COURT OF APPEAL FOR ONTARIO

CITATION: R. v. Biddersingh, 2020 ONCA 241
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Feldman, Tulloch and Jamal JJ.A.

BETWEEN

Her Majesty the Queen

Respondent

and

Everton Biddersingh

Appellant

Lance Beechener and Alexander Ostroff, for the appellant

Lisa Joyal, for the respondent

Heard: December 2, 2019

On appeal from the conviction entered by Justice Alfred J. O'Marra of the Superior Court of Justice, sitting with a jury, on January 7, 2016.

Tulloch J.A.:

I. OVERVIEW

[1] On September 1, 1994, the York Regional Police found a body in a burning suitcase by the side of Highway 7. The body was not identified, and it remained unidentified for a period of 18 years.

[2] In 2012, after receiving a tip about the murder of a teenage girl, the police were able to identify the body through DNA testing as Melonie Biddersingh, 17 years old at the time of her death, and the daughter of the appellant, Everton Biddersingh, and step-daughter of Elaine Biddersingh.

[3] The police arrested Everton and Elaine Biddersingh on March 5, 2012, as well as Everton's son, Cleon. Cleon was charged with aggravated assault, forcible confinement, criminal negligence causing bodily harm, and causing an indignity to a human body. However, his charges were later stayed.

[4] Everton and Elaine were each charged with first-degree murder. They were tried separately. Elaine was acquitted of first-degree murder, but found guilty of second-degree murder and sentenced to life imprisonment with a period of parole ineligibility of 16 years: *R. v. Elaine Biddersingh*, 2016 ONSC 5663, appeal pending, C63052 and C63064. Everton was convicted of first-degree murder.

[5] Everton now appeals his conviction. For the reasons that follow, I would dismiss the appeal.

II. FACTUAL BACKGROUND

Melonie's life with Everton and Elaine

[6] The appellant, Everton Biddersingh, immigrated to Canada from Jamaica in 1979. Shortly after arriving, he married Elaine and they moved to an apartment in Toronto. Between 1985 and 1991, they had three children together, O'Neil, Kenroy, and Charmaine.

[7] In 1991, Everton and Elaine were joined in Toronto by Cleon, Melonie, and Dwayne Biddersingh, Everton's children from a previous relationship. Melonie and her siblings were born and raised in Jamaica. Melonie was 13 years old at the time of her arrival. Her older brother, Cleon, was 16, and her younger brother, Dwayne, was 12. All three lived with their father and step-mother in their Toronto apartment. Unfortunately, in June 1992, Dwayne passed away.

[8] During the trials for Everton and Elaine, several witnesses, including Melonie's older brother, Cleon, testified about Melonie's life with her father and step-mother in Toronto. By all accounts, Melonie was neglected and badly abused. It is not necessary, for the resolution of the issues on this appeal, to review every detail of this abuse. The parties agree that Everton and Elaine both failed to provide the necessaries of life for Melonie. Melonie was starved, prohibited from going to school, confined to the apartment where they lived, and forced to work, in the words of her brother, "like a slave". She slept on a piece of cardboard on the floor. For punishment, she was sometimes locked in a closet, locked on the balcony,

confined in a cardboard barrel, or chained to the wall. Everton also physically abused Melonie, and the abuse worsened as time went on. He would kick her in the stomach, and stomp and kick her as she lay on her side. He beat her with a belt and dragged her by her hair across the ground. Cleon testified that Everton would sometimes punish him and Melonie by holding their heads in the toilet and flushing it. He said that, near the end of her life, Melonie was so weak that she walked with a limp and could not stand up.

[9] In the last months of her life, Melonie and Cleon were not allowed to use the shared bathroom in the apartment to shower. Instead, they were made to clean themselves with buckets of water on the balcony. Melonie was also made to relieve herself using a pail on the balcony. Cleon would clean the balcony using buckets of disinfectant.

Melonie's disappearance

[10] Cleon testified about the day in 1994 that Melonie went missing. He explained that Everton told him that Melonie had run away. Cleon was skeptical of this claim, however, as Melonie was too weak to walk and had nowhere to go. She had no contact with anyone outside the apartment. After telling Cleon that Melonie had run away, Everton instructed Cleon to get rid of the cardboard she had slept on and the chain that he had put around her ankles. Cleon was instructed by Everton to cut up the cardboard barrel where he would sometimes confine her, and to rinse off the balcony. Cleon testified that Everton and Elaine never reported

Melonie's disappearance to the police. They told everyone that she had run away to friends in New York.

Melonie's body is identified following Elaine's conversation with her pastor

[11] In 2010, Everton and Elaine began attending Reverend Eduardo Cruz's Spanish Bible church. In late 2011, Pastor Cruz informed the police that Elaine had told him that a child had died in her and Everton's apartment in 1994, and that they had never reported it.

[12] Pastor Cruz testified at Everton's trial. He recounted that Elaine told him that there had been a girl in the apartment who was kept in a room and was never fed. Medicine had been denied to her and the door was always locked. Elaine told him that Everton was in charge, that he was the one who had confined the girl, and that he would punish Elaine if she tried to help her. Elaine told him that, after the girl died, Everton, Cleon, and she drove the body out to a field in a suitcase and burned it. The pastor told Elaine that the allegations were very serious, and that, as he would "not be able to keep it to [him]self", he needed to be certain they were true. Elaine assured him that it was the truth. At trial, Elaine testified that the last time she saw Melonie alive was sometime during the afternoon the day prior to her death. At the time, Melonie had been lying on the floor. Elaine further stated that she did not see Melonie until the next evening, when Everton informed her that Melonie had died. Everton then brought Elaine to the closet near the front door. He opened the closet to reveal Melonie's body, lying stiff on the floor.

