Inquiry into Convictions of Kathleen Folbigg

Submissions on behalf of Kathleen Folbigg

PART A

1. In these submissions, any reference to trial transcript will be reference to Exhibit F. All other references to transcript will relate to the evidence given at the Inquiry.

Summary

Legal Submissions

Nature of Inquiry and Proof

2. Section 74 of the *Crimes (Appeal and Review) Act 2001* provides:

> *(2) In this Part, a reference to a review of, or an inquiry into, a conviction or sentence includes a reference to a review of, or an inquiry into, any aspect of the proceedings giving rise to the conviction or sentence.*

3. The reference to '*proceedings*' as it appears in section 74 only relates to criminal proceedings.

4. It is uncontroversial that interpretation of the *Crimes (Appeal and Review) Act 2001* begins with the text itself. [1]

5. The textual definition of a "proceeding" as found at section 74 has to be read contextually "*bearing in mind its purpose and the mischief that it was designed to overcome*".[2]

[1] See *Certain Lloyd's Underwriters v Cross* [2012] HCA 56 at [23], citing Alcan (NT) Alumina Pty Ltd v Commissioner of Territory Revenue (2009) 239 CLR 27; [2009] HCA 41 (Alcan) at [47] (Hayne, Heydon, Crennan and Kiefel JJ).

[2] *R v Kelly* [2004] HCA 12 at [103]; see also *Allianz Australia Insurance Ltd v GSF Australia Pty Ltd* [2005] HCA 26 at [12].

6. The intention of the *Crimes (Appeal and Review) Act* is to overcome any miscarriage of justice. The statutory provisions must be interpreted with that statutory purpose in mind.[3]

7. The purpose of the Act, evident in its word and its structure - the context, needs be considered to construe the relevant provisions. In this regard, the remarks of Gleeson CJ in *Carr v Western Australia* (2007) 232 CLR 138; [2007] HCA 47 at [5] are apposite:

> *[5] Another general consideration relevant to statutory construction is one to which I referred in Nicholls v The Queen. It was also discussed, in relation to a similar legislative scheme, in Kelly v The Queen. It concerns the matter of purposive construction. In the interpretation of a provision of an Act, a construction that would promote the purpose or object underlying the Act is to be preferred to a construction that would not promote that purpose or object. As to federal legislation, that approach is required by s 15AA of the Acts Interpretation Act 1901 (Cth). It is also required by corresponding State legislation, including, so far as presently relevant, s 18 of the Interpretation Act 1984 (WA). That general rule of interpretation, however, may be of little assistance where a statutory provision strikes a balance between competing interests, and the problem of interpretation is that there is uncertainty as to how far the provision goes in seeking to achieve the underlying purpose or object of the Act. Legislation rarely pursues a single purpose at all costs. Where the problem is one of doubt about the extent to which the legislation pursues a purpose, stating the purpose is unlikely to solve the problem. For a court to construe the legislation as though it pursued the purpose to the fullest possible extent may be contrary to the manifest intention of the legislation and a purported exercise of judicial power for a legislative purpose.*

8. Part 7 of the *Crimes (Appeal and Review) Act 2001* provides a mechanism for reviewing criminal proceedings.

9. Parts 1-6 and 8-9 of the *Crimes (Appeal and Review) Act 2001* are concerned with criminal proceedings.

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[3] *Project Blue Sky v Australian Broadcasting Authority* [1998] 28; (1998) 194 CLR 355 at [78]. *CIC Insurance Ltd v Bankstown Football Club Ltd* (1997) 187 CLR 384 at 408 per Brennan CJ, Dawson, Toohey and Gummow JJ; [1997] HCA 2; *Project Blue Sky Inc v Australian Broadcasting Authority* [1998] HCA 28; (1998) 194 CLR 355 at 381 [69] per McHugh, Gummow, Kirby and Hayne JJ; [1998] HCA 28; *Federal Commissioner of Taxation v Consolidated Media Holdings Ltd* [2012] HCA 55; (2012) 250 CLR 503 at 519 [39]; [2012] HCA 55; *SZTAL v Minister for Immigration and Border Protection* [2017] HCA 34; (2017) 91 ALJR 936 at 940-941 [14]per Kiefel CJ, Nettle and Gordon JJ; [2017] HCA 34; 347 ALR 405 at 410; [2017] HCA 34. SAS Trustee v Miles [2018] HCA 55 at [20]: "*The starting point for ascertainment of the meaning of a statutory provision is, of course, the text of the provision considered in light of its context and purpose*."

10. Actions to be taken by the judicial officer on completing an inquiry include the power to refer the matter to the Court of Criminal Appeal pursuant to s. 82(2).

11. Historically, the review mechanisms, described in section 74 as the "*previous review provisions*" were found in the *Crimes Act 1900*.

12. The Inquiry is not formed or constituted pursuant to another Act such as the *Royal Commissions Act 1923*, although adoption of powers, vested in the Inquiry, from that Act are explicit in s. 81.

13. The outcome of the Inquiry might end with Ms Folbigg continuing to serve a period of imprisonment.[4]

14. While the rules of evidence do not apply, the common law standard of persuasion required of a criminal proceeding is beyond a reasonable doubt.[5] The corollary of "*a reasonable doubt*", described by s 82(2)(a) of the *Crimes (Appeal and Review) Act 2001*, is that, in a practical sense, the judicial officer must be satisfied beyond a reasonable doubt of the facts said to satisfy the elements of offences for which Ms Folbigg is currently serving sentence.

15. This proposition is reinforced by section 77 which provides that the Governor may only direct that an Inquiry be conducted by a Judicial Officer into the conviction of Ms Folbigg in the event that there is a doubt or question as to the convicted persons guilt pursuant to s. 77(2). The premise is, there is a doubt. At the conclusion of the Inquiry that doubt needs to be assessed against the criminal standard.

16. The principles applied in Royal Commissions as to how the tribunal of fact finds whether a fact existed or otherwise is that found in *Briginshaw v Briginshaw* (1938) 60 CLR 336. His Honour Justice Dixon stated:

> *The truth is that, when the law requires the proof of any fact, the tribunal must feel an actual persuasion of its occurrence or existence before it can be found. It cannot be*

[4] See: *Mallan v Lee* [1949] HCA 48 at [14] - [20] per Latham CJ citing *Seaman v Burley* (1896) 2 QB 344 with approval at [16].
[5] See *Thompson v R* [1989] HCA 30 at [26] affirming Barton ACJ's decision in *Brown v The King* (1913) 17 CLR at 584-585:

found as a result of a mere mechanical comparison of probabilities independently of any belief in its reality. No doubt an opinion that a state of facts exists may be held according to indefinite gradations of certainty; and this has led to attempts to define exactly the certainty required by the law for various purposes. Fortunately, however, at common law no third standard of persuasion was definitely developed. Except upon criminal issues to be proved by the prosecution, it is enough that the affirmative of an allegation is made out to the reasonable satisfaction of the tribunal. But reasonable satisfaction is not a state of mind that is attained or established independently of the nature and consequence of the fact or facts to be proved. The seriousness of an allegation made, the inherent unlikelihood of an occurrence of a given description, or the gravity of the consequences flowing from a particular finding are considerations which must affect the answer to the question whether the issue has been proved to the reasonable satisfaction of the tribunal. In such matters "reasonable satisfaction" should not be produced by inexact proofs, indefinite testimony, or indirect inferences.

17. It is submitted that this standard should be adopted when considering the evidence and, consequently, whether there is a reasonable doubt.

18. Under the circumstances, whilst Counsel Assisting's submission at [16] may be, strictly speaking, correct, it is not relevant to the process of reasoning to be undertaken by the Judicial Officer in this Inquiry.

19. It is submitted that Counsel Assisting's submission at [17], again, confuses the standard of proof to be applied by the judicial officer in determining whether he is reasonably satisfied to the requisite standard that facts occurred.

The Inquiry

20. On 22 August 2018, the Governor of New South Wales directed that pursuant to s. 77(1)(a) of the *Crimes (Appeal and Review) Act* that "*an inquiry be conducted into the said convictions in accordance with Part 7 of the Crimes (Appeal and Review) Act*".

21. The direction was framed to examine the conviction of Ms Folbigg, rather than the guilt of Ms Folbigg. To this extent, there may be an anomaly between the terms of the direction and the test to be applied by the judicial officer.

22. At this Inquiry, the judicial officer must undertake a similar exercise to the Court of Criminal Appeal after an evaluation of the evidence.

23. In an inquiry the judicial officer, after considering the evidence, is required to proceed pursuant to s. 82 *Crimes (Appeal and Review) Act 2001*. It states:

> *(1) On completing an inquiry under this Division, the **judicial officer must cause a report on the results of the inquiry** (incorporating a transcript of the depositions given in the course of the inquiry) to be sent to:*
>
> *(a) **the Governor, in the case of an inquiry held on the direction of the Governor**, or*
>
> *(b) the Chief Justice, in the case of an inquiry held on the direction of the Supreme Court.*
>
> *(2) **The judicial officer may also refer the matter (together with a copy of the report) to the Court of Criminal Appeal:***
>
> *(a) **for consideration of the question of whether the conviction should be quashed (in any case in which the judicial officer is of the opinion that there is a reasonable doubt as to the guilt of the convicted person)**, or*
>
> *(b) for review of the sentence imposed on the convicted person (in any case in which the judicial officer is of the opinion that there is a reasonable doubt as to any matter that may have affected the nature or severity of the sentence).*
>
> *(3) After considering a report furnished to the Chief Justice under this section, the Supreme Court must cause its own report on the matter (together with a copy of the judicial officer's report) to be sent to the Governor.*
>
> *(4) The Governor may then dispose of the matter in such manner as to the Governor appears just. (emphasis added)*

24. The provision of a report (s. 82(1)) cannot be considered in isolation of s 82(2)(a) in which the issue of reasonable doubt is raised. The judicial officer is directed by the statute to consider the evidence for the purpose of determining whether there was a reasonable doubt about the guilt of the accused with respect to each individual charge. Although the provisions of s. 82(2) are in permissive terms, the statutory context requires the judicial officer to consider the material before him on her, consider the guilt of the accused and form the relevant conclusion. The outcome will be binary – the judicial officer either forms the requisite conclusion that there is a reasonable doubt about guilt of one or more of the charges or not. The judicial officer should not agglomerate all five charges and form the opinion *in globo*. If the opinion is formed with respect to even one of

the charges, the "*the matter*" should be referred with a copy of the report to the Court of Criminal Appeal.

25. In forming that conclusion, there is no constraint in the direction under s. 77 by the Attorney General to the judicial officer as to the material to be considered. . There is no statutory basis for limiting the scope of the Inquiry. The judicial officer must consider all material tendered and submissions placed before the Inquiry

26. There is no statutory constraint upon the matters that are to be considered in forming the relevant conclusion.[6]

27. The case against Ms Folbigg was, and is, circumstantial. To reach a conclusion beyond a reasonable doubt with respect to each individual count, the jury had to be satisfied that no other explanation than guilt was reasonably compatible with the circumstances[7]. The jury also had to reject all reasonable hypotheses or any reasonable possibility inconsistent with the Crown case[8]. If an appeal to the Court of Criminal Appeal establishes a defective direction was given, or a conviction was unreasonable because it was established there was a reasonable hypothesis inconsistent with guilt, or, consistent with innocence, then the Court of Criminal Appeal can quash the conviction.

28. Accordingly, Ms Folbigg submits the Inquiry can and should consider a number of matters (and the following list is not suggested as exhaustive):

    (a) The evidence given at trial;

    (b) The evidence that has been given at the Inquiry and evidence that has come to attention of the Inquiry since the trial;

[6] See *Sinkovich v Attorney General of New South Wales* [2013] NSWCA 383; (2013) 85 NSWLR 783.
[7] *Hillier* [2007] HCA 13 at [46]; (2007) 233 ALR 634; see also *Martin v Osborne* [1936] HCA 23; (1936) 55 CLR 367 at 375; *Plomp v The Queen* [1963] HCA 44; (1963) 110 CLR 234 at 243 per Dixon CJ.
[8] *Shepherd v The Queen* [1990] HCA 56; (1990) 170 CLR 573 at 579 per Dawson J.

(c) Any evidence demonstrating the likelihood of confusion, or inherent ambiguity in the use of technical expressions deployed at trial that would cause a reasonable doubt regarding the conviction;

(d) The change in relevant scientific understanding and knowledge since the trial, especially if the relevant cause of death is a multifactorial, complex or poorly understood physiological process or processes;

(e) Recognising the potential impact on the jury,[9] the Crown or Defence address to the jury (especially when assessed in the context of the evidence that has subsequently been given at the Inquiry, or a demonstrated change in relevant scientific knowledge since the trial);

(f) The trial judge's summing up to the jury in the context of the material now before the Inquiry;

(g) What the proper summing up would have been in the context of evidence given at the Inquiry or a change in scientific knowledge or understanding since the trial;

(h) The trial judge's directions to the jury at trial when assessed against the material now before the Inquiry;

(i) What the proper directions would have been in the context of evidence given at the Inquiry or a change of scientific knowledge or understanding since the trial;

(j) Consideration of the rules of evidence and how it might affect any evidence presented to the Inquiry noting the Inquiry has not been bound by rules of evidence;

(k) The evidential burden borne by the Crown in a criminal case[10], and any potential reversal of the onus of proof; and

[9] As recognised in *Mraz v R (No 1)* [1955] HCA 59; (1955) 93 CLR 493 per Fullagher J.
[10] See footnote 5.

(l) Any changes in relevant legal principles since the trial.

