science evidence to find a way to be educated on the evidence they are using. Although having appropriate funding, structured accreditation programs, peer-reviewed research, and education programs for all forensic science disciplines in Canada would be ideal, it is an impractical solution to address the issues in our system in the interim. Instead, Gary Emond and Emma Cunliffe propose the creation of a separate justice and science commission alongside reforms to criminal case review to address the failings of our current system.[23] The role of this commission would be to continue research, suggest systemic reforms, and monitor the effectiveness of reforms. It would incorporate legal and scientific research experts with an advisory committee of prosecutors, police, forensic scientists, scientists, and academic lawyers. For the sake of education and access to justice, its reports should be accessible to all and directly admissible in Canadian courts without the need to call expert witnesses. These reports would include published research or disseminate suitably rigorous new research. Over time, the commission's work would also provide courts and other legal institutions with information about empirical evidence supporting forensic science procedures and the way limitations and error rates should be reported to enhance judge and jury comprehension. Emond and Cunliffe propose that fostering expertise in a stable interdisciplinary institution would allow Canadian legal actors and scientists to work together to generate evidence-based policies and procedures.[24] Such a commission would give structure to and allow for accountability and positive changes in our disorganized, rigid system. The most effective way to ensure that expert evidence being presented in Canadian courts is sound is to ensure the theory is

[21] *Ibid.*

[22] Emond & Cunliffe, *supra* note 4, at 482.

[23] *Ibid* at 484.

[24] *Ibid* at 485.

sound in a systemic sense before it is presented in courts. For scientific evidence to be sound, Canada must, in some way, work towards better forensic science practises that insist on best practices and accreditation, reveal errors and limitations, and reprimand and reveal any wrongdoings. One would hope that with a more structured and accountable system, unqualified experts like Dr. Charles Smith would be stopped before ruining dozens of lives and jeopardizing the integrity of Canada's criminal justice system.

VI Preventing Wrongful Convictions: Trial Reforms

Due to the lack of structure in forensic science systems in Canada, the reliability of expert evidence being admitted in criminal trials is an issue. Though implementing Hart House Report recommendations into our forensic science practices in Canada would resolve many evidence reliability issues, the current state of our system runs a greater risk of unreliable expert evidence being admitted and used in criminal trials. The Goudge Inquiry gave several recommendations for trial reforms that should be implemented to better ensure the reliability of expert evidence.[25] While helpful, I would argue that the Goudge recommendations do not go far enough. To truly safeguard against improper expert evidence and its contribution to wrongful convictions, it is imperative that certain Goudge recommendations be applied to Canada's common law or statutory law such as the Criminal Code. One of the many issues with Dr. Smith as an expert witness was that he was permitted to give opinions beyond the scope of his expertise. Thus, Justice Goudge recommended that the scope of an expert's expertise be carefully evaluated in consideration with the Mohan criteria at the admissibility stage and diligently policed during the admissibility stage and then throughout the rest of the trial. Thus, at the admission stage, judges should further their role as gatekeepers by considering the reliability of the evidence. In their gatekeeper role, the judge should continue evaluating the reliability of the evidence versus its prejudicial effect on the accused throughout the entire trial. The standard reliability of the evidence should also be improved to truly protect against wrongful convictions. If expert evidence is in any way unreliable, it is prejudicial and should not be admitted. The Goudge Inquiry recommends the Daubert criteria to evaluate the reliability of expert evidence.[26] Entrenching the Daubert criteria in Canadian law would guarantee that courts consider additional reliability criteria throughout the admission analysis for expert evidence. Hence, for every piece of expert evidence to be admitted, the trial judge would evaluate whether the evidence has been (1) tested, (2) published or peer-reviewed, (3) has a known rate of error, and (4) is generally accepted in the forensic science discipline's community.

Legal Scholars Kent Roach and Gary Emond are also supportive of more demanding standards for the admissibility of incriminating expert evidence. Under Emond and Roach's contextual approach to the admissibility of scientific evidence in criminal trials, where the state tenders incriminating expert evidence, its admissibility would be subject to a demonstrable reliability standard by applying the Daubert criteria,[27] while defence expert evidence would be subject to a lesser standard. This would be an asymmetrical admissibility approach. At the heart of Roach and Emond's proposed admissibility revisions is the aim to prevent wrongful

[25] Goudge, *supra* note 17.

[26] Daubert, *supra* note 14.