[13] Pastor Cruz subsequently contacted the police, leading to the identification of Melonie's body through DNA testing and Everton and Elaine's arrest.

Medical examinations of Melonie's body

[14] One of the main issues at Everton's trial was the cause of Melonie's death, specifically whether she had died by starvation or by drowning. The Crown's theory was that Everton had either: 1) actively drowned Melonie; 2) failed to provide Melonie the necessaries of life such that she passively drowned; or 3) failed to provide Melonie the necessaries of life such that she starved to death. Several different medical experts had examined Melonie's body following its discovery in 1994.

Dr. Chiasson's examination in 1994

[15] In 1994, Dr. David Chiasson was the Chief Forensic Pathologist of Ontario. He attended the scene where Melonie's body was found on September 1, 1994 and performed an autopsy later that day. He made a number of relevant observations regarding the state of the body.

[16] Dr. Chiasson observed that, although her body had been partially burned, Melonie showed no signs of smoke inhalation, which indicated that she was most likely already dead by the time she was burned. He also noted that Melonie's thin limbs and "very thin body habitus" indicated malnutrition. Her body, after the burning, weighed 50 pounds. Dr. Chiasson found frothy fluid in Melonie's lungs

and some fluid in her nasal passages. He also observed that she had a contusion on her head, likely caused within 12 hours of her death, and fragments of red vegetable-like material in her vagina.

[17] At the time, he concluded that the cause of death was undetermined.

Dr. Pollanen's examination in 1995

[18] Dr. Michael Pollanen, then a consultant in the Forensic Pathology Unit at the Office of the Chief Coroner for Ontario, examined Melonie's body in 1995. His research involved the study of diatoms, which are microscopic, shell-covered plants that sometimes grow in water, and specifically how the presence of diatoms in the body of a deceased person could be used as an indicator as to whether or not the person had died by drowning.

[19] He examined the fluid that Dr. Chiasson had extracted from Melonie's nasal passage during the initial autopsy and found diatoms. He then examined Melonie's left and right femur, finding the same four distinct types of diatoms in the femoral bone marrow as in the nasal fluid. He offered two opinions based on these observations. First, the presence of matching diatoms in the sinus and the femoral bone marrow indicated that drowning was either the cause of death or a major contributing factor. Second, the variety and diversity of diatom types was consistent with a freshwater source, but other sources of water could not be excluded.

[20] As part of his testimony at trial, Dr. Pollanen outlined, through the use of a hypothetical, that it was possible that the diatoms found in Melonie's sinus and bone marrow originated in stagnant puddles on the apartment balcony. The diatoms could have been transferred from the balcony, via a person's hair or clothing, to a toilet or other source of domestic water (i.e., diatom-free), and then into a person's body through drowning or near-drowning.

[21] At the request of the Crown, Dr. Pollanen also provided a differential diagnosis as to the cause of Melonie's death. He stated that, if it were assumed that diatoms were not a reliable diagnostic tool (and therefore that there was no reliable evidence in support of drowning as the cause of death), the next most likely cause of death was starvation. In reaching this conclusion, Dr. Pollanen relied heavily on Dr. Stanley Zlotkin's 2013 report on the severity of Melonie's malnourishment (discussed below).

[22] As a result of Dr. Pollanen's findings, Dr. Chiasson revised his opinion on the cause of Melonie's death. He agreed that drowning was the likely cause of death. However, with regards to a differential diagnosis, Dr. Chiasson maintained that, in the event that the diatoms were not reliable, the cause of death was undetermined.

Dr. Gruspier's observations of bone fractures in 2004

[23] Dr. Katherine Gruspier, then a forensic anthropological consultant with the Office of the Chief Coroner for Ontario, examined Melonie's body in 2004. She

found that, at the time of her death, Melonie had 21 healing fractures in different parts of her body. Melonie had suffered “extensive blunt force trauma” to her lower back, pelvis, right knee, and left ankle that would have resulted in severe pain and possible immobility. Dr. Gruspier estimated that the trauma occurred between three weeks and six months before Melonie’s death, and that it could have resulted from a single incident or separate, but temporally adjacent, incidents of blunt force trauma.

Dr. Zlotkin’s observations of Melonie’s Body Mass Index in 2013

[24] In 2013, after Melonie had been identified, Dr. Stanley Zlotkin, an expert on pediatric nutrition, prepared a report based on his examination of Melonie’s body. He discussed the significance of Melonie’s malnourishment with Dr. Chiasson, the forensic pathologist who had conducted the initial autopsy in 1994. Specifically, he provided his opinion on how much of her body mass would have been destroyed by burning and, consequently, how much she could be estimated to have weighed at the time of her death. He estimated that, at most, 10 percent of her body mass would have been destroyed by the fire. This left his estimate of her weight before death at approximately 55 pounds. Melonie’s height, at approximately five feet five inches, was within the normal range for a 17-year-old girl. At 55 pounds, however, her weight was that of an average eight-year-old child. Her Body Mass Index, below the first percentile for her height and age, indicated that she was “severely underweight” and could be considered severely malnourished.