29. The statutory provision is not constrained and there is no good reason to limit the consideration of the potential issues raised by evidence given at the Inquiry in forming the requisite view. As such, the material before the jury is part of the context of the finding of guilt. As such, that context must necessarily be considered as part of the relevant statutory conclusion to be drawn by the judicial officer under s. 82 *Crimes (Appeal and Review) Act*.[11]

30. Contrary to Counsel Assisting's submission at [16], Ms Folbigg submits there is no good reason why the presumption of innocence does not apply in assessing what is "reasonable doubt". There are no legislative provisions that remove the presumption. Were it intended to be removed or excluded by the legislature, one would expect clear statutory language to that effect.[12]

31. If that argument is rejected, then the Inquiry should not approach its task with a presumption of guilt when determining "reasonable doubt". To do so introduces the same bias and distorts the assessment of the evidence in what should be an open and independent process. It will be submitted elsewhere that the cross-examination of Ms Folbigg by Counsel Assisting demonstrated the error that comes from approaching the task with a presumption of guilt. That issue shall be dealt with elsewhere. Further, the submissions of Counsel Assisting approach several issues with a presumption of guilt and neglect the legal test to be applied in formulating a reasonable doubt. This will be addressed elsewhere. As such, the approach does not accord with the statutory purpose of overcoming any miscarriage of justice.

32. In order to provide guidance to the Attorney General, and if there is a referral to the Court of Criminal Appeal, reasons are required to explain:

(a) The basis of the formation of any doubt;

[11] Given the entire criminal transcript (including addresses and summing up) and all the trial exhibits have been placed before the Inquiry, we assume these principles are not contentious (see Crown opening 18 March 2019, T 4.41-.48).
[12] *CTM v The Queen* [2008] HCA 25.

(b) The basis upon which the doubt is determined to be reasonable or not;

(c) Alternatively, the reasons why no doubt exists after consideration of the evidence presented to the Inquiry.

33. As to Counsel Assisting submission at [17]:

(a) Ms Folbigg has a concern regarding the specific manner in which this submission is framed. In the event evidence is before the Inquiry that establishes the trial proceeded on a false or incorrect basis, or that evidence has emerged that raises a question regarding the accuracy of the evidence at trial (either a correction or qualification), then, to remove the doubt, then it must be demonstrated why that doubt is unreasonable. To that extent, if Counsel Assisting seeks to argue that the doubt is not reasonable, then it must demonstrate the basis for that submission. This should be demonstrated on the evidence, rather that inexact proof or inexact inference. This needs to be in relation to each charge of which Ms Folbigg has been convicted.

(b) To comply with the s. 77 direction, the obligation is upon the Crown to adduce all relevant evidence on the question of guilt, rather than proceeding with some pre-determined conception as to the evidence. If it fails to do so, then the capacity of the Crown to assert its compliance with the direction of the Governor is open to question. Given the resources that have been devoted to the Inquiry, there is a public interest in ensuring that this has taken place within its statutory obligations;

(c) If there is evidence missing then this affects the capacity of the Judicial Officer to form the requisite opinion. This does not amount to any concession that, if other alternative postulates are disproved on the current state of scientific knowledge, the Judicial Officer can necessarily form a view that there is not a reasonable doubt as to her guilt.

Definitions – Changes Since the Trial

34. The inaccurate use of words has the potential to mislead or confuse a jury and affect their capacity to come to a verdict in accordance with law.[13] As such, any clarification that has emerged at the Inquiry in the use of terminology used at the trial is important in considering a reasonable doubt about Ms Folbigg's conviction.

"SIDS"

35. In these submissions, a clear distinction is to be made between sudden death of an infant and "Sudden Infant Death Syndrome" ("SIDS"). SIDS is a matter of technical definition[14] rather than a general description of the occurrence of sudden death in infancy. This is a key definitional issue which affects the assessment of the expert evidence given at trial and at the Inquiry, the scientific and statistical studies, the evidence at trial, and the submissions and directions to the jury at trial.

36. A SIDS death is one that is both sudden and unexpected. In other words there is no prodrome or disease process identified prior to death. This issue will be addressed later in these submissions.

37. Any laxity in the use of terms has the tendency to distort the inferences to be drawn from scientific literature, expert opinion , summing up and directions at the trial and submissions to this Inquiry . Any confusion in terminology has particular importance when considering any epidemiological study, and the use of review literature, because the use of technical terms in any statistical study will affect issues of sensitivity and specificity of the studies, the validity of any conclusions reached by the study, and any inference to be drawn from the conclusions of the study. Comparisons between studies become more tenuous if the different definitions are used. This confusion is apt to be exaggerated when experts opine "SIDS" is a diagnosis *per se*, rather than a

[13] *Mraz v R (No 1)* supra.
[14] See Exh J page 2, Horne T 21 and Exh M – Cala report.

non-diagnosis. Further, the Inquiry needs to take into account the use of the term at one point in time and take care in assuming it is applicable at another.

38. The SIDS definition provides a category for research to develop effective therapeutic and preventative strategies for infants at risk.[15]

39. Much of the expert opinions at trial hinged around observations of what typical factors in "SIDS cases" are. This reasoning at the trial was flawed. The flaws arise from confusion in the following respects:

    (a) Treating SIDS as a cause of death in itself rather than an absence of an observable cause.[16] SIDS excludes established causes of death through infection, congenital deficiencies, epilepsy or other established medical conditions; and

    (b) In the assumption that sudden death in infancy is the same as SIDS.

40. Therefore, SIDS may be many different things, rendering it impossible meaningfully to state what a typical factor is, to the extent where a "diagnosis" can be ruled out in the absence of the given factor or factors. By way of illustration, two entirely separate categories of death may be classified under the same SIDS umbrella in such a way as to make the simple classification almost incapable of further rational analysis:

    (a) An unknown cause (or possibly many) that is not genetic – very rare in itself, but the far more common instance of SIDS; or

    (b) An unknown cause that is genetic, or otherwise connected with the possibility of only one or two occurrences known worldwide.

41. There were a number of pieces of literature that demonstrated there have been clusters of unexplained deaths within families.[17] Prof Vinuesa had a case of

[15] Marian Willinger, L. Stanley James & Charlotte Catz,' Defining the Sudden Infant Death Syndrome (Sids): Deliberations of an Expert Panel Convened by the National Institute of Child Health and Human Development', *Pediatric Pathology*, (1991) *11.677-684, 677.*

[16] Exh F T 31.07.

[17] Blackwell report Exh T page 4; Clancy Exh AT page 16.

four deaths in one family caused by digenetic variations affecting the immune response.[18] These cases probably fall within the SIDS rubric, but experts tend to treat them as a separate category of case, which causes further complication.

42. Further, if a cause of death is identified, then by definition, it falls outside a descriptor of SIDS. It remains a case of sudden infant death. This has the effect of distorting the epidemiology in the event the case is removed from the study group and has an effect on the search for clinical answers. There was no epidemiological information at the Inquiry as to the incidence of death of children under two years from infection, myocarditis, neurological disorders or genetic disorders and any effect such epidemiology would had on the various SIDS research material. In order words, a comparison and the degree of "rarity" of various conditions is elusive.

"Unexplained" and "Undetermined" in the context of "SIDS"

43. Further definitional difficulties arise from the use of "unexplained" and "undetermined" by forensic pathologists, when there was an identified alternative potential cause of death. There is a world of difference between not being able to identify any cause of death and ascribing the words "unexplained" or "undetermined", and a circumstance where there are two or more potential causes of death, and it being impossible to determine which of the two actually caused the death. A finding should be made to this effect.

44. Often the cause of death cannot be determined with any degree of scientific certainty because there is a general absence of information available on autopsy to resolve which of two or more available disease processes or physiological features triggered the death.[19] Again, Dr Cala's admonition that forensics is a blunt tool[20] comes into sharp focus. Any statement that a cause of death cannot be determined must be assessed by the evidence at the Inquiry of two or more alternative processes that may have caused the death, and in the light of the

[18] T 515.46-T 517.34.
[19] See Duflou Exh L page 51.
[20] Cala T 85.08, T 236.38, Exh M page 23 paragraph 2, page 25 paragraph 2.

onus that is assumed by the Crown in criminal law to consider and exclude a reasonably available alternative hypothesis. There is a world of difference between two identified causes of death and being unable to select between them and identifying one cause of death with no potential alternative.

45. Simply because forensic pathologists cannot determine a cause of death between a known and reasonable possible disease process or physiological feature and an "unknown" or "undetermined" cause does not discharge the Crown onus. Unexplained and undetermined are default positions when there is no reasonable certainty either way.[21] Further, the forensic pathologists' determination may not align with epidemiological studies or scientific literature with respect to certain matters. Professor Duflou adverted to this in his report.

46. There should be no automatic assumption that the terms "unexplained" or "undetermined" are directly interchangeable with the use of the term "SIDS" either by forensic pathologists, "SIDS" researchers or other experts. Each forensic pathologist will exercise their professional judgment differently. This was amply demonstrated by the evidence of Prof Hilton in which he stated quite firmly he did not agree with Dr Cala's opinion of "undetermined" regarding Laura's death, but he would jealously protect Dr Cala's right to express that opinion. This difference of opinion adds different complexity to the assessment of any opinion of "undetermined" because the basis of the opinion of "undetermined" needs to be closely examined.

47. Complication arises when there is a demonstrated legitimate difference of opinion between forensic pathologists on cause of death, between those who are satisfied there is an identifiable cause of death, against those who would default to "undetermined". The finding of "undetermined" has particular importance when this evidence is combined with the onus of proof that the

[21] Duflou Exh L page 51.

Crown has to discharge when it alleges the cause of death was deliberate smothering with murderous intent.

48. Further complication arises when the issue of cause of death falls outside the expertise of forensic pathologists and they seek to defer to other professionals, or when they seek to opine outside their expertise. As Dr Cala stated, forensic pathology is a blunt tool.[22]

49. By way of example, The Crown address on this issue of terminology at trial is to be found at Exh F (T 1310.40-1311.06):

> *Now, there are lots and lots of doctors who have subsequently given evidence about SIDS. I will come to that a little later in my address. But Dr Cummings was faced with the first child to die in a family. He was faced with the death of a child that was a little young for SIDS, at 19 days, but in essence unable to find the cause of death. You might think a diagnosis for SIDS that said 'I do not know why this child died. I can't tell, because I have been unable to find any cause of death. "Numerous doctors came and gave evidence and explained to you that that is what SIDS means. SIDS means: We don't have any suspicious circumstances. We don't have any doubts about this case, but we cannot find a cause of death. So we write it down as "SIDS".*
>
> *"Undetermined" is a little bit different, because "undetermined" means we can't find a cause of death, but we cannot exclude some suspicions that we might have, and it might be a natural death or unnatural death. We don't know. "Natural death" of course means death from disease or illness. Unnatural death really means homicide or accident. With Caleb's case, we are reduced to the extent of saying there was no known cause of death found.*

50. Part of the problem with this submission to the jury by the Crown is that, at the time of trial and currently, the SIDS definition included unnatural causes of death. Accordingly, the submission was wrong, and as such apt to mislead and confuse.

51. Further, it was suggested SIDS is a "diagnosis" when in fact it is not.

52. Further, there was confusion created by the assertion that with Caleb "*there was no known cause of death found*". That statement was incorrect. To put it accurately, on autopsy, it was not possible to determine a cause of death. These

[22] See Cala T 85.08, T 236.38, Exh M page 23, paragraph 2, page 25 paragraph 2.

issues are not matters of semantics. These issues demonstrate the errors that can emerge from ill-considered use of terminology.

53. Further, the trial was replete with references to children "dying of SIDS", which implies that SIDS is a cause of death, which is apt to create confusion.

54. Further, the evidence at trial drifted between three or more deaths in one family from SIDS, to three or more deaths in one family from unknown causes. This definitional laxity was apt to cause confusion.[23]

55. Further, the expression of an opinion by an expert does not require that opinion to be accepted. In this regard, the exercise to be undertaken by the forensic pathologist expert is confined to the task they were required to undertake. As Dr Cala stated, forensic science is a blunt tool. At the trial, great reliance was placed on the autopsy reports as being definitive. After the evidence given at this Inquiry, it is clear they are not definitive and there are complex medical issues that fall outside the expertise of the forensic pathologists that may be determinative of the issue.[24] These issues all raise a doubt about the terminology used at the trial after the evidence adduced at this Inquiry. It is also important in the assessment of the evidence at this Inquiry.

"Asphyxia"

56. Since the trial, there has been extensive revision regarding the use of language by forensic pathologists including such words as "*asphyxiation*", "*asphyxiating event*", and "*catastrophic asphyxiating event*", because such words are misleading and confusing to a jury. While these developments originated with the Goudge report in Canada, they have since become accepted constraints within Australia. The concerns regarding such expressions were not in existence as at the 2003 at this trial.

[23] The theory of three or more deaths in one family will be addressed later in these submissions.
[24] See for instance Cala at T 236.18 and T 245.10, Hilton at T 266.32-.41, Cordner at T 154.46-155.05, T 155.10, T 224.06-.17, Duflou at T 243.37-.40

57. The evidence before this Inquiry[25] demonstrated that use of descriptors such as "*asphyxiation*" and "*acute asphyxiating event*" and "*catastrophic asphyxiating event*" (which were terms used liberally at the trial) have no place in forensic pathology and are apt to mislead and confuse.[26] The reason for concern is that these terms imply a notion that there was a physical act of asphyxiation (ie an application of force by a person such as smothering or strangulation), when, in forensic science, all that can be said is that there has been a hypoxic episode (meaning deprivation of oxygen from any number of causes).

58. Prof Cordner set out many examples of the problem as it occurred in the trial in detail in his report (Exh Q). They will not be repeated here. However, no forensic pathologist called at the Inquiry disagreed with the proposition and there was no challenge to his reasoning.[27] As such, the Inquiry can accept his conclusions with confidence.