[27] Emond & Roach, *supra* note 1 at 345

convictions. Roach and Emond's approach addresses two areas of concern in criminal trials: (1) the lack of scientific literacy among judges and lawyers; and (2) the Crown having better access to experts than the defence. The economic and resource imbalance that favours the Crown combined with a lack of scientific literacy results in a lack of protection for an accused when faced with improper expert evidence. This highly prejudicial systemic effect consequently lessens the probative value of the evidence. Creating an asymmetry in the admissibility onuses of the Crown and defence would provide a novel solution to address the practical inequalities that exist in criminal trials. An asymmetrical system that requires state actors to prove the demonstrable reliability of their expert evidence imposes significant burdens on state actors but would ultimately require that state actors, lawyers, and judges be given the tools, information, and education necessary to conduct such a reliability analysis. These more demanding standards are grounded in the presumption of innocence and the Crown having to prove guilt beyond a reasonable doubt, thus preventing wrongful convictions.[28] Therefore,I argue that in the effort to prevent wrongful convictions and ensure expert evidence remains more probative than prejudicial, Canada must go beyond recommendations and implement legal changes to our expert evidence reliability standards and the trial process when it comes to weighing expert evidence. Roach and Emond's contextual approach of a system applying the Daubert criteria and addressing systemic imbalances—so long as it is codified or entrenched in the common law—is a sound solution for how to apply Justice Goudge's recommendations in a practical sense to prevent wrongful convictions.

It should be noted that not all types of valid expert evidence disciplines are conducive to the Daubert criteria. Expert witnesses can be required in countless areas, some of which cannot be tested empirically.[29] Sociological fields and novel sciences for instance. In such cases, I argue that an amended threshold reliability be applied as recommended by the Goudge Inquiry:

> Whether [the scientific theory or technique] is generally accepted; whether there are meaningful peer review, professional standards, and quality assurance processes; and whether the expert can relate his or her opinion in the case to a theory or technique that has been or can be tested, including substitutes for testing that are tailored to the particular discipline.[30]

To prevent expert witness testimony from continuing to contribute to miscarriages of justice, we must take the recommendations from inquiries like the Goudge Inquiry and apply them to the justice system practically, in a way the justice system is legally bound to follow.

VII Conclusion

Without more structure and education in forensic science fields and greater standards for expert evidence reliability in criminal trials, accused Canadians remain vulnerable to wrongful convictions. Expert evidence has been proven as a common contributing factor to wrongful convictions, but it remains an essential part of Canada's justice system. Despite established

[28] *Ibid.*

[29] Nayha Acharya, "Law's Treatment of Science: From Idealization to Understanding" (2013) 36 *Dalhousie* LJ 1 at 31.

[30] Goudge, *supra* note 17 at 495.

common law principles and inquiry recommendations, expert witnesses still pose too great a risk in contributing to miscarriages of justice. I suggest that the way to truly safeguard against improper expert evidence and testimony contributing to wrongful convictions is through changes in the law that reflect inquiry recommendations and systemic and structural overhauls of forensic science disciplines in Canada. The Goudge inquiry and others have proposed that heightened standards to ensure expert evidence reliability, such as the Daubert criteria, is one way to ensure expert evidence is reliable to prevent wrongful convictions. Further, to prevent wrongful convictions, these recommendations must be incorporated into Canada's statutory or common law to ensure the practice is adhered to.

The other necessary step to make sure expert evidence admitted in trials is reliable is to ensure the forensic or other science is sound before it gets to trial and to guarantee that legal actors can educate themselves on the science and its limitations. Forensic science disciplines in Canada are often unstructured, underfunded, and lack accreditation processes and oversight. Additionally, legal actors are often ignorant of scientific concepts and have limited opportunities to become educated before trials. By ensuring forensic science in Canada adheres to best practices and accreditation processes and experts have oversight, there would be a much higher likelihood that the expert evidence evaluated in trials is sound. Ensuring legal actors are educated in forensic sciences would also protect against wrongful convictions by ensuring that lawyers and judges are aware of any limitations to a science and do not perceive expert witnesses as infallible. Consequently, to truly safeguard against improper expert evidence being admitted in Canadian trials we must (1) heighten the standard expert evidence must meet to be considered reliable, (2) foster a system of peer-reviewed research, training, accreditation, and accountability in forensic science disciplines in Canada, and (3) ensure that all justice system participants receive continued training on best forensic science practises and their limits and have free access to information and education on forensic science disciplines when needed. Safeguarding our justice system against unreliable expert evidence is necessary in order to prevent miscarriages of justice.