[25] In his testimony at trial, Dr. Zlotkin discussed the correlation between severe malnutrition and death. He explained that malnutrition causes muscle weakness and decreased functioning in the immune system. Both Dr. Zlotkin and Dr. Chiasson testified that it is possible to die from starvation alone.

III. ISSUES

[26] The appellant raises three issues on appeal, all of which relate to the evidence adduced at trial with respect to cause of death:

1) The trial judge erred by permitting the Crown to ask Dr. Pollanen to provide an alternate cause of death in the event that the diatom analysis was disregarded;

2) The trial judge erred by permitting the jury to consider starvation as an alternate cause of death, as there was insufficient evidence for a properly instructed jury to find that Melonie had died of starvation; and

3) The trial judge erred by permitting the jury to consider, solely on the basis of Dr. Pollanen's hypothetical scenario and absent a sufficient evidentiary basis, the potential presence of diatoms on the balcony and their transfer inside the apartment.

[27] The appellant submits that the result of these errors was that the charge to the jury was unnecessarily confusing. By providing multiple unsubstantiated routes of liability, the trial judge allowed the jury to sidestep the important issue of whether the appellant or someone else was responsible for Melonie's death.

IV. ANALYSIS

1) Did the trial judge err by permitting the Crown to pose a hypothetical question to Dr. Pollanen regarding an alternate cause of death?

[28] At trial, Dr. Pollanen testified that his conclusion as to cause of death was that Melonie had drowned. In drawing this conclusion, he relied heavily on the finding of matching diatoms in Melonie's sinus fluid and bone marrow in both femurs. He testified that there were multiple possibilities for how Melonie might have had diatoms in her system, and how her severely starved state could have played a role in her death:

1) Melonie was actively drowned by a person or multiple people, and her weakened state rendered her unable to resist or made her resistance ineffective;

2) Melonie drowned passively, in that her mouth and nose became submerged in water, and her weakened state meant that she was unable to extricate herself from the water; and

3) Melonie experienced a near-drowning event, which would explain the presence of diatoms in her system, but she survived, only to die of an alternate cause.

[29] Dr. Pollanen explained that he favoured the simplest explanation for the diatoms, which was that Melonie had inhaled water and drowned (either actively or passively).

[30] In response to the Crown's request to address differential diagnoses for Melonie's cause of death, Dr. Pollanen also testified that, if the diatoms were an unreliable indicator of drowning, there were two possible conclusions: 1) that Melonie simply died of starvation; and 2) that the cause of Melonie's death was undetermined. He concluded that, of these two options, the more likely was that the cause of death was starvation. Dr. Pollanen reached this conclusion on the

basis that there was evidence – the autopsy and Dr. Zlotkin's report – that, toward the end of her life, Melonie was "on the very severe end" of malnourishment and starvation, such that it could have been the sole cause of her death.

[31] During the course of his testimony, Dr. Pollanen made two additional points which are relevant to understanding and contextualizing his evidence. First, he testified that, as a forensic pathologist, he considered it important to be "skeptical" about the conclusion that drowning was the cause of Melonie's death, because the circumstances in which her body was found provided no indication that drowning could be the cause of death. Melonie was found, starved and injured, inside a burning suitcase in a parking lot in an industrial area of Vaughan. The presence of diatoms, and the conclusion that Melonie had died of drowning, was therefore unusual and warranted skepticism. In the words of Dr. Pollanen, it was a "very odd thing to say somebody had drowned in those circumstances", as it was "nearly contradictory" to "the history that you have of the case."

[32] Second, Dr. Pollanen acknowledged that, as some people in the medical community are "not entirely convinced" of the value of diatoms as a tool in forensic science, it was important to provide the "pros and cons" of relying on them as a diagnostic tool. For the "pros", Dr. Pollanen discussed two main aspects of the science that tended to support its accuracy and reliability: 1) that diatoms are typically only found in about a third of people who are known to have died of drowning. According to Dr. Pollanen, this suggests that it is not common for

diatoms to enter the body and, therefore, that, when they are present, they are indicative of freshwater inhalation; and 2) that, when multiple people are known to have drowned together in the same body of water (and diatoms are found inside them), they tend to have the same type of diatoms inside their bodies. According to Dr. Pollanen, this suggests that the diatoms often originate in the water itself and not another, independent source. As a result, where diatoms are found inside a body, their presence tends to support the conclusion that they originated in a water source.

[33] With regards to the “cons”, Dr. Pollanen outlined the two main criticisms of diatom analysis: 1) that it is possible for diatoms to enter the body through mechanisms other than water inhalation (e.g., dust inhalation). Where this occurs, the diatoms are “spurious”, in the sense that they provide false support for the conclusion that the person has drowned, despite offering no actual medical insight into how death occurred; and 2) that it is possible for people to experience a near-drowning episode, in which they inhale water containing diatoms, but do not drown. In these cases, the presence of diatoms could be entirely misleading as to the cause of death, or it could be used to support a theory that a near-drowning experience set in motion medical complications that led to death.

[34] Dr. Pollanen explained that he considered the possibility of spurious diatoms in this case unlikely, because diatoms were found in Melonie’s sinus and her two femurs. Had he found diatoms only in Melonie’s bones, he would have been

sufficiently skeptical to refrain from concluding that drowning was the cause of death. In his view, however, the concordance between the fluid in the sinus and the diatoms in the femurs addressed the criticism of diatom testing in the context of this case.