59. Prof Cordner described "*catastrophic asphyxiating event as being a meaningless question*".[28] The same point was made when referring to "*signs of asphyxia*" by Prof Duflou at T 106.04. The use of the term "*mechanical asphyxia*" appears in the SIDS II definition but it is not a term with which the forensic pathologists are comfortable.

60. There are 208 references to "*asphyxia*" and its derivatives in the transcript of the trial Exh F. These have been identified and referenced to these submissions as Schedule A. A close reading of each use of the term is essential, and the following matters are evident on a close reading of the transcript:

    (a) The term is primarily used by the Crown Prosecutor in his questions in chief of the witnesses. These questions by the Crown Prosecutor are almost all in a leading form rather than the witnesses volunteering "*asphyxia*" as the appropriate term that they would use. No objection was

[25] See Cordner report Exh Q pages 67 onwards.
[26] Cordner report Exh Q pages 6-7 and 40-49.
[27] Duflou comments upon it t Exh L p 37-38 and p 42-43. Hilton agreed with the general proposition at Exh P commenting "to equate the terms "catastrophic asphyxiating event" with a non-natural mechanism is demonstrably not tenable" with some reservation.
[28] T 103.03.

made to the form of question,[29] but that does not prevent the point being made in the light of the forensic pathologists' evidence at this Inquiry. The study of the transcript demonstrates one of the problems with the use of leading questions as they can have the tendency of inducing agreement to the use of an everyday expression in a field of scientific endeavour where the word has no scientific validity. In other words, the witness unwittingly accedes to the use of an everyday term which is ambiguous or confusing as a matter of science, assuming that the term is being correctly or appropriately used. This is what Prof Cordner is essentially referring to in his report,[30] and to which the other forensic pathologists fundamentally agreed when giving evidence in this Inquiry;[31]

(b) With some medical or expert witnesses, the Crown Prosecutor sought to clarify the use of the term "asphyxia" so as to make it clear that he was using it as a concept similar to "hypoxia" - that is, as a neutral expression rather than one seeking to imply an action of deliberate or accidental suffocation ;[32] and

(c) However, with some other medical or expert witnesses, the Crown Prosecutor did not seek to clarify the use of the term. This failure to clarify the use of the term made it unclear whether those witnesses were adopting the word with the intention of including or excluding accidental or deliberate suffocation.

61. As an example of the confusion created is the evidence of Dr Dezordi when assessing Patrick after the ALTE at Exh F T 505.45:

Q. *And did you find a medical cause for that catastrophic asphyxiating event?*

A. No, I did not find any medical cause.

[29] The issue probably was not recognised at the time.
[30] See Exh Q pages 6-7 and 40-49.
[31] T 100.01-102.26.
[32] Exh F, T 505.35, T 865.50, T 883.10.

62. It is submitted the Crown Prosecutor did not appreciate the difference in meaning between "asphyxia" and "hypoxia" and appeared to use them interchangeably.[33]

63. The confusion created by the use of this terminology found its zenith in the summing up to the jury at Exh F page 25:

> "*The general medical opinion, about which there seems to be no dispute, is that except in cases where there are obvious signs of deliberate or accidental asphyxiation, as where one finds bruising or other marks around the face, the nose or the mouth or where the child is found in a position which suggests accidental suffocation, it is virtually impossible to distinguish between a death resulting from asphyxiation and a death resulting from natural but unidentified causes.*" (emphasis added)

64. This was an error in this summing up by the trial judge as it imported into the word "*asphyxiation*" a deliberate act which excluded a natural cause of death. This error, and the confusion for the jury, was compounded by the following three matters in the summing up by the trial judge (Exh F):

    (a) *"Dr Wilkinson is not now of that view. He is of the view that the most likely cause was asphyxia";* and

    (b) With respect to Patrick's ALTE: *"All the specialists accept that what happened was consistent with asphyxiation. A summary of their evidence, relied on by the Crown, was that the symptoms were consistent with deliberate smothering. It was not impossible that they might have been caused by epileptic seizure, but they thought it would be extraordinary. Professor Byard would not exclude epilepsy as a cause"; and*

    (c) With respect to Laura: "*All the experts, I think, also agree that the condition in which Laura was found is consistent with death by asphyxiation. So nobody says it could not have happened that way*".

65. The summing up demonstrated the ambiguous use of the term. This distinction in terminology was not apparent until the generation of the report

[33] See also Exh FT 505.35, T 865.50 and T 883.10.

of Prof Cordner,[34] and the evidence of the other forensic pathologists at this Inquiry who assented to the correctness of his concerns.

66. It is submitted that given the use of the word "*asphyxia*" and its derivatives, and specifically with reference to the use of the word in the summing up by the trial judge, and the consequential confusion and ambiguity in its use, this is an important matter which contributes to a finding there is a reasonable doubt about the guilt of the accused.

67. The submissions of Counsel Assisting, in places, adopt the use of the word "asphyxia" in making submissions and addressing the evidence which gives rise to the confusion. To the extent the submissions repeat the evidence at trial without qualification, the qualification needs to be sharply borne in mind.[35] The problem becomes clearest in submission at Part 3 [75] where the words are used interchangeably without qualification.

"Consistent with"

68. Finally, contrary to the submissions of Counsel Assisting at Part 3 [250], [255] and [261] it matters not whether the experts were confused. The issue is that the use of the word was incorrect and apt to distort the appreciation of the evidence and mislead the jury. This is a relevant matter for this Inquiry to consider.

69. Evidence given at this Inquiry demonstrated that the use of the expression "*consistent with*" is also apt to be misleading.[36]

70. Professor Cordner details his concerns about the use of the term. He states, *inter alia*:

A simple way of thinking of the issue is to consider the following:

- *Consistent with A, but inconsistent with B*

[34] See Exh C and Exh Q, pages 6, 7, 40-49, 57, 60-67.
[35] By way of example only, Part 3 paragraphs 41-42, 57, 70-75, 84, 91 and 99.
[36] See Cordner Exh Q pages 57-58 with whom Prof Hilton agreed in his report, Exh O.

- *Consistent with A, but also consistent with B*

71. In giving evidence on a particular point, one of these versions is usually meant, but most often the second half of the couplet is left unsaid. For example, 'all the findings are consistent with deliberate smothering' is not accompanied by what the findings might also be consistent with, or what they are inconsistent with. This omission may be a significant contributor to the problem with this phrase generally, and in this case in particular.

72. In Volume 3, page 433 of the Report of the Inquiry into Pediatric Forensic Pathology in Ontario, Justice Goudge deals with the use of the phrase "consistent with" much more comprehensively.[37]

73. Professor David Ranson provides a detailed explanation about why the use of the term 'consistent with' can be misleading.[38] He states, *inter alia*:

> *Notwithstanding the philosophical arguments given in the materials referenced above, it has been my practical experience that forensic pathology reports and opinions couched using the term 'consistent with' can muddle, conceal and obfuscate the author's true meaning to the disservice of the recipients. This can take place because of an innocent assumption on the authors' part that their meaning is in fact clear or less honourably through an attempt by the author to make an uncertain or less certain opinion sound more authoritative than they would ordinarily have indicated. The legal forensic exigencies of calling and challenging evidence at trial can further blur these distinctions by adding the advocates variable interpretations of the phrase to the already uncertain mix of meanings that the witness might be considered to be presenting.*[39]

74. The submission of Counsel Assisting at Part [268] should be rejected. The use of the words "consistent with" has been the subject of controversy simply because it is confusing in a scientifically and medically technical case.

"Rare"

75. At trial, much was made of SIDS being "a rare condition". The Crown prosecutor addressed on this at Exh F T 30.16 and .28, .53, T 66.44-.45.

[37] Professor Stephen Cordner, *Report and Opinion in the Case of Kathleen Folbigg*, Inquiry Exhibit C, page 84.
[38] Professor David Ranson, *Expert Report*, 31 December 2018, pages 7-12.
[39] Ibid page 8(e).

76. Further encephalitis was said to be rare[40] as well as diseases that could cause Patrick's symptoms.[41] SIDS is rare over first birthday[42] as were metabolic disorders.[43] Further, clinical myocarditis was said to be rare[44] and children rarely drop dead.[45] Further, floppy larynx was a rare cause of unexpected death.[46]

77. Prof Byard talked about the rarity of encephalitis.[47] Myocarditis is rare.[48] Respiratory arrest from a floppy larynx is a very rare event.[49] In the Crown summing up, encephalitis was said to be very rare.[50] Multiple deaths in the one family were very rare (but possible).[51]

78. The trial judge summed up saying that "*SIDS deaths are rare in the community. There is no authenticated record of three or more such deaths in a single family. This does not mean, of course, that such events are impossible. It is an illustration of the rarity of deaths diagnosed as SIDS*".

79. The use of the word "rare" requires context.[52] In this regard, sudden infant death may be "rare" within the general population. Two or more sudden infant deaths in the one family may be "rare" in the general population. However, this needs to be assessed against the following context:

    (a) That filicide is "rare"[53] and normally involves males. Ergo, filicide by a woman is rarer still and filicide by a mother by smothering is rarer still.

[40] Dezordi at Exh F T 495 and T 468.
[41] Dezordi T 500.55-501.04.
[42] Seton at Exh F T 695.27.
[43] T 697.46.
[44] Bailey Exh F, T 1100.20.
[45] Exh F, T 1101.10.
[46] Exh F, T 1204.25-.50.
[47] Exh F, T 1236.
[48] Exh F, Byard T 1246, T 1269.55.
[49] Exh F, T 1254.31.
[50] Exh F, T 1318.54.
[51] Exh F, T 1364.42.
[52] See Crown opening T 66 for one example of its use before the jury.
[53] See table at page 25 of Cordner report. See also by way of example questions of Bailey T 1100.01-.05.

Filicide by a mother by smothering, whilst leaving no signs of smothering is still rarer again;[54]

(b) That amongst "healthy" children, sudden infant death may be rare. But almost half of sudden infant deaths showed signs of mild respiratory illness in the preceding days. Three of the Folbigg children demonstrated inflammatory response at autopsy and had a history of mild respiratory infection or fever prior to death. Whether sudden death is "rare" in these circumstances is a matter to be assessed against other matters including the extent of the myocarditis in Laura, and any genetic anomalies that might, of themselves, be of uncertain significance but combined with infection, or other gene variants could trigger a fatal arrythmia. In other words, the use of the word "rare" needs to be assessed in the context of scientific understanding. Scientific understanding is changing over time, and as further literature is published, an event may be rare, but clearly demonstrated elsewhere. This has an effect on whether, despite the rarity, the condition is a potential cause of death;

(c) Sudden death in infancy may be "rare" in the general population. However, if the family has an inherited or genetic predisposition, then the sudden death may still be rare in the general population but it would not be "rare" within that family unit.[55]

80. There are examples of three or more infant deaths in the one family, and these examples were available at the time of the trial.[56] According to Alison Colley's treating report, the risk of having a further SIDS death in the one family was

[54] Prof Cordner reported that in three out of five cases of confirmed smothering, there were identified injuries to the face or mouth (see Duflou Exh L, page 38, page 40-41, Exh 1 page 51.52).
[55] See Prof Vinuesa T 516.46-T 517.34 regarding the four deaths in the one family.
[56] For example, see: Donald R Peterson, et al, 'The sudden infant death syndrome: Repetitions in families', (1980) 97(2) *The Journal of Pediatrics* 265-267; Dorothy H Kelly and Daniel C Shannon, 'Sudden Infant Death Syndrome and Near Sudden Infant Death Syndrome: A Review of the Literature, 1964 to 1982', (1982) 29(5) *Pediatric Clinics of North America*, 1241-1261; Lorentz M Irgens, et al, 'Prospective assessment of recurrence risk in sudden infant death syndrome siblings', (1984) 104(3) *The Journal of Pediatrics*, 349-351; John L Emery, 'Families in which two or more cot deaths have occurred', (1986) *The Lancet*, 313-315; Eugene Diamond, 'Sudden Infant Death In Five Consecutive Siblings', 170(1) *Illinios Medical Journal*, 33-34; and Joseph Oren, et al, 'Familial Occurrence of Sudden Infant Death Syndrome and Apnea of Infancy', (1987) 80(3) *Pediatrics* 355-388.

about 25 per cent.[57] According to Byard's book,[58] the risk of further SIDS death in the one family is fivefold. This will be addressed separately later in these submissions.

81. This is important as either smothering or sudden infant death is "rare" and little weight can be placed on the rarity occurrence of one of them, as opposed to the other.

82. In the submissions of Counsel Assisting, there are numerous references to "rare" events. These references are unfairly made to reduce the likelihood of the occurrence of a potential cause of early death which falls in favour of Ms Folbigg. There is no balance to the use of the word. As such, it demonstrates the assumption of a prescription of guilt that infects the approach taken. This needs to be carefully considered and a finding made to this effect.

Summary of Medical Developments Since 2003

83. There have been significant changes in the understanding of the medical conditions since 2003. The Inquiry has had the benefit of numerous specialists in their field who depose to those changes that were not available at the trial, including infectious diseases experts (Blackwell, Goldwater) and immunologist (Clancy). Further experts gave evidence on topics that were not canvassed at trial including paediatric neurology (Prof Ryan).

84. Because of these developments, much of the medical material used at trial (either by way of reports or oral evidence) are substantially outdated and should not be relied upon without considering the evidence at the Inquiry. This includes the evidence and reports of Dr Wilkson, Dr Dezordi, Dr Seton, Dr Beal, Dr Ophoven,[59] Prof Herdson, Prof Berry, Prof Byard, Dr Ouvrier[60] and Dr Jones.

[57] Exh H, Tab 60, letter to Bridget Wilcken dated 27 February 1992.
[58] Exh D chapter 31 page 711.
[59] Who did not give evidence at trial.
[60] Who did not give evidence at trial.

85. There have been a number of scientific developments since the trial in 2003. These have been dealt with clearly in the evidence. Because of the complex and multifactorial aspect of unexpected death in infancy, developments in one area of scientific or medical endeavour, have had an impact on other areas:

(a) Meadow's Law has been discredited in forensic science;[61]

(b) There have been questions in forensic science regarding repeated deaths in the one family with a debate raging between Carpenter and Bacon;[62]

(c) The forensic pathology practice has been significantly standardised by use of procedures and forms;[63]

(d) Again by reason of the development of the Goudge report, in forensic pathology there is a directive to forensic pathologists and law enforcement agencies to avoid thinking "dirty"[64] and focusing on trying to establish "truth". The unconscious bias created by thinking "dirty" gives rise to an acknowledged distortion of forensic pathology evidence.[65] It is axiomatic this method of thinking can compromise the presumption of innocence required by law and infect the independence of the expert;

(e) There has been greater work regarding the definition of "Sudden Infant Death Syndrome" and a clear distinction between "Sudden Infant Death Syndrome" or "SIDS" and sudden unexpected infant death. The definition of "SIDS" has been refined for research purposes rather than clinical practice.[66] This has been addressed elsewhere in these submissions;

[61] See Duflou Exh L pages 14, 22, and 45.
[62] Cordner Exh Q page 33.
[63] Cordner report Exh Q pages 36-38, Duflou report, Exh L pages 25 and 35 ff.
[64] Exh Q Cordner report pages 33-34 and footnote 31.
[65] This ties in with the earlier submissions regarding the presumption of innocence and presumption of guilt.
[66] Cala report Exh M, pages 2-3.

(f) There has been a great deal of development in the field of genetics and genetic analysis.[67] The understanding of genetics is still not complete and is largely focussed on monogenetic cause of disease processes. This will be addressed elsewhere in these submissions;

(g) In addition to research that establishes that cardiorespiratory control is developing rapidly in the infant, there has been a focus on the structural changes in the upper respiratory structures, and greater interest by otolaryngologists in this aspect of unexpected infant death. Otolaryngology and its connection to sudden death in infancy has been an area of improved understanding;[68]

(h) The role of mild viral infection and the role of the cytokine response to infection and the triggering of cardiac arrhythmia.[69] Even after the "back to sleep" program, in the remaining cohort of SIDS fatalities, just under 50 per cent of SIDS deaths have a mild respiratory infection in the last days prior to death. Genetic variations and cytokine genes are most likely involved. This impacts on immunity, the inflammatory response, paediatric neurology and cardiology;[70]

(i) Understanding of congenital abnormalities which can cause sudden death.

86. Each of the developments in these areas impact upon the Crown characterisation at the trial of each of the children as being in "good health" at or about the time of their deaths.

[67] Exh J Horne report page 3, page 5, page 7, Cordner Exh Q, forensic pathologists' conclave at T 226.44 - T 228.43, T 229.08, T 230.48 - T 232.07.
[68] Hilton evidence and that of forensic pathologists T 236.19 - T 237.17, T 241.44 - T 242.42, T 243.40.
[69] Exh D chapter 30, Blackwell report, Cordner report Exh c and Exh Q, Blackwell reports (Exh T, Exh U, Exh V), Clancy report (Exh W), Cala report Exh M pages 16—17, evidence of forensic pathologists at T 272.01 – T 275.10.
[70] Exh J - Horne report, page 4 and footnotes 54 and 55, Blackwell reports Exh T and Exh U, Exh W, report of Robert Clancy, Exh D (Byard text) Chapter 30.

87. In addition, there have been developments in the field of forensic pathology including:

(a) Standardisation of forensic pathology techniques;

(b) The introduction of Experts' Code of Conduct; and

(c) The lessons learned from the Gouge report and clarification of language used by forensic pathologists when giving evidence including the use of expressions such as "*asphyxiation*" and its derivatives and "*consistent with*". This has been dealt with previously.

88. We shall address each death in turn in the light of the change in evidence.

89. Further evidence given at the Inquiry (which was incidental to the examination and consideration of the changes in the state of scientific knowledge) demonstrates some of the evidence given at trial was wrong. If that evidence is wrong, then the Inquiry would comfortably reach a reasonable doubt as to guilt.

The Impact of these Developments – Current Conflicts with Assumptions at Trial

90. In the following section, we address the impact on these developments on the central underpinnings of the Crown case. These developments shall be addressed theme by theme whether considered individually or cumulatively, they are cause for doubt regarding the guilt of the accused.

Body Temperature and Estimated Time Since Death

91. At the trial, there was no evidence before the Court to suggest how long a child's body would take to cool.

92. At the trial, the Crown relied in its coincidence notice, and its final address, the fact that when each of the bodies was found by Kathleen Folbigg, they were warm. In the Crown closing, it was submitted to the jury this indicated the

deaths had occurred within minutes of the bodies being discovered. There was no direct evidence of this fact at the trial.

93. The Crown prosecutor pointed out the "*ninth point of coincidence*" at Exh F, T 1363:

> *Number nine: They were all discovered dead or moribund by their mother at, or shortly after death when they were still warm to the touch, and two of them still had a heartbeat.*[71] *So they were found by her very shortly, literally minutes, after the cessation of breathing. What an amazing coincidence, ladies and gentlemen, that each of these five events was discovered by this woman so shortly after these babies had stopped breathing. Why was it that it never happened that one of these babies wasn't found cold in the morning when they got up? Why was it that some hours didn't follow, or even one hour didn't follow, after the cessation of breathing when these children are found deceased or moribund? Why was it that she discovered them all? So quickly after they had stopped breathing? In fact two of them so quickly that they were still, technically speaking, alive, and one of them was able to be revived. Two of them were found whilst their hearts were still beating, probably within six or eight minutes of the cessation of breathing. What an amazing coincidence, or is it?*
>
> *Finally, ln relation to four of the five events, that is in relation to Caleb, Patrick's ALTE, Patrick's death, Sarah' s death, she failed to render any assistance at all to them after discovering them dead or moribund to the extent that she did not even lift them up out of their beds.*
>
> *Now, ladies and gentlemen, those ten similarities on their own are incapable of being explained, except by the one common feature, that is this accused. This accused is common to all of these deaths and the ALTE, and that is because she was responsible for all of them. That is why she raised the alarm so soon after it had happened.*
>
> *Professor Berry described these four deceased children as being like four sudden lightning bolts, and that is really what it is. The only reasonable conclusion is that Kathleen Folbigg killed them.*

94. This submission is wrong for a number of reasons but the submission about temperature is misleading in the light of the evidence given at trial.

95. A number of witnesses gave evidence at the trial of the body temperature of the children at the time of discovery. In relation to Patrick's body temperature was described in Ambulance records generated on the same day as both "warm"

[71] This was wrong on the evidence. There was no evidence that a "heartbeat" was detected. However, during his ALTE, Patrick had a heartbeat. Agonal rhythm is different from heartbeat.

and "cold", which demonstrates the variation in perception. Other witnesses gave evidence about each of the children at different times.[72]

96. The Inquiry has taken evidence that if different people can have different perceptions of body temperature when they touch the skin.[73] There is a difference between touching a limb and touching the abdomen.[74] Much would depend on whether the trunk is clothed, and any findings are very marginal in mainstream pathology practice.[75]

97. There have been some studies done to determine drop in body temperature but not on children. The cooling of a body is dependent on a whole host of different factors.[76] None of the forensic pathologists had any experience in any decent scientific studies about infant cooling.[77]

98. Further evidence on this topic is given by Prof Duflou at T 166.40-.45 (specifically in relation to Patrick). Further evidence as to the subjective findings of temperature by ambulance officers is to be found at T 121.14-.56. In relation to these observations, Prof Hilton stated:

> … *quite frankly, I have grave doubts as to which, if any, of these observations have got any relevance to - as to when the child died.*[78]

99. In addition to the general proposition, in submissions, the Crown Prosecutor made much of skin temperature with respect to each child.[79]

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[72] The relevant evidence came from Craig Folbigg with respect to Caleb (T 104.34-.37) with respect to Patrick (T 116.19); with respect to Sarah (T 132.01-.04). Ambulance officer Hopkins gave evidence at T 142.29 and T 143.53, T 146.24. Baines at T 148.32. Ambulance officer Coyle at T 441.06 (in relation to Patrick) and T 442.11 and .53. Walker at T 473.06 and T 474.06-.15. Dr Wilkinson gave evidence at T 511.16-.20. Ambulance officer Wadsworth gave evidence at T 702.38 with respect to Laura. Carol Newitt gave evidence about Patrick at T 895.09. Prof Byard was asked to make an assumption regarding temperature at T 1212.14.
[73] T 221.42.
[74] T 222.15-.31.
[75] T 222.31.
[76] T 223.06.
[77] T 223.46-.50.
[78] T 121.44-.46.
[79] In his opening, much was made of it- see Exh F, T 37.07; T 39.08, T 42.24, T 45.25 In his address to the jury, the Crown made submissions at T 1311 with respect to Caleb, with respect to Patrick at T 1317.60 and T 1323 and T 1324. With respect to Sarah, Crown submissions regarding the coincidence that Sarah's body was still warm was made at were made at T 1331, T 1338.44.

100. In opening, Defence counsel adverted to the issue at Exh F T 89.41 and accepted it was significant at T 90.09.

101. The Defence counsel alerted to this at Exh F T 1417.30-.38:

> *When we go through the detail of that, for example in relation to warm to touch, even if the evidence of Caleb's is that he was warm to touch, what does that mean? No expert has been asked to give a precise opinion of what that means. Is one warm for five minutes, ten minutes, hours? If this was to be relied on with some degree of precision, then you would have expected there to be some expert evidence about that, but there is none. Warm to touch, it is submitted to you really lacks precision. …* [80]

102. In the summing up, the trial judge referred to Caleb's warmth at Exh F page 27, Patrick's warmth at Exh F page 36. He made this point at Exh F page 37:

> *Mr Zahra makes the point that there is no evidence how quickly or how long it takes for a child's body to lose its heat. So, when dealing with the death of any of the children, the fact that the body was warm, if that is what you find, is of limited use to you. That is a submission which probably has greater force with the other children because we know that Caleb was alive at 2 o'clock.*

103. At Exh F pages 42-43, the trial judge states:

> *The next one is that they were all discovered dead or moribund by their mother during what she claimed was a normal check. Well, again, Mr Zahra says to you: what is the difficulty about that? It really adds up to nothing. You know, simply by looking at the diaries, simply by listening to the people who described the way she managed her children, that she was the sort of person to check frequently. You see how she had the times divided up into half hour segments. The next one is they were all discovered shortly after death. The Crown document, MFI 41, uses the words "very shortly, literally minutes after the cessation of breathing". Mr Zahra's response to that is: Well, you do not know. You cannot conclude that it is very shortly, literally minutes, simply judging by the temperature of the body, because there is no evidence how long a body stays warm. There is no evidence, in respect of these children, about the bed clothes, other than as they were when the child was found, when Mr Folbigg went and looked. You do not know whether they were covered before that time or not. So, you cannot readily draw conclusions from the fact of a warm body.* [81]

104. At the Inquiry, there was evidence that one could not tell how long a child's body would take to cool. Further, there was evidence that perceptions of warmth are different, there may be a difference between a limb and abdomen,

[80] See also Exh F, T 1426.
[81] See also the judge's summing up in relation to Patrick at page 74 and Sarah at page 86.

it would depend on whether the child was clothed or not, and other factors such as ambient room temperature would all play a part.

105. The submission by the Crown prosecutor was wrong and the direction given by the trial judge, in the light of the evidence at the Inquiry, was insufficient to correct the error.

106. The summing up on the body warmth of the children was likely to mislead or confuse. It was not a question of placing limited weight on the evidence of cooling. The fact was no weight could be placed on it. It should never have been an issue in the ninth point of coincidence in the coincidence notice and should never have been advanced as a fact from which an inference could be drawn. More importantly, a central plan has been removed from the Crown's coincidence notice, and as such, a question arises as to whether that evidence should have been admitted at the trial. It affects whether there should have been joint trials. It affects the balance between probative value and prejudicial effect of the coincidence reasoning. Findings should be made to this effect.

107. The Inquiry can put aside body temperature as a consideration of the circumstantial case against Ms Folbigg. In doing so, the Inquiry should record this evidence was part of the circumstantial case against Kathleen Folbigg at trial but has been proven to be wholly unreliable at the Inquiry. One element of the circumstantial case has been eliminated. A finding should be made that the Crown address was wrong and as such there is a reasonable doubt about the conviction of Ms Folbigg and the guilt of Ms Folbigg.

108. On this issue, and in the light of this evidence, there is a reasonable doubt as to the conviction by the jury and the guilt of the accused.

Heartbeat v Agonal Rhythm

109. This was another part of the Crown's ninth point of coincidence. No expert report on this issue was served prior to trial on this topic and the evidence was adduced in the running of the trial. It relates to the Crown prosecutor

submitting that heartbeat equates to agonal rhythm. It does not. Agonal rhythm is the residual electrical activity after the heart has stopped beating. It can continue for many minutes[82] and up to half an hour.[83] It can be extended after mechanical ventilation,[84] the administration of drugs and resuscitation attempts.[85] There was no medical basis for this submission. Agonal rhythm does not trigger a heartbeat.[86]

110. On attendance by ambulance officers:

(a) Caleb had no pulse and there was no evidence of agonal rhythm;[87]

(b) Patrick had no pulse and no evidence of agonal rhythm;[88]

(c) Sarah had no pulse and no evidence of agonal rhythm;[89]

(d) Laura had no pulse, and evidence of agonal rhythm.[90]

111. This submission by the Crown prosecutor was wrong. A finding should be made to this effect.

112. Further, agonal rhythm can be perpetuated by the administration of drugs and resuscitation attempts. Thus the period of agonal rhythm after heart stoppage can be perpetuated. This removes any certainty of the relationship between heart stoppage and detection of agonal rhythm.[91] A finding should be made to this effect.