Argument on Appeal

[35] The appellant argues that Dr. Pollanen's opinion that starvation was a possible alternate cause of death was not sufficiently probative to be admitted into evidence. Although Dr. Pollanen testified that, in the event that diatoms were unreliable, starvation was the likely cause of death, his ultimate conclusion was that drowning was either the cause of death or a significant contributing factor. This conclusion was based on his opinion that, in light of the fact that matching diatoms had been found in both Melonie's bone marrow and sinus fluid, it was unlikely that diatoms were an unreliable diagnostic tool in the present case. Thus, while Dr. Pollanen admitted that there is scientific controversy about the use of diatoms to diagnose water inhalation, he explained why the controversy did not apply in this case. It was, therefore, an error for the trial judge to allow the Crown to adduce evidence of Dr. Pollanen's theory on an alternate cause of death, as there was not a sufficient evidentiary basis to support it. The admission of the evidence was prejudicial and confusing, as it elevated Dr. Pollanen's opinion on starvation to equal footing with his actual conclusion on the cause of death, drowning.

[36] I disagree. In the context of this case, I am not persuaded that it was an error for the trial judge to allow the Crown to ask Dr. Pollanen for his opinion on an alternate cause of death, assuming the diatoms were not a reliable indicator that Melonie had drowned. Given the controversy surrounding the diagnostic value of diatoms, the evidentiary basis to support starvation as the sole cause of death, and the circumstances in which Melonie's body was found, the trial judge was justified in permitting the evidence.

The evidence was properly admitted

[37] In determining whether expert evidence is admissible, the trial judge must engage in the two-stage test adopted by the Supreme Court of Canada in *White Burgess Langille Inman v. Abbott and Haliburton Co.*, 2015 SCC 23, [2015] 2 S.C.R. 182. At the first stage, the trial judge must determine whether the threshold requirements of admissibility are met: a) the evidence must be logically relevant; b) it must be necessary to assist the trier of fact; c) it must not be subject to any exclusionary rule; d) the expert must be properly qualified, including being willing and able to fulfil their duty to the court; and e) for any opinions based on novel science or science used for a novel purpose, the underlying science must be reliable: *R. v. Abbey*, 2017 ONCA 640, 140 O.R. (3d) 40, at paras. 47-48; *White Burgess*, at para. 23. If these requirements are met, the trial judge must advance to the second stage, in which they are required to fulfil a "gatekeeping role": *Abbey*, at paras. 48, 53; *White Burgess*, at paras. 20, 24. As the gatekeeper, the trial judge

must determine whether the benefits of the evidence outweigh its potential risks, considering such factors as legal relevance, necessity, reliability, and absence of bias: *Abbey*, at para. 48; *R. v. J.-L.J.*, 2000 SCC 51, [2000] 2 S.C.R. 600, at para. 28.

[38] In this case, the threshold requirements are not at issue. The concern raised by the appellant is that the trial judge failed to adequately scrutinize the negative impacts of Dr. Pollanen's differential diagnosis of starvation. He alleges that the evidence was not sufficiently probative, leading its admission to cause prejudice and confusion.

[39] In my view, Dr. Pollanen's opinion evidence regarding starvation as a potential alternate cause of death was sufficiently probative to be admitted into evidence. I reach this conclusion for three reasons. First, Dr. Pollanen acknowledged the potential limitations of diatoms as an effective tool in forensic science. As I understand Dr. Pollanen's testimony, diatom analysis is not always reliable and can even be misleading in certain cases. While Dr. Pollanen noted that the presence of matching diatoms in Melonie's sinus fluid and femoral bone marrow reduced the likelihood that the diatoms found were spurious, their presence did not definitively establish drowning as the cause of death.

[40] Second, there was an evidentiary basis upon which a jury could conclude that Melonie had died by starvation. While Dr. Pollanen was "clearly of the opinion that drowning was the cause of death or a major contributing factor, he did not

exclude the possibility of starvation being the cause of death": *R. v. Biddersingh*, 2015 ONSC 6063, at para. 26. Dr. Pollanen's conclusion that starvation was a possible cause of death was based on his expertise as a forensic pathologist and Dr. Zlotkin's report, which indicated that Melonie's starvation was "more severe than [he] had originally appreciated". Although Dr. Pollanen did not prefer it to drowning as the likely cause of death, starvation was not merely speculative. The mere fact that Dr. Pollanen was prepared to opine that starvation was a viable explanation as to the cause of death is indicative of this fact.

[41] Third, the circumstances of the discovery of Melonie's body were such that a jury could reasonably doubt the conclusion reached by Dr. Pollanen that Melonie had died as a result of drowning. As noted above, Melonie's body was found burning in a suitcase. Her body showed visible signs of starvation and malnutrition. There was no body of water anywhere in the vicinity. As Dr. Pollanen noted, these are "not the circumstances that would naturally take you to drowning." Rather, these are circumstances that invite reasonable skepticism. While Dr. Pollanen preferred the diatom analysis in reaching his conclusion, it was open to the jury to find that, in light of the potential limitations of diatom analysis and the unusual circumstances of the discovery of Melonie's body, it was more likely that she had died of starvation than drowning.