113. Accordingly, this Inquiry should make a finding this evidence in the circumstantial case was wrong, as was the submission by the Crown Prosecutor. The ninth point of coincidence and the coincidence notice was

[82] Exh F Beal at T 1149 – T 1150, Jones T 1261.46.
[83] Byard Exh F T 1221.
[84] Exh F Jones T 1277.50.
[85] See evidence of Skinner at T 508.40 - T 510.01.
[86] Exh F Beal at T 1150.04.
[87] Exh H Tab 4.
[88] Exh H Tab 22.
[89] Exh H Tab 33.
[90] T 1099.45.
[91] See Skinner T 508.40 - T 510.01.

wrong. This Inquiry should make a fining this element of the circumstantial case has been disproved after evidence at the Inquiry.

114. This alone, and in combination with other matters, gives rise to a reasonable doubt as to the conviction by the jury of Ms Folbigg and guilt of Ms Folbigg.

115. Further, it was a central plank in the Crown's coincidence reasoning, and its elimination throws considerable doubt upon the balance between significant probative value and prejudicial effect for the purpose of the admission of coincidence evidence. It also affects whether the Inquiry should consider the evidence on the basis of individual charges or on the basis of a joint trial.

Encephalitis v Encephalopathy

116. Patrick had a recognised encephalopathy. It was recorded on the autopsy report as being one of the clinical conditions.

117. According to Prof Blackwell, the exclusion of encephalitis in Patrick would leave open an undiagnosed encephalopathy.[92]

118. It was highly unlikely that Patrick had encephalitis, after the tests at the Hospital.

119. Both counsel at trial confused the distinct concepts of encephalopathy and encephalitis, as if they were the same conditions. The Crown took great pains to cross-examine witnesses about the clinical exclusion of encephalitis but did not ask one question to exclude encephalopathy.

120. Yet the distinction was made plain by Dr Dezordi at Exh F T 495.34 and Wilkinson at Exh F T 861.12, T 864.36, T 865.08, T 881.50 and T 882.09 - a total of six references. Yet there are 360 references to encephalitis in the trial transcript. A close reading of them demonstrates the confusion and error. This error is not one of semantics, it is a fundamental misunderstanding of the physiological processes that were taking place with Patrick and exposed a fundamental

[92] T 340.08-.25.

deficiency in understanding the differential diagnostic process undertaken by the doctors who were treating Patrick.

121. In his address to the jury, the judge addressed the issue of encephalitis[93] but did not address encephalopathy. After his summing up, counsel for both parties did not seek to correct him.

122. By the time of the Inquiry, the distinction between encephalitis and encephalopathy was abundantly clear:

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Q: Wasn't the encephalitis a result of the ALTE rather than the cause of the ALTE in terms of the investigations that were carried out?

A: (Cordner) Well, no. There was some concern about herpes encephalitis --

Q: As the cause of the ALTE?

A: (Cordner) -- but that was never – as a cause of the ALTE as I understand it but that was – they tried to track that down but couldn't establish that. Then over the course of the next several months, next few months he had admissions to hospital for seizures and crises … (T 146)

A: (Duflou) I think a brief answer is that no definite cause for the ALTE was found. Can I just mention the difference between encephalitis and encephalopathy. … There may have been some confusion in terms of understanding what encephalitis meant. … (T 146)

Q: Well if you look at the paragraph I was referring to, is the question mark in relationship to the encephalitis or what came after?

A: (Cordner) Well I think they concluded that the viral encephalitis was not a factor in the death (T 149).

Q: So how does the encephalopathy fit in with all of that?

A: (Cala) Well encephalopathy is just a broad term, without going to the cause which says abnormality of the brain, so some abnormality of the brain occurred without them saying exactly what it was but at the end of that, as a result of that, there were intractable or untreatable seizures. …

A: (Duflou) Thank you. What I wanted specifically to say is that encephalitis is a form of encephalopathy, it is one of the many different of encephalopathy the two should not be confused, encephalitis --

Q: Who are you suggesting has confused them Professor?

A: (Duflou) I was worried that people in the court might be confused on the basis of an understanding of the difference between encephalopathy and encephalitis.

Q: So you've seen nothing in the written material that suggests somebody significant was confused?

[93] Exh F pages 62-65.

A: (Duflou) Not at all. It worries me in terms of education of the court if you like.
Q: You educated the court, was there more you wanted to say?
A: (Duflou) No, I think it is – that was my concern. (T 152 - 153)

123. This distinction made clear by Prof Duflou was not recognised at trial. As such, at trial there was a reasonably available natural cause of death of encephalopathy which was never put to or clarified with the jury. For this reason alone, given the confusion in medical terminology, and the failure of the Crown to exclude encephalopathy, this Inquiry would form the view there was a reasonable doubt regarding the guilt of the accused with respect to the charges of grievous bodily harm and murder with respect to her son Patrick.

124. This Inquiry should make findings that the evidence and address by counsel and summing up regarding encephalitis and encephalopathy was confused and in error, having received evidence from experts in this area. This confusion was highly important and casts doubt upon the conviction of Ms Folbigg at trial. A finding should be made to this effect. As such, it raises a reasonable doubt about the conviction of Ms Folbigg by the jury and the guilt of Ms Folbigg.

Infection as Cause of Death

125. At the trial, there was no appreciation that infants could succumb to a mild respiratory infection, with limited or no physical signs of serious ill health. The evidence at trial proceeded on the assumption that the child would have to be profoundly unwell to die of infection.[94] This is a position which he seems to have maintained in Dr Cala's report,[95] although he modified his opinion in oral evidence. The Crown case at trial also proceeded upon the assumption a child with a cold or sniffle was otherwise "healthy".

126. The trial was conducted on the basis that all four children were otherwise "healthy".[96] However, the most considerable advances have related to

[94] Cala Exh F, T 1064.56 - T 1065.09.
[95] Exh M.
[96] Exh E references: (a) mild colds generally- Crown opening Exh F T 45.60, Dr Bailey Exh F T 1100.59, Dr Jones Exh F T 1266.55 – T 1267.06, Crown address Exh F T 1316.38 and Exh F T 1513.14, (b)"otherwise healthy" and

infection and sudden death. The fact is that even though sudden infant death is a rare event, just under fifty per cent of SIDS deaths are associated with a mild viral illness in the days beforehand. A finding should be made to this effect.

127. Thus, the whole concept that these children were "healthy" is a description that is apt to mislead and confuse given the scientific evidence that is now available. On this basic statistic alone, and even wholly ignoring the evidence of Profs Blackwell, Clancy and Goldwater, and wholly ignoring Exh D chapter 30, this assertion and central tenet of the Crown case that the children were "healthy" is now scientifically dubious. Impressionistic opinions of "good health" and accepting the usual colds and sniffles of childhood does not mean that sudden death of an infant can be wholly unexpected. The statistic demonstrates a clear link between mild infection and sudden infant death.

128. Prof Horne's expertise and his approach to SIDS research has been through the route of risk factors and sleep apnoea. Prof Horne advised the Inquiry that just under half of the SIDS infants had a mild respiratory infection in the last days prior to death.[97] Although it is thought mild infection and the cytokine response can give rise to toxicity which can trigger an arrhythmia,[98] Prof Horne wished to defer to Prof Blackwell[99] on those issues.

129. Prof Elder was not familiar with the literature regarding infection and she advised the Inquiry that it was not in her area of expertise. One of the reasons she had not kept up to date in detail with that literature is that currently she is

general assertions about all children in good health Crown opening Exh F T 30.14, Exh F T 31.34, Crown final address T 1326.42, T 1347.16, summing up T 99, (c) Caleb- Hopkins T 145.25, Crown address T 1309.50; (d) Patrick – Crown opening Exh F T 35.27; Craig Folbigg Exh F T 107.30 and Exh F T 251.23; Marley Exh F T 539.50; Crown address Exh F T 1316.28, Exh F T 1316.37, Exh F T 1322.08, Summing up Exh F T 55; (e) Sarah – Craig Folbigg Exh F T 119.29; Marley Exh F T 40.56; Crown address Exh F T 1326.42; Summing up Exh F T 78; (f) Laura- Craig Folbigg Exh F T 154.32; Innes Exh F T 688.16; Tanner Exh F T 674.50; Seton Exh F T 695.14 and Exh F T 696.44; Bown Exh F T 788.26; Smith Exh F T 813.53; Crown address Exh F T 1347.16.

[97] T 48.35-.40, Exh J page 4.

[98] Byard's book Exh D Chapter 30.

[99] T 49.10-.15.

clinically working with unsafe sleeping circumstances and that literature is not applicable to most of the deaths she sees.[100]

130. In so far as Prof Elder was concerned, maternal smoking and bed sharing is the highest risk. Neither Prof Horne nor Prof Elder mentioned infection as a risk factor.[101] Although Prof Horne correctly drew attention to the fact that 50 per cent of SIDS deaths were associated with mild viral infection in the days beforehand, there was no reference to infection in the triple risk model proposed by Prof Horne or Prof Elder.[102] It was part of the triple risk model contained in Chapter 30 of Byard's book,[103] page 701.[104]

131. However, beyond the mere statistic, there is evidence before this Inquiry as to how mild infection can trigger sudden death. This material explains statistics that just under half of sudden death infants have suffered mild infection and explains why the "back to sleep" program was effective whereas previously the reason for its success was unknown. At the trial, while it was acknowledged that the "back to sleep'" program was effective, it was not known why it was effective. The important evidence of Prof Blackwell is to be found at T 341.20 and following.

MORRIS SC: You start the paragraph stating that there's recent evidence for associations between SIDS and SUDEP. You then go on to say that the hypothesis proposed is that death due to seizures initiates pathogenic signalling between the brain and the heart resulting in lethal cardiac arrhythmias. For the benefit of this Inquiry could you just explain the hypothesis about how mild infection in a child may give rise to an unexpected death?

WITNESS BLACKWELL: Right. There are a number of parallels between susceptibility to infection and the risk factors for SIDS. The first is age, particularly the age range in which the peak of SIDS classically occurred, two to four-month age range, when they have the least amount of antibody they will ever have in their entire lives. The second is the presence of older siblings. Their older siblings go to play groups or nurseries or schools and bring home whatever their colleagues have to pass

[100] T 48.49 – T 49.04.
[101] T 51.13.
[102] T 52.09.
[103] Exh D.
[104] If the Inquiry proceeds with no predeterminations on any issue, then the presumption should apply. To suggest the fact of her conviction extinguishes the presumption is to impart an implicit bias into the assessment of the evidence.

on to the baby. Exposure to cigarette smoke enhances susceptibility to infection in a number of ways. First of all, smokers are more likely to have virus infections and the components in cigarette smoke are sticky and so it's like flypaper for a number of organisms and they just stick in greater numbers to the tarry substance on the buccal cells of the individual. Smoking will also reduce the anti-inflammatory responses which help to damp down the damage that's done in response to a mild infection.

If you look at the overall picture it's like a jigsaw puzzle. The hypothesis is that the factors that make a child more susceptible to infection are those that are found amongst the risk factors for SIDS and what we've done is to test a number of these to see how the risk factors would enhance or exacerbate infection. The latest publication was in 2015 in which we tried to put these various pieces of the puzzle together. The hypothesis includes not just infection, invasive infection, mucosal infection but also the production of toxins whether by E. coli or Staph aureus that can cross the mucosal barrier and induce inflammatory responses in the child.

So far the studies that my group and other people have done have found that things like the prone sleeping position, which is a major factor in sudden infant death and when people started turning babies over the incidence disappeared. Professor Morris and his colleagues took nose swabs from babies from birth to about probably ten or 12 months. At the period when a baby started rolling over on its front the secretions in the nose would pool in the nose overnight and you got not only more bacteria but a greater variety of bacteria.

The prone sleeping position is also important because it raises the temperature of the nose. Normally the temperature of the nose is well below 37 degrees because of the passage of air back and forth. My colleague in ear nose and throat department measured the temperature of noses in the noses of children lying on their back and lying on their tummies and there was a significant rise in the temperature in the nose of these children. This is important because the toxins that are produced by the staphylococcus are only produced between 37 and 40 degrees and in five of these children when they were lying on their tummies the temperature in the nose rose to 37 degrees or over.

So while the prone position has been linked to things like sleeping problems or cardiac arrhythmias and things, there's a simple explanation in that you can have a pool of microorganisms in the nose of a baby lying on its tummy and the temperature may reach the point that the toxins can be induced. It's looking at just one factor or one hypothesis but trying to fit these pieces of the puzzle together and sometimes the pieces aren't very obvious and you want to take the scissors and cut the piece to fit in properly but you can't do that, you have to take all.

MORRIS SC: The toxins have what effect on the physiology of the child, just explain to his Honour.

WITNESS BLACKWELL: They can cause a massive inflammatory response, not just in children but also in adults. Toxic shock syndrome was a big problem because tampons were infected with Staph aureus and young women were developing toxic shock syndrome and some were dying. Professor Morris had to investigate a case of

one young woman who just sat up in bed one morning and dropped dead because she had a massive - not infection but toxicity due to the toxic shock syndrome, organisms just found in the tampon.

MORRIS SC: And does the toxin produced by the inflammatory response, is it--

WITNESS BLACKWELL: The toxin induces the inflammatory response and the inflammatory response can affect all of the physiological systems in the body, the heart, breathing and the neural responses, it's a very powerful toxin.

MORRIS SC: When you say the neural responses, are you talking about some sort of neurotransmitter disturbance?

WITNESS BLACKWELL: This has been investigated by Professor Kanu(?) and her group in Boston and they are the people who have identified changes in receptors of neurotransmitters, increased or decreased levels of neurotransmitters, again it's a very complicated series of interactions and you would really need a neurophysiologist to explain all these problems but these interactions can be infected by inflammation.

MORRIS SC: And the inflammation having a bacterium as the cause, is that what you're saying?

WITNESS BLACKWELL: They bacteria or they toxins switch on these responses from white cells in the body.

132. The proposed fatal triangle in chapter 30 of Prof Byard's book[105] page 701 was not referred to in the submissions of Counsel Assisting. This is a significant oversight given the attempt at dismissing this as "theory".

133. Prof Blackwell further commented as follows at T 343.35:

MORRIS SC: I'd like to take you to page 701 of that chapter. There we have, my friend showed you fatal triangles before and she asked you certain questions about that proposed by Professor Horne, I want to suggest that this is another that appears in Professor Byard's book, do you have any comment to make on the integers that make up this particular concept of the fatal triangle in SIDS?

WITNESS BLACKWELL: To the developmental stage I would also add the maturation of the night time body temperature cycle which colleagues in Leicester have shown are associated with other hormonal changes in babies, during the day the hormone cortisol is quite steady and at night it's fairly steady. But when the baby develops the lower night time body temperature which is associated with maturation and development, the night time cortisol levels drop like a stone and one of the members of my group assessed the effect of these levels, daytime levels, night time levels before the switch of the important developmental stage and the night time levels after the switch.

[105] Exh D.

And what she found was that the daytime levels were perfectly capable of damping down inflammatory response and so were the levels at night before this developmental switch, but once the switch occurred there was this period where the very low levels of cortisol were not able to damp down the inflammatory responses and in fact they enhanced it. So this night time switch takes place during the period when many infants, those of European extraction, are susceptible to infection. They are unable to protect themselves because they haven't completed their immunisations and the maternal antibody is at its lowest. If the inflammatory response is switched on at night the cortisol levels are not sufficient to damp them down and it actually enhances them.

JUDICIAL OFFICER: Is this something you need to know about?

MORRIS SC: Yes your Honour it is important, it is important and I will tidy it up, it's my last point.

WITNESS BLACKWELL: If you look at the ethnicity factor--

MORRIS SC: I'm sorry, the ethnicity factor I don't need to know about your Honour. I don't need to--

WITNESS BLACKWELL: But it is important because once this switch occurs much later in Asian children, for reasons we don't yet understand, by the time this switch occurs they have been immunised more fully than their - they have lower levels of maternal smoking, they have more people around to keep them awake if they drop off or try to roll over facedown onto a sofa, so again this is multi-factorial and the developmental stage of the child is extremely important, not just for the immune system and the central nervous system but for control of various physiological mechanisms.

MORRIS SC: Just in relation to cortisol, the cortisol level affects the inflammation response does it?

WITNESS BLACKWELL: Yes.

MORRIS SC: And for instance if human - if an adult has an immune response difficulty because of drop in cortisol levels, they'll be given something like prednisone or prednisolone to try and bolster the cortisol levels to fight the inflammation, is that correct?

WITNESS BLACKWELL: I would address that through Professor Clancy, who is much more familiar with adult--

MORRIS SC: Okay, but cortisol is one of the - the issue of—

WITNESS BLACKWELL: Reduces inflammatory responses.

MORRIS SC: It reduces inflammatory responses?

WITNESS BLACKWELL: But in the small - the low levels that are present in babies

following this physiological switch, they can actually enhance inflammatory responses.

134. Studies in rats demonstrate a mild virus infection followed by exposure to a bacterial toxin which significantly enhances the lethality compared with the toxin or virus infection itself.[106]

135. There was no relevant challenge to the evidence of Prof Blackwell. Her evidence is supported by Prof Clancy and Prof Goldwater.[107]

136. When Prof Horne was talking about the relationship between ALTE and SIDS, she was referring to the definition set out in the front page of her report.[108] It is clear the assessment was from the perspective of a researcher in sleep apnoea and that she could not comment from the perspective of a microbiologist or immunologist.

137. It is clear from Exhibit J Prof Horne did not refer to the recent studies on the relationship between sudden infant death and infection.[109] It is also clear Prof Elder in her statement[110] did not address the link between sudden infant death and mild infection.[111]

I haven't had time to read all the documentation that's been offered in relation to infection in the last day or two. There will be some new things there that I'm not aware of. … (T 48.26).

138. With respect to the cytokines and infection, Prof Elder stated:

I'm not familiar with that literature. It's not specifically in my area of expertise.[112]

139. This being the case, there is no evidence from any relevantly qualified experts to gainsay the opinions of Prof Blackwell, Prof Goldwater and Prof Clancy. A finding should be made to this effect.

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[106] T 325.15-.17.
[107] Exh AU.
[108] T 53.47.
[109] As summarised in Exh T paragraphs 26-41 and identified under the heading "References" at pages 12-16 of Blackwell's report, and further set out in the literature appended as "D" to the report of Prof Clancy, Exh W and additional report of Prof Clancy Exh AT pages 5-11.
[110] Exh K.
[111] Diamond paper T 32.45.
[112] T 748.49.

140. More importantly, Prof Goldwater opined that the opinions of Prof Blackwell and Prof Clancy are correct. A finding should be made to this effect.

141. The opinions of each of these experts is consistent with Chapter 30 in Byard's book which represents the latest knowledge on unexpected infantile death.

142. Sarah, Patrick and Laura returned positive microbiology tests on autopsy.[113] Whether those tests were contaminant or not is beside the point. The bacteria came from their bodies. This demonstrates the presence of bacteria.[114] Further, there were clinical signs reported by the parents consistent with viral or bacterial illness at the time, which would may suggest that the finding was not contaminant. A finding should be made to this effect.

143. On autopsy, there were signs of inflammatory response in three of the children [115] which strengthens the inference that the virus or bacteria had triggered an immune response in three of the children.[116] A finding should be made to this effect.

144. Further testing could have been done at the time and was suggested to police by Prof Blackwell but that was then in the research phase[117] and was thought to be too expensive.[118] Those tests would have confirmed that the inflammatory response had taken place.[119] It is now too late to perform those tests.[120] A finding should be made to this effect.

145. This evidence about infection is of critical importance in this case. Because of the association between mild viral infection and sudden infant death (being present in just under half the cases), one cannot submit these children were "*healthy*". One cannot simply discuss these medical conditions as "*the odd cold or sniffle*" when there is a strong association between infection and SIDS. On

[113] Exh T, paragraphs 36, 38, 39, 46, 48 and 50.
[114] Forensic pathologists at T 237.27 – T 239.27.
[115] Patrick, Sarah and Laura.
[116] T 338.51-T 339.
[117] Exh T, paragraph 9.
[118] Exh T, paragraphs 3-9.
[119] Exh T, paragraphs 33-34.
[120] See Rawlinson Exh X.

this one single association (which is more than a "*risk factor*") which has become apparent since the trial, it is clear the evidence and submissions that the children were "*healthy*" turned out to be misplaced. This submission is made regardless of whether the evidence of Prof Blackwell, Prof Clancy and Prof de Vinuesa is accepted as reliable or not. The jury were not entitled to assume the children were in perfect health with no underlying condition that could cause their sudden death.

146. This submission is also made regardless of whether the evidence demonstrates whether the attendances for childhood illnesses is thought to be more frequent than expected[121] or less frequent than expected.[122] At the time of death, three of the children exhibited clinical and microbiological evidence of mild viral infection and pathology demonstrated an infective or immune response in some organs.[123] A finding should be made to this effect.

147. The fact this scientific evidence is not widely accepted by the forensic pathology community[124] does not undermine its scientific importance. Firstly, the forensic pathologists accepted the proposition but described it as "work in progress"[125] Dr Cala accepted forensic pathology is "a blunt tool".[126] There are limits to the opinions that a forensic pathologist can give. They rely on outside expertise to form their opinions.[127] The problems in forensic pathologists straying outside their field of expertise is always a potential issue[128] as is experts in one field of endeavour criticising the scientific knowledge of another speciality[129]. The very issue identified by Prof Duflou at Exh L pages 34-37 demonstrates the limits of evidence of a forensic pathologist relying only on macroscopic and microscopic examinations.

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[121] Exh T Blackwell, paragraph 21.
[122] See Colley at T 382.45 - T 383.14.
[123] See Exh T.
[124] See T 136 - T 138. It should be noted that by the following day, the forensic pathologists were more engaged with the scientific efficacy of the Blackwell work.
[125] T 272.16-273.45. See also Cordner at T 240.06-.16, Cala and Hilton T 236.19 - T 237.18.
[126] See Cala T 85.08, T 236.38, Exh M page 23, paragraph 2, page 25, paragraph 2.
[127] Cala Exh M page 17, page 25.
[128] *R v Cannings* [2004] 1 WLR 2067.
[129] See the admonition in *R V Cannings* referred to later in these submissions.

148. This Inquiry should make findings that this research and scientific material on infection:

(a) Was not available at trial;

(b) Demonstrates a scientific theory that explains the continuing mortality rate from sudden infant death;

(c) Explains the mortality rate arising from the "*back to sleep*" program, which was otherwise incapable of scientific explanation;

(d) Explains the death of children predominantly at night or in the morning due to suppressed cortisol levels;

(e) Explains racial differences;

(f) Explains the link between sudden infant death and cigarette smoking.

149. This trial was conducted without the benefit of this information. It has been explored at this Inquiry. This Inquiry should make findings to this effect and it raises a reasonable doubt about the conviction, and guilt of Ms Folbigg.

150. The submission by Counsel Assisting that the issue of infection is only a "theory" should be rejected. This submission adopts an observation made by Prof Hilton from which he and the other forensic pathologist substantially resiled as the evidence progressed. Prof Horne and Dr Elder sought to defer to Prof Blackwell on this issue. Professor Goldwater supported it. Not only was there a strong epidemiological association between mild infection and SIDS deaths, but there was strong microbiological association in a study performed by Prof Hilton and Prof Blackwell in which 50 per cent of SIDS deaths had bacterial infection.[130] This Inquiry should make findings that mild infection that may have triggered a cardiac arrhythmia is a potential natural alternative cause of death to murder. Given the microbiological identification of bacteria and given the identification of mild inflammatory changes consistent with

[130] T 339.10-.34.

infection identified in three of the children on autopsy, this Inquiry should find that infection was a reasonably available alternative cause of death of each of those children in this case.

151. Further, it was a central plank in the Crown's coincidence reasoning, and its elimination throws considerable doubt upon the balance between significant probative value and prejudicial effect for the purpose of the admission of coincidence evidence. It also affects whether the Inquiry should consider the evidence on the basis of individual charges or on the basis of a joint trial.

Immunology and Microbiology

Professor Caroline Blackwell

152. Prof Blackwell provided both reports[131] and oral evidence to the Inquiry.[132]

153. The opinions expressed by Prof Blackwell were within her area of scientific expertise and experience and she was not challenged in cross examination as to those matters.

Professor Robert Clancy

154. Prof Clancy provided both reports[133] and oral evidence to the Inquiry.[134]

155. The opinions expressed by Prof Clancy were within his area of scientific expertise and experience and he was not challenged in cross examination as to those matters.

Professor Paul Goldwater

[131] Exhibits T, U & V.
[132] D4, 22/03/19.
[133] Exhibits W & AT.
[134] D4, 22/03/19.

156. Prof Goldwater provided a report[135] to the Inquiry but did not give oral evidence.[136]

157. The opinions expressed by Prof Goldwater were within his area of scientific expertise and experience and no submission is made by any party with leave to appear in the Inquiry as to those matters.

Redactions

158. Redaction appear in a number of the aforementioned reports. Whilst some of those redactions were consented to by the representatives of Ms Folbigg, being those who obtained the reports, others were not. In this regard, portions of the redacted material addressed causation and expressed opinions within the relevant expert's specialty. The submissions below address only the unredacted portions of the reports of Profs Blackwell, Clancy and Goldwater such as they are.

Crown Submissions

159. In addressing the evidence given by Profs Blackwell, Clancy and Goldwater, Counsel Assisting has cobbled together commentary from the other experts who gave evidence at the Inquiry, including the forensic pathologists and Prof Elder, to reach the conclusion found at [377] of the Crown Submissions.

160. No expert who gave evidence at the Inquiry excluded as possible the hypotheses raised by Profs Blackwell, Clancy and Goldwater.

161. No expert with like expertise contradicted the conclusions and opinions of Profs Blackwell, Clancy and Goldwater in the course of the Inquiry.

162. Prof Elder, as highlighted by Counsel Assisting,[137] seemingly invited Profs Blackwell, Clancy and Goldwater to explain how infection could be responsible

[135] Exhibit AU.
[136] Prof Goldwater's was asked to provide a peer review of the opinions offered by Profs Blackwell and Clancy, Exhibit AU, page 2.
[137] Counsel Assisting's submissions at [305].

for the deaths, misconceiving the need for the infective response to be related to a common genetic issue:

... I haven't had time to read all the documentation that's been offered in relation to infection in the last day or two. There will be some new things there that I'm not aware of. To me the issue still is that even with new possibly genetic reasons for death, you still have to explain how that can - in this context can cause the death of four children in a row in the absence of their parents seemingly having similar genetic issues. That might be possible but that's the question in my mind that needs to be answered.[138]

163. Ultimately, Prof Elder conceded, "*I am not familiar with that literature. It's not specifically in my area of expertise*".[139] It is difficult, then, to see how any comment by Prof Elder with regards to immunology or microbiology is relevant to this Inquiry.