[42] In effect, Dr. Pollanen's evidence, while supporting his conclusion that drowning was the cause of death or a significant contributing factor, also provided

a sufficient evidentiary basis to support an alternate conclusion. Though starvation was, in the opinion of Dr. Pollanen, clearly a less likely cause of death than drowning, it was not merely speculative. Rather, it was a reasonable possibility, both if the jury rejected the diatom analysis as reliable, or if they accepted it, but accepted that Melonie had survived a near-drowning episode and had died later of an alternate cause.

[43] The evidence on starvation also gave important context to Dr. Pollanen's theory on the cause of death, as it helped to establish its boundaries and reasonable limits. In this sense, the approach taken to the evidence was consistent with the spirit of the report of the *Inquiry into Pediatric Forensic Pathology in Ontario* (Toronto: Ontario Ministry of the Attorney General, 2008) ("the *Goudge Report*").

[44] Tasked with reviewing the practice of pediatric forensic pathology in Ontario and offering recommendations to restore and enhance the public's confidence in its practices, the Goudge Inquiry made recommendations for situations involving potential controversy or where alternate explanations may exist. With regards to cases of potential controversy, the *Goudge Report* instructs forensic pathologists to explain to the court the nature of the controversy and place their own opinion within that controversy, in order that the judge or jury may understand how and why they arrived at their conclusions. They have an obligation to ensure that the finder of fact understands the limitations of the science: Recommendation 91.

Relatedly, where alternate explanations for pathology findings may be available on the evidence, the *Goudge Report* advises, in Recommendation 90, that:

> Forensic pathologists should outline in their post-mortem or consultation reports the alternative or potential diagnoses that may arise in a case. They should also evaluate alternative explanations that are raised by the pathology or by the reported history associated with the deceased's death. They should describe precisely what alternative explanations have been considered and why they can or cannot be ruled out. The same principles should inform all forensic pathologists' communications, including their testimony. [Emphasis added.]

[45] The admission of Dr. Pollanen's evidence complied with this approach. The jury was entitled to know about the controversy regarding diatom analysis in order to understand the basis of Dr. Pollanen's opinion and its limits. Indeed, the appellant does not dispute this. The evidence about the controversy and alternative explanations provided the jury with the tools they needed to assess whether they accepted Dr. Pollanen's evidence about the reliability of diatoms in this case, and what the consequences would be of accepting or rejecting that evidence.

[46] If the appellant's position were to be accepted and experts were to be denied the opportunity to opine on potential alternate causes of death, the jury could be placed in a position where they are told by an expert about the existing relevant controversies surrounding the expert's particular opinion on the cause of death, and the controversies' import for understanding and evaluating the expert's opinion, but be left unequipped to draw alternate conclusions if they chose to reject

some or all of the expert's conclusions. In other words, while the jury would have evidence permitting them to reasonably reject the conclusions of the expert (i.e., the relevant controversy), they would be without any guidance as to viable alternative causes of death if they actually chose to do so. Such a situation would effectively preclude the jury from hearing alternate explanations simply because an expert considers them less likely. As will be explained below, where there is an air of reality to a potential cause of death, the jury is entitled to consider it, regardless of whether any expert concludes that it was the most likely cause of death.

[47] In cases where there is controversy surrounding the science forming the basis of the expert opinion, the admissibility of alternate explanations for a phenomenon cannot depend on the expert's view on the reliability of their own opinion. This would be inconsistent with the *Goudge Report*, and the jury's role as the finder of fact.

The evidence did not cause confusion or prejudice

[48] Contrary to the appellant's submission, the jury would not have had an inflated sense of the probative value of Dr. Pollanen's conclusion that starvation was a possible alternate cause of death. The evidence before them was quite clear. Dr. Pollanen explained his view that the cause of death was drowning. He explained that his opinion was based on the finding of diatoms. He explained why, in his view, diatom analysis is, on the whole, reliable as a tool in forensic science.

He provided his evidence in a “balance[d]” manner, explaining that there was some controversy surrounding the value of diatoms. He outlined both the benefits and limitations of the science. It was, at all times, clear that both Dr. Pollanen and Dr. Chiasson were of the opinion that drowning was the cause of death. It was only in the event that diatoms were considered unreliable that Dr. Pollanen would conclude that starvation had been the likely cause of death.

[49] The jury would have understood that the question posed to Dr. Pollanen was a hypothetical, and that they would have to reject both his and Dr. Chiasson’s opinions about the diatoms in order to find that starvation was the cause of death. The jury also would have understood that if they rejected the diatoms, Dr. Pollanen and Dr. Chiasson disagreed about the alternate cause of death. Dr. Pollanen’s view was that the cause of death was starvation; Dr. Chiasson would have reverted to his initial opinion that the cause of death was undetermined.

[50] The trial judge explained this evidence in a straightforward manner in his final instructions to the jury. The trial judge’s charge was thorough and included multiple warnings against speculating or making up theories without evidence to support them. In closing submissions, defence counsel gave the same warning, as did the Crown.

[51] The jury would have understood precisely the scope of Dr. Pollanen’s opinion, the science he based it on, why he considered that science reliable, and

that the starvation theory was premised upon rejecting the science that Dr. Pollanen considered reliable.

[52] I also reject the appellant's submission that the hypothetical question occasioned prejudice due to the increased complexity and time of the proceedings. While it is true that the evidence about starvation as a potential cause of death opened additional routes of liability, as I will explain, these routes were reasonably available on the evidence. Further, the extent of Melonie's starvation was an important issue at trial. Given the evidence that the appellant was responsible for starving and beating Melonie, and the role Melonie's weakened condition could have played in her death by drowning, even where starvation was not the cause of death, the evidence about Melonie's starved state was a significant focus at trial.