164. The same warning applies to the observations of the forensic pathologists. As Prof Duflou succinctly summarised:

Professor Blackwell is an expert in microbiology. I - I'm an expert in autopsies. It's, I suspect, more likely than not - using again forensic pathology orthodox teaching - that this is likely contamination, but I certainly don't exclude the entirely reasonable possibility that Professor Blackwell is right in this case.

165. Whilst Prof Duflou's observations were addressed to the issue of contamination they equally apply to any of the speculations made by the forensic pathologists of the evidence as to infection and infective processes. Profs Duflou, Cordner, Hilton and Dr Cala are experts at autopsies, Profs Blackwell, Clancy and Goldwater are expert immunologists and microbiologists. Whether there has been 'broad acceptance by the forensic medical community'[140] of the opinions held by Prof Blackwell, Clancy and Goldwater is, frankly, not relevant.

[138] T 48.22-.33.
[139] T 48.49-.50.
[140] Counsel Assisting's submissions at [310].

166. As Prof Cordner succinctly summarised:

> *... in general, forensic pathologists view organisms in lungs, bacteria, viruses and other organisms as clinically relevant if there's discernible inflammation*.[141]

167. Clearly Profs Blackwell, Clancy and Goldwater take the analysis of such organisms further, that being their specific area of scientific expertise.

168. Prof Horne accepted and acknowledged the role of infection in immune responses in half of all sudden infant deaths[142] and noted:

> *WITNESS HORNE: Again, I'm not an expert in this area. I think you have reports from Professor Blackwell who is an expert and I believe she's speaking later in the week and she is in Australia the infection in SIDS expert.*[143]

169. Prof Ryan acknowledged the role of infection in relation to the causes of encephalopathy[144] and restricted her opinion to her area of expertise in that regard.

170. Prof Skinner declined to comment on the issue of cytokines and infection as was proper under the circumstances given his indication that he had no knowledge of that area at all.[145]

171. Under the circumstances, the Inquiry should accept the opinions of Profs Blackwell, Clancy and Goldwater and attribute those opinions weight.

172. It is not urged by Counsel Assisting, nor could it be, that the opinions Profs Blackwell, Clancy and Goldwater should be rejected or ignored and such an approach would be in error.

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[141] T 137.16-17.
[142] Exhibit J, page 4; Exhibit AT, page 2.
[143] T 49.10-13.
[144] Exhibit AJ, p 12.
[145] T526.12-15

173. The opinions of Profs Blackwell, Clancy and Goldwater are addressed in further detail when considering the evidence in relation to each of the four children.

Contamination and Established Pathological Process

174. At autopsy, bacteria were isolated in:

(a) Patrick;

(b) Sarah;

(c) Laura.

175. The determination of whether a bacterium within a body is a contaminant or not is a matter not only for forensic pathology but also microbiology.[146] A finding should be made to this effect.

176. One would be looking for antibodies to the pathogen in the blood which would indicate whether the person has been exposed the bacteria for at least a week beforehand.[147] One also looks for clinical signs of infection.[148]

177. Further, a search for the toxins of staphylococcus aureus was conducted involving Prof Blackwell and Prof Hilton.[149] Prof Hilton forwarded a series of samples from his collection from SIDS babies and it was isolated in half the samples examined. The same proportion was found in babies in France and Hungary and about 65 per cent in samples from Germany.[150] These children in the sample did not have the "classical immunodeficiencies" that prevented them from producing antibodies.[151] This evidence established a significant link between the presence of staphylococcus aureus and SIDS and corroborates the

[146] T 337.05-.10, T 154-T 157..
[147] T 338.15.
[148] T 338.51-T 339.
[149] T 339.10.
[150] Blackwell T 339.10-.34, Exh W, Exh AU.
[151] T 339.40 - T 340.06.

evidence of Prof Horne that almost 50 per cent of SIDS victims had a mild infective process in the week before death.

178. With Caleb, there was no infective process identified but the left lung had mottled plural surfaces. No microbiology tests were undertaken.

179. With Patrick, he had a fever the night before he died. Fever is associated with infection. He had congestion in both lungs. There was congestion in the liver. Microbiology grew mixed organisms (and there is a debate as to whether this represented contamination or an active infective process).[152]

180. Sarah Folbigg had a cold in the week or so prior to her death. She was seen for a croupy cough on 26 August 1993. There was congestion and redness of the uvula. There was congestion and infiltrate in the lungs. Microscopic examination demonstrated inflammatory infiltration. There were inflammatory foci in the salivary glands.

181. Bacterial organisms were propagated from the lungs. There was moderate growth of coliforms of three types in the spleen (which was a sterile organ.

182. Laura Folbigg had been ill for about a week before her death. She had. Bacteria were isolated in the lungs and the spleen (the spleen being a sterile organ).[153]

183. Prof Blackwell thought the swollen uvula in Sarah may have resulted from inflammatory responses to a respiratory infection .[154] This is clinical information which is relevant as to whether the detection of bacteria on autopsy is contaminant or pathological (ie having an effect upon the body).[155]

[152] See Hilton T 154 - T 157.
[153] The spleen is a sterile organ and not liable to contamination.
[154] Inquiry T 316.10 .
[155] See Inquiry T 238.11-.20.

184. Each of Patrick, Sarah and Laura demonstrated clinical signs consistent with infection prior to their deaths. Each were found to have bacteria on microbiology testing. Each demonstrated signs of inflammation on autopsy.

185. In any event, any contaminant is likely to be a contaminant from the body of the deceased.[156] Limited tests were undertaken to identify the source of any infection. There was evidence of inflammatory response in Patrick, Sarah and Laura which strengthen the inference that the post-mortem microbiology results were more than just contaminant. They suggest there was a infective disease process underway. The forensic pathologists accepted that minor infection could be a prelude to sudden infant death.[157]

186. At the time of trial, there were research laboratories that could test for immune response to staphylococcus aureus to determine whether the infection as pathological or not, but it was not a widely available diagnostic tool at the time [158] and did not form part of forensic practice at the time.[159] It is now a part of forensic practice.

187. The trial proceeded on the basis the microbiology results reflects contamination. The forensic pathologists proceeded at the Inquiry on the same basis. However, if one combines the previous ill health of Patrick, Laura and Sarah and the pathological signs of infection in Patrick, Laura and Sarah, there is a reasonable likelihood the microbiology results did not reflect contamination but an active infective process. Importantly, the bacterium was identified in each of them and must have been somewhere on their body. The evidence of the forensic pathologists was not determinative of the matter. Profs Blackwell and Clancy gave evidence on this issue.

188. In all of the circumstances, it is reasonably likely each of Patrick, Sarah and Laura were suffering from infection at the time of the death. There is a strong association with SIDS and staphylococcus aureus. This Inquiry should make

[156] Inquiry T 237.37 .
[157] See discussion at Inquiry T 238.16 - T 240.16 .
[158] Inquiry T 274.16-.44.
[159] Inquiry T 274.50 - T 275.10.

findings to this effect. Further, it was a central plank in the Crown's coincidence reasoning, and its elimination throws considerable doubt upon the balance between significant probative value and prejudicial effect for the purpose of the admission of coincidence evidence. It also affects whether the Inquiry should consider the evidence on the basis of individual charges or on the basis of a joint trial. This evidence raises a reasonable doubt about the guilt of Ms Folbigg.

Three or more Deaths in One Family – Evidence at Trial

189. References to the evidence at trial on this issue is to be found:

    (a) Herdson Exh F T 1049.50-.56;

    (b) Berry Exh F T 1066. 36-.60;

    (c) Beal Exh F T 1136.50-56, T 1143.51-T 1144.03;

    (d) Byard Exh F T 1222.43-.46, T 1223.04-.09.

190. At trial, Dr Cala was asked:

    Q: *Is there any natural cause of death that could account for all those four deaths and the ALTE?*

    A: No. (T 749.35)

191. With respect, this is not a proper question for a forensic pathologist. Forensic pathology has been demonstrated by evidence presented before this Inquiry to be a "blunt tool", and necessarily a forensic pathologist may have to defer to a neurologist, infectious diseases expert, immunologist, geneticist, or other such specialist. A finding should be made to this effect.

192. Although there was not a lot of time taken with the evidence on this point, it was of great potency. A finding should be made to this effect.

193. In the Crown address at T 1364.30 the following submission was made:

You have heard in evidence from a number of the doctors that there has never been recorded a family such as this one where four children have died of natural causes, either from the same natural cause or from different natural causes. There have never been three or more deaths in the one family recorded from SIDS.

Now, ladies and gentlemen, what that means, I am sure his Honour will tell you, what he will tell you is this: That the fact that there has never been an instance recorded does not mean that it has never ever happened. It does not mean that it could not happen. What it does mean is, it is an expression of how rare it must be that it has never been recorded. I mean it has never been recorded that the same person has been hit by lightning four times, I presume. That does not mean it has never happened. It does not mean that it could never happen. You might have some person living in the backwards of India who has been hit by lightning four times, but it is an expression of its rarity that there has never been - if this be the case that there had not been recorded that the same person has been hit by lightning four times. It is probably more common that a person has been hit by lightning four times than what has happened to this family, you might think.

194. This passage is only an extract of the precise point, but it needs to be read in context to appreciate the importance that it assumed at trial.

195. At trial, it was submitted there had never been a recorded case of four natural deaths in one family. The Crown Prosecutor addressed the jury in the following terms:

I would like you to briefly consider what I anticipate will be submissions made by my learned friend, Mr Zahra. As I said, I don't know exactly what he is going to say, but I anticipate it a little bit, and I have to anticipate.

I think that essentially he will say that the Crown must prove that these children did not die from natural causes; the Crown can't prove, in relation to each individual child, that they didn't die from four incidental findings, therefore the Crown had failed to prove its case beyond the reasonable doubt.

Caleb may have died from a floppy larynx or SIDS. Patrick may have had an ALTE, which was a first epileptic attack or encephalitis. His death may have been caused by an epileptic attack, an epileptic seizure. Sarah may have had a displaced uvula or SIDS. Laura may have died of myocarditis. Well, yes, ladies and gentlemen, I can't disprove any of that, but one day some piglets might be born from a sow, and the piglets might come out of the sow with wings on their back, and the next morning Farmer Joe might look out the kitchen window and see these piglets flying out of his farm. I can't disprove that either. I can' t disprove that one day some piglets might be born with wings and that they might fly. Is that a reasonable doubt? No. Is the hypothesis that the defence advances a reasonable doubt? No. Why not? Because if you look at what

they are suggesting, not in isolation, but in totality: There has never ever been before in the history of medicine that our experts have been able to find any case like this. It is preposterous. It is not a reasonable doubt. It is a fantasy, and of course the Crown does not have to disprove a fanciful idea. As I said, you can die from a splinter in your finger. If one of these children were to have been found to have a splinter in their finger: Yes - my friend would say -the Crown can't prove that they didn't have septicaemia and die from that. Yes, that's true. But that is not a reasonable doubt. You don't just look at the medical evidence in isolation. You look at all of the evidence.

196. This submission was flamboyant and undoubtedly wrong. A finding should be made to this effect.

197. There were reported cases of four deaths in the one family at time of trial.

198. The judge tried to mollify the effect of this submission in his summing up:[160]

SIDS deaths are rare in the community. There is no authenticated record of three or more such deaths in a single family. This does not mean, of course, that such events are impossible. It is an illustration of the rarity of deaths diagnosed as SIDS.

SIDS deaths have been more frequently diagnosed where certain conditions exist, for example, smoking in the family, low socioeconomic status of the family, climate, drug use during pregnancy and where the mother is young. Dr Beal said, and no-one has disagreed with her opinion in this respect, that SIDS deaths are more likely to be diagnosed where a child is prone, that is lying face down.

The experts tend to regard the classic SIDS diagnosis as applying to children aged between two months and six months, though lower numbers of such diagnoses are made for children below and above that age range.

Another term that was used in the medical evidence was "undetermined" or "unascertained". That expression was used to mean that the deaths could not be explained, by reference to natural causes and that unnatural causes were suspected or could not be excluded. So, the difference between the allocation of the term "SIDS" and the term "undetermined" is that with SIDS those making the diagnosis have no reason to believe that the cause of death might be unnatural.

199. The fact is the submission and summing up was undoubtedly wrong at the time it was made. As discussed in *Mraz*, such a submission can have an unknown but powerful effect on a jury and it may not be capable of amelioration by a direction from the judge.

[160] Pages 24 and 25 of summing up.

200. Further, the trial was generally run on the basis that there was a single potential cause to explain the deaths of each of the children from the same cause.[161] In presenting the case in this manner, there was a defect in basic logic. The evidence presented at this Inquiry has demonstrated that each of the children may have died from the same cause, but more importantly, may have died from different natural causes or different processes. Further, if the issue of genetics is considered in the light of the issue of infection, infection could be a trigger of an underlying genetic condition that is otherwise thought to be of "uncertain significance".[162]

201. Since the trial in 2003 and the advance in genetic testing (which was not available in 2003), it is clear that while the clinicians thought they had excluded inherited disorders, they had not done so:

    (a) The complex relationship between infection and genetics had not been explained;

    (b) The doctors at trial had excluded disorder of which they knew at the time, but not those of which they had no knowledge. They did not know what they did not know.

202. This will be dealt with later.

203. This summing up was prepared on the basis that the Crown submissions was correct. It obviously was not. There were a number of pieces of literature that demonstrated that multiple deaths in the one family did occur. A finding should be made to this effect.

204. As to the Diamond article from 1986, Prof Horne indicated it is only a case report and it may not be published these days.[163] This reluctance to publish may constrain the promotion or notification of multiple deaths in individual

[161] See for example T 740.37.
[162] See Skinner T 532.10 - T 533.09, Buckley T 533.46 - T 534.09.
[163] T 50.01.

circumstances.[164] No such criticism was made regarding the Oren article which had been published at the time.

205. Evidence given at this Inquiry established that the Crown address was wrong. There had been reports of three or more deaths in the one family. It had been reported in an article by Diamond and another by Oren.[165] This is addressed in greater detail in the submissions of Counsel Assisting.

206. This Inquiry should make a finding the Crown address was wrong. This Inquiry should also make a finding that, given the warnings *Mraz*,[166] that the direction to the jury by the trial judge on this question was not likely to rectify the Crown address either on this submission or its own or in the light of the "pigs might fly" address. This evidence was potent and was likely to lead to a mistrial by the jury. Further, it was a central plank in the Crown's coincidence reasoning, and its elimination throws considerable doubt upon the balance between significant probative value and prejudicial effect for the purpose of the admission of coincidence evidence. It also affects whether the Inquiry should consider the evidence on the basis of individual charges or on the basis of a joint trial. This Inquiry should make findings to that effect.

Four Deaths in One Family – Fallacious Reasoning

207. The case advanced at trial was that there was no experience by any of the experts at trial of three or more deaths in the one family.

208. This was later the basis of a submission that there was never a reported case of three or more deaths in the one family. Putting aside the fact that this was wrong as a matter of fact and putting aside the genetics and other evidence at the Inquiry, to use that as a basis of inferring that, by that impossibility,

[164] T 50.19, See also Duflou report, Exh L pages 44-45, Prof Clancy in his report opined that whether it was a case report or not, the subject matter was one of medical interests, and that the phenomena described was a clinically important one where there is a complex and multifactorial process involved. Whatever its scientific weight, the existence of that report alone (and putting aside the others) was central to the assertion the Crown case at trial which was that there had <u>never</u> been a reported case of three or more infant deaths in the same family. This assertion by the Crown was false.

[165] See Blackwell Exh T page 4.

[166]

Kathleen Folbigg smothered her children deliberately introduces a syllogistic fallacy. That fallacy of logic can be expressed in different ways as either:

(a) *Post hoc ergo propter hoc*; or

(b) *Non ditributio medii* - the fallacy of the undistributed middle.

209. Whichever way the fallacy is approached, the Crown needed to address that fallacy to establish its case beyond reasonable doubt. The existence of the fallacy was not addressed by the Crown or defence at trial and was not addressed by the trial judge in his summing up. It was not addressed by Justice Wood on the question of admissibility, nor the Court of Appeal. If (for the purpose of argument) the proposition is accepted that there was never an example of three deaths in the one family from SIDS, there were alternative available postulates:

(a) One or more children dying of a genetic cause (as yet unknown);

(b) Four separate deaths, with one or more deaths caused by causes unrelated to the others;

(c) One or more children dying of an exogenous stressor.

210. One could not simply proceed to the conclusion that four deaths in the one family was caused by murder, or that the Crown could dismiss a reasonably available alternative postulate on the basis that four death in the one family was unknown. One could not use that logic to assess "reasonable" or to assert "unreasonable" as was sought to do by the Crown Prosecutor when addressing the submissions he thought the defence counsel may put in argument:

> *I think that essentially he* (Defence counsel) *will say that the Crown must prove that these children did not die from natural causes; the Crown can't prove, in relation to each individual child, that they didn't die from four incidental findings, therefore the Crown had failed to prove its case beyond the reasonable doubt .*
>
> *Caleb may have died from a floppy larynx or SIDS. Patrick may have had an ALTE, which was a first epileptic attack or encephalitis . His death may have been caused by an epileptic attack, an epileptic seizure. Sarah may have had a displaced uvula or*

SIDS. Laura may have died of myocarditis. Well, yes, ladies and gentlemen, I can't disprove any of that, but one day some piglets might be born from a sow, and the piglets might come out of the sow with wings on their back, and the next morning Farmer Joe might look out the kitchen window and see these piglets flying out of his farm. I can't disprove that either. I can't disprove that one day some piglets might be born with wings and that they might fly. Is that a reasonable doubt? No. Is the hypothesis that the defence advances a reasonable doubt? No. Why not? Because if you look at what they are suggesting, not in isolation, but in totality: ***There has never ever been before in the history of medicine that our experts have been able to find any case like this. It is preposterous. It is not a reasonable doubt. It is a fantasy, and of course the Crown does not have to disprove a fanciful idea"****. (Emphasis added)*

211. The fact is each charge needed to be addressed individually and only if that each charge was established could the "four deaths in one family" be deployed.

212. The fallacy is similar to Chamberlain's case, where the Crown case at trial was that, if Lindy Chamberlain's account that the dingo took her baby, then the alternative was that she murdered her baby. The High Court recognised the fact that the Crown still needs to prove its case that she murdered the baby. They set out the test for proving a case on the basis of circumstantial evidence.

213. By introducing this line of reasoning introduced the high risk they jury would not deal with each charge individually, but deal with the five offences *in globo*. Given the evidence of "four deaths in one family" was wrong there was a strong likelihood that the jury would deal with each charge as a "strand in the cable" with respect to each other charge on the balance of probabilities and fail to satisfy themselves of the requisite proof of beyond reasonable doubt with respect to each charge. Put another way, the usual direction regarding the establishment of a circumstantial case is apt to confuse as they are instructed they only have to find the charges proven on the balance of probabilities.[167] This issue has been recently the subject of argument before the New South Wales Court of Appeal and judgment is pending.[168]

[167] *Shepherd v R* [1990] HCA 56; (1990) 170 CLR 573.

[168] *R v D'Agostino* which raised the proof required with respect to a charge before it can be used as circumstantial evidence in relation to another: *M v R* [1994] HCA 63; (1994) 181 CLR 487, *FMA v R* [2002] HCA 53; (2002) 213 CLR 606, *R v Markulevski* [2001] NSWCA 290; [2001] 52 NSWLR 28; (2001) 125 A Crim R 196 and *Shepherd v R* [1990] HCA 56; (1990) 170 CLR 573; *R v Marritt* [1999] NSWCCA 92; *Minnitii v R* [2006] NSWCCA 30; 159 A Crim R 394.

***Folbigg* in Light of the UK SIDS Convictions, and Appeals.**

214. There were various convictions in the United Kingdom, where mothers had reported multiple SIDS deaths. They were convicted of murdering their infants. At each trial the Crown adduced expert evidence from a leading British paediatrician, Roy Meadow, who expressed the strong opinion that that the deaths could only have been inflicted by the mothers. There are various quotations attributed to him, including the now infamous "Meadow's Law", of "*one SIDS death in a family is a tragedy, two is suspicious, three is homicide until proven otherwise*". In one particular testimony at the trial of Sally Clark he stated that there was a "*73 million to one*" chance of two SIDS in one family occurring. He further sensationalised this number by stating it was like "*a punter successfully backing an 80-1 shot at the Grand National 4 years in a row*". This calculation was severely flawed, and Prof Meadows was not qualified to give expert evidence regarding statistics. The Royal Society of Statisticians sent an outraged open letter to the Court decrying the abuse of statistics, and a blatant use of what is known as the "prosecutor's fallacy".[169]

215. Sally Clark's conviction was appealed and quashed on the basis that it was made on the flawed evidence of Prof Meadow. Several other cases in which Prof Meadow gave evidence were also appealed. I detail the individual judgments below, noting that they go further than simply the issues of Prof Meadow's evidence.

216. Prof Meadow was struck from medical register for serious professional misconduct for his testimony at Sally Clark's trial, but he was able successfully to appeal this decision.

217. This was another example of the syllogistic fallacy which Ms Folbigg submits infected the evidence and address in this case and would give rise to a reasonable doubt about her trial. This inquiry should make this finding.

[169] Find here: http://www.rss.org.uk/Images/PDF/influencing-change/rss-use-statistical-evidence-court-cases-2002.pdf.

R v Clark[170]

218. Sally Clark had two children, Christopher and Harry, die of apparent SIDS. There was a significant amount of medical evidence devoted to the death of the second child, Harry. Much was made of various factors that could point to physical trauma and shaking before his death. These factors were not apparent in Christopher. The Court of Appeal observed that:

> "*On that evidence, we doubt very much whether any jury would have concluded that they could be sure that Christopher had died an unnatural death if the only evidence that they had heard related to Christopher. The preponderance of the evidence was that the cause of death could not be ascertained. It was the evidence relating to Harry's death, if anything, that may have enabled the jury to resolve the doubts apparent from the medical evidence. If, therefore, the conviction in relation to Harry was unsafe, we have no difficulty at all in concluding that it would necessarily follow that the conviction in respect of Christopher's death was equally unsafe. We turn, therefore, to consider next the medical evidence in respect of Harry's death available to the jury.*" – *Kay LJ at 65.*

219. The Court allowed the appeal, quashing the convictions for both children.

220. This decision demonstrates the syllogistic fallacy in another way, and the need of the Crown to establish each charge beyond reasonable doubt with respect to each of the four deaths, and if one charge should fail, then the others must fall in the event that the reasoning deployed is that two deaths in the one family is suspicious.

[170] [2003] EWCA Crim 1020.

R v Canning[171]

221. This case is distinguished from *Clark*, as the same distorted statistical evidence has not led from Prof Meadows. The main point in relation to Prof Meadow was not that he gave the evidence in as clear an inappropriate form as in *Clark*, but that the defence counsel was not given the opportunity to undermine his credibility, by putting his flawed evidence in *Clark* to him in cross-examination, as that had not yet come to light on appeal. It was further submitted that the same flawed statistical evidence was led, but by implication, the idea being that evidence as to rarity of SIDS can only be for the purpose of inviting the jury to draw the inference that multiple instances in one family is all but impossible.

222. An important point from *Cannings* is the judicial observations as to how different results in reasoning can be arrived at in cases of multiple SIDS, depending on where the reasoning point begins. The beginning point even influences how different pieces of evidence may get coloured as either inculpatory or exculpatory:

> *"It will immediately be apparent that much depends on the starting point which is adopted. The first approach is, putting it colloquially, that lightning does not strike three times in the same place. If so, the route to a finding of guilt is wide open. Almost any other piece of evidence can reasonably be interpreted to fit this conclusion. For example, if a mother who has lost three babies behaved or responded oddly, or strangely, or not in accordance with some theoretically "normal" way of behaving when faced with such a disaster, her behaviour might be thought to confirm the conclusion that lightning could not indeed have struck three times. If however the deaths were natural,* ***virtually anything done by the mother on discovering such shattering and repeated disasters would be readily understandable as personal manifestations of profound natural shock and grief****. The importance of establishing the correct starting point is sufficiently demonstrated by this example." (emphasis added) (at 11)*

223. The syllogistic fallacies that were present in the Crown case theory in Folbigg and set out in these submissions was not specifically identified as such by appellate judges in Canning's case, but the logic was certainly applied eloquently and with rigour

> *"[28]. Not so long ago, experts were suggesting that new born babies should lie on their tummies. That was advice based on the best-informed analysis. Nowadays, the advice*

[171] [2004] EWCA Crim 1

and exhortation is that babies should sleep on their backs – Back to Sleep. This advice is equally drawn from the best possible known sources. It is obvious that these two views cannot both, simultaneously, be right. Towards the end of the hearing, we became aware of research in Australia which suggested that the advice that babies should sleep on their backs had not achieved the improvement in the rate of cot deaths attributed to the modern practice. We do not for one moment comment whether this research is valuable. Paediatricians and other experts will certainly take serious issue with it. Our point however is to highlight the fact that even now contrasting views on what might be thought to have been settled once and for all are current."

"We must address criticisms about the appellant's behaviour. In our view by the time Jason, and then Jade, and then Matthew were born, particularly when troubles enveloped Matthew, the appellant was faced with recurring disasters which made comprehensible any form of response which, on cold forensic analysis, would otherwise appear strange. We also understand the argument that the appellant would not have killed the children (as the jury found that she had) unless she was suffering from some form of personality disorder or psychiatric condition. There was no evidence to sustain any such diagnosis: indeed it was to the contrary. To a layman, it did not make much sense that the appellant killed the babies whom, in the judge's words, she "cherished", unless her state of mind was, to some degree at any rate, abnormal when she did. We recognise that this is a factor of some importance, again noting that of itself the absence of such a diagnosis does not preclude baby killing. Mr Mansfield submitted that if the appellant had indeed murdered her children, and subjected each of them to life threatening incidents, the logical approach to her repeated pregnancies was that she was having babies in order to kill the baby she was carrying after it was born. In its modified, less dramatic, but not less forceful version, Mr Mansfield suggested that these facts meant that the appellant must have been becoming pregnant knowing, at the very least, that there was a serious risk that she would try and kill them. That predicated an extraordinary state of mind, completely out of character, contradicted by the evidence of both her family and outsiders about the love and care she bestowed on her children, and undetected by the distinguished psychiatrist who examined her. Given the absence of any indication of ill-temper or ill-treatment of any child at any time, we acknowledge the force of this argument." – 161

"We have now given our reasons for concluding that these convictions are unsafe. We have received significant and persuasive fresh evidence, which was not before the jury, some of it the result of further research, or research published post trial, into the problem of SIDS generally, and some specific to Mrs Cannings and her extended family. The expert evidence was absolutely critical to these convictions. In our judgment the fundamental basis of the Crown's case, based on the extreme rarity of three separate infant deaths in the same family, and the pattern of events in this particular family is, for the reasons we have given, demonstrably undermined. What is more we are satisfied that there is a realistic, albeit as yet undefined, possibility of a genetic problem within this family, which may serve to explain these tragic events. For the moment therefore we cannot be sure either that these deaths were not true SIDS, or that, although properly categorised as SIDS at present, they may not come in due course to be regarded as natural deaths resulting from an explicable, possibly genetic cause. In view of these conclusions, we need not do more than record a further concern which troubled