[53] In sum, given the scientific controversy about diatoms, the evidentiary basis to support starvation as a possible alternate cause of death, the circumstances of the discovery of Melonie's body, and the need for the jury to understand the limits of Dr. Pollanen's opinion, it was appropriate for the Crown to ask Dr. Pollanen about differential diagnoses. The approach taken by the trial judge allowed the jury to have a full understanding of the expert evidence, the controversy surrounding it, and how it related to the other evidence in this case. The jury was well equipped to make its own assessment of the evidence and, as I will explain, it was ultimately for the jury to decide whether to accept Dr. Pollanen's evidence considering the

scientific controversy. Dr. Pollanen offered compelling reasons for them to do so, but the choice was theirs and theirs alone to make.

2) Did the trial judge err by permitting the jury to consider starvation as an alternate cause of death?

[54] In his charge to the jury, the trial judge explained that there was evidence on which they could find that starvation was either the cause, or a significant contributing cause, of Melonie's death.

[55] The appellant urges us to find that this instruction was erroneous, as there was no evidence on which a reasonable jury, acting judicially, could have made the factual findings necessary to conclude that Melonie had died by starvation. In oral argument, the appellant made essentially two submissions on this ground of appeal: 1) there was no evidence of a causal link between Melonie's starved state and her death; and 2) there was no evidentiary basis on which the jury could discount Dr. Pollanen's evidence that the diatoms meant that drowning was the cause of her death.

[56] I disagree. As the trial judge found, the theory that Melonie's death was caused by starvation was reasonably available on the evidence. There was an air of reality to the theory that Melonie had simply died of starvation, or that she had experienced a near-drowning episode before dying of starvation. Contrary to the appellant's submission, the medical and non-medical evidence could establish a causal link between Melonie's death and her extreme state of starvation. I also

reject the appellant's argument regarding the absence of evidence on which the jury could have discounted Dr. Pollanen's opinion about the significance of the diatoms.

There was evidence linking Melonie's death and starvation

[57] In order for a particular theory of factual causation to be open to the trier of fact to consider, it must have an air of reality. In other words, there must be some evidence upon which a properly instructed jury could find that the deceased's death was caused, "in a medical, mechanical, or physical sense," in that particular manner, beyond a reasonable doubt: *R. v. Huard*, 2013 ONCA 650, 302 C.C.C. (3d) 469, at para. 60, leave to appeal refused, [2014] S.C.C.A. No. 13; *R. v. Nette*, 2001 SCC 78, [2001] 3 S.C.R. 488, at para. 44. In determining whether an evidentiary basis exists strong enough to establish an air of reality, any and all evidence that bears upon the question of factual causation is to be considered, including both expert and non-expert evidence: *R. v. Manasseri*, 2016 ONCA 703, 132 O.R. (3d) 401, at para. 193, leave to appeal refused, [2016] S.C.C.A. No. 513. In reviewing the evidence, the trial judge must be careful not to "evaluate the quality, weight or reliability of the evidence", but rather must simply decide whether the evidentiary burden has been met: *R. v. Fontaine*, 2004 SCC 27, [2004] 1 S.C.R. 702, at paras. 11-12.

[58] In this case, there was both lay and medical evidence that could establish a causal link between starvation and death. The most important lay evidence on this

point came from Cleon Biddersingh. Cleon testified that Melonie's condition deteriorated in the weeks before her death. He testified that, leading up to her death, Melonie was very skinny and severely ill. She was very weak and crawled most of the time. She was incontinent. When Cleon stole food for her, she was unable to keep it down. She was vomiting and in pain. Put simply, Cleon testified that Melonie's condition was extremely poor, and it worsened before her death.

[59] Similarly, Elaine Biddersingh testified that she thought Melonie had died of malnutrition. The last time she saw her alive, she was lying on the floor. Her weight had been dropping, and she was not eating much. Elaine's evidence about the night of Melonie's death, if believed, suggested that Melonie died alone, in the closet.

[60] There was also expert medical evidence to support a causal link. Dr. Pollanen testified that, on the basis of all the medical evidence, it was clear that Melonie was malnourished, and that her malnutrition was the result of starvation. He explained that, on the basis of Dr. Zlotkin's report, Melonie was on the "very severe end" of starvation and that, as there was no indication that Melonie had died of an infection or other medical complication, it was possible that her chronic starvation had simply led to an inability by her body to sustain metabolism. He stated that there was "adequate evidence for [him] to support starvation as the cause of death." His evidence also suggested that a near-drowning episode could have occurred prior to her death by starvation.

[61] Dr. Zlotkin and Dr. Chiasson's evidence also supported a connection. For instance, Dr. Zlotkin testified that Melonie's malnourishment was severe and the degree of pain she was in would have been "absolutely evident" to anyone. He explained that starvation results in the eventual loss of muscle tissue, which would explain Melonie's weakness. Similarly, Dr. Chiasson's evidence noted Melonie's "thin body habitus", which was suggestive of "chronic malnourishment". He estimated that the process had likely been "going on for a long period of time. Months, could be years." Both he and Dr. Chiasson testified that it is possible to die from starvation alone.

[62] When considered as a whole, this lay and medical evidence supported the commonsense inference that Melonie's starvation had caused her deteriorating condition and, ultimately, her death. Dr. Pollanen's evidence, alone provided a clear causal link between Melonie's starved state and her death. He testified that had he not concluded she died of drowning, he would have found starvation was the cause of her death. He said: "I have to go with what I see, and I see a starved girl. And if you take diatoms off the table, I simply think that she starved and that's the cause of death."

[63] For these reasons, in my view, there was ample evidence to give an air of reality to the theories of liability based on starvation as a cause of death. The jury, properly instructed, could reasonably have found that Melonie died simply of

starvation (assuming they rejected the diatom analysis), or that she died of starvation after a near-drowning episode.

There was an evidentiary basis for the jury to discount the diatom analysis

[64] In order for the jury to have found that Melonie died simply of starvation, it would have been necessary for them to reject the diatom analysis put forward by Dr. Pollanen and accepted by Dr. Chiasson. The appellant submits, however, that such a choice was not, in fact, open to them, as there was no evidentiary basis on which to discount Dr. Pollanen's opinion that the presence of diatoms meant that Melonie drowned. He argues that any theory reliant on the disposal of the diatoms had no air of reality and should not have been left with the jury.

[65] The appellant's assertion that there had to be evidence upon which the jury could discount the diatom analysis amounts to suggesting that the jury was required to accept Dr. Pollanen's evidence absent evidence to the contrary. As will be explained below, this is not the case. In any event, Dr. Pollanen's evidence about the controversy surrounding diatom analysis, as well as his acknowledgment of starvation as a viable alternative cause of death, provided an evidentiary basis for the jury to discount Dr. Pollanen's conclusion on causation.

[66] There can be no doubt that the issue of causation is for the jury to decide, and not for the experts to dictate: *Smithers v. R.*, [1978] 1 S.C.R. 506, at p. 518. The jury is required to consider <u>all</u> relevant evidence in deciding the issue of causation: *R. v. Pocock*, 2015 ONCA 212, 19 C.R. (7th) 60, at para. 19. The jury

is entitled to accept or reject any part of the evidence, whether lay or expert, and to determine how much weight to give any expert evidence: *Smithers*, at p. 518.

[67] Of course, for a theory of liability to be left with the jury, the record must reveal "some evidence on the basis of which a reasonable jury, acting judicially, could make the factual findings necessary to ground liability" on the theory: *Huard*, at para. 60. But the fact that expert evidence contradicts one theory of liability does not necessarily mean that it cannot be left with the jury.

[68] In my view, this is especially true where, as here, there is controversy surrounding the science that forms the basis for the expert opinion, and where other evidence led at trial supports alternate explanations.

[69] The appellant relies on this court's decisions in *R. v. Hong*, 2019 ONCA 170, *Pocock*, and *R. v. Talbot*, 2007 ONCA 81, 217 C.C.C. (3d) 415, to support his argument that simple starvation should not have been left with the jury because the expert evidence was that Melonie died of drowning. In my view, these cases do not assist the appellant. Rather, they merely support the general rule that the jury, in deciding the issue of causation, is not required to defer to the opinions of experts. As this court noted in *Hong*, at para. 28, there is no rule that "a jury can only find causation where there is medical evidence to support such a finding." The jury can determine factual causation on the basis of any evidence that reasonably supports the conclusion.

[70] In this case, there was both lay and medical evidence which could have supported an inference that Melonie's death was caused by her extreme state of starvation, whether following a near-drowning event or independent of any drowning.

[71] Dr. Pollanen's evidence about the controversy surrounding diatoms provided the means for the jury to assess his opinion that Melonie's death was caused by drowning. The jury was entitled to assess Dr. Pollanen's evidence about the controversy and his opinion as to why the diatoms were nonetheless reliable in this case. As outlined above, Dr. Pollanen's view that the diatoms were a reliable indicator that drowning was the cause of Melonie's death did not bind the jury, nor did it prevent them from considering the evidence about the diatoms and the controversy along with all the other evidence relevant to causation.

[72] As part of his argument, the appellant points to Dr. Pollanen's statement that:

> Sometimes cause of death is purely a matter of expert opinion. There is no way a layperson could determine the cause of death. This is a case of that. There is no way a layperson could determine how this woman died.

[73] This statement does not assist the appellant. As Dr. Pollanen clarified in re-examination, this comment was a description about the nature of the analysis of Melonie's remains. A lay person could not examine her sinuses or femurs for diatoms to reach a conclusion as to the viability of drowning as a potential cause

of death. Similarly, while a lay person certainly could have looked at Melonie and been concerned at how underweight she was, expert evidence was required to assess the extent of her starvation, and the nature of the possibility of death by starvation. The jury had the assistance of experts on both points and could make the ultimate decision about Melonie's cause of death. Defence counsel argued in closing submissions that it would be dangerous for the jury to reject the evidence of Dr. Pollanen. The trial judge also reminded the jury that Dr. Pollanen considered the question of cause of death to be a matter for the experts in charging them on the cause of death. The jury would have understood the importance of the expert evidence on causation.

[74] Declining to leave the starvation routes of liability with the jury would have undermined the jury's fact-finding role by effectively requiring them to accept Dr. Pollanen's opinion despite the controversy surrounding diatoms and the other evidence pointing to starvation as a cause of Melonie's death. The trial judge did not err.

3) Did the trial judge err by permitting the jury to consider the potential presence of diatoms on the balcony and their transfer inside the apartment?

[75] At trial, Dr. Pollanen gave evidence regarding how diatoms might grow on the balcony or in containers kept on the balcony. He testified to the following:

1) Diatoms are not found in rainwater, or in municipal tap water, which is filtered;

2) Diatoms could be present in standing water, including rainwater or tap water, on the balcony. However, if the water source did not contain diatoms, there would have to be some other source of diatoms for them to grow (e.g., algae), because they do not materialize out of thin air;

3) Assuming there was a source of diatoms available, diatoms could grow in standing water if they had sunlight and a source of nutrition; and

4) He could not say how long it would take diatoms to grow.

[76] Dr. Pollanen accepted that if diatoms had grown in standing water, they could attach themselves to a person's hair or clothing, and thereby transfer into other water sources, such as the toilet inside the apartment. He considered this a reasonable line of inference, although he noted that it required multiple steps to occur.

[77] Dr. Pollanen also testified that diatoms have been found in water that would not ordinarily contain diatoms, such as municipal water. He described a case of an individual who had drowned in a bathtub but had diatoms in their body. The diatoms had gotten into the bathtub because it was contaminated with kitty litter, which contained diatoms.

[78] Based on this testimony, the trial judge found that the "transfer of diatoms have an evidentiary basis to be considered by the jury."

[79] The appellant submits that this ruling constituted an error, as there was no evidentiary basis for the jury to find that a source of diatoms (e.g., pond scum) had been transferred to the balcony. He argues that, as diatoms do not spontaneously

materialize, the evidence could, at most, support a finding that diatoms began growing in stagnant rainwater exposed to sunlight on the balcony.

[80] In my view, there was sufficient evidence of a source of diatoms on the balcony, based on Dr. Pollanen's testimony. In re-examination, the Crown addressed whether diatoms could grow in rainwater on a balcony. In the course of this exchange, Dr. Pollanen testified that an out-of-door surface exposed to the elements, such as a balcony, can have sediment or material on it that contains diatoms. He testified as follows:

> Q. Okay. And I just want to talk about a puddle of rain water on the balcony –
>
> A. Yes.
>
> Q. Just if we have a puddle, the puddle forms from just the rain water?
>
> A. Right.
>
> Q. And can diatoms grow in that circumstance?
>
> A. On the surface, yes. But you need to – but they're not coming from the rain water, is my point, they're growing on the surface of the balcony in the puddle.
>
> Q. Okay. But the puddle on the balcony, if it is just made from rain water, can they grow in the rain water?
>
> A. They can grow in the rain water, that's correct, yes.
>
> Q. On their own, just with rain water? That's our whole point of this hypothetical is that you've made the distinction between tap water –

A. Right.

Q. And we've ah and –

A. Tap water – tap water doesn't contain them.

Q. That's correct?

A. An out-of-door surface exposed to the elements can contain them.

Q. Okay?

A. And the rain water comes down, they can grow on the surface. It's not – it's not like um, you know, the water has come from a filtration plant, right –

Q. Okay. That's – that's –

A. It's – this is – this is out in the elements, you know – you know, there is – there are organisms around. There is – you know, if you look at the sidewalks or other surfaces, they have this material and sediment, and that's what I'm saying –[1] [Emphasis added.]

[81] Reiterating that these are microscopic particles that cannot be seen with the naked eye, Dr. Pollanen described the kind of conditions allowing for diatoms to grow on a surface as resembling a "green" or "brown scum residue". He accepted

[1] I note that it would have been impossible for the Crown to lead conclusive evidence about the presence of diatoms on the balcony in 1994. Dr. Pollanen confirmed that testing the tap water or Lake Ontario for diatoms in 2012, once Melonie's identity had been discovered and the appellant had been arrested, would not have been a useful exercise. The presence or absence of diatoms in the tap water in 2012 would not have provided any information about the presence or absence of diatoms in the same location in 1994, and it would not have been useful to compare diatoms in Lake Ontario in 2012 to those found in Melonie in 1994. There was no further testing that could have been done in this case.

that if this kind of residue were present on the balcony – which was possible, because the balcony was exposed to the elements, and had been for many years – then there would be a source of diatoms on the balcony. The jury had before them evidence that the balcony was exposed to the elements, and that it was used to store various items, such as garbage, bicycles, old tires, old furniture, a grocery cart, and pails.

[82] The trial judge's reasons for allowing this evidence to go to the jury reflect that he correctly understood Dr. Pollanen's evidence that there had to be an independent source of diatoms for them to grow on the balcony. He referred to Dr. Pollanen's evidence that a concrete surface must have diatoms present on it for diatoms to grow in rainwater. The trial judge's comments in the course of the pre-charge conference likewise reflect that he correctly understood Dr. Pollanen's evidence about the need for an independent source of diatoms for them to grow in these circumstances.

[83] Defence counsel ably argued in closing submissions that the theory of balcony diatoms was not very compelling, and the trial judge repeated Dr. Pollanen's view that this theory required a multi-step line of inference in his charge to the jury. The jury would have understood the limitations of this evidence and would have been well-positioned to assess whether the evidence was strong enough to support making the inference sought by the Crown. The trial judge did not err.

V. DISPOSITION

[84] In all the circumstances, I would dismiss the appeal.

Released: “K.F.” March 31, 2020

“M. Tulloch J.A.”
“I agree. K. Feldman J.A.”
“I agree. M. Jamal J.A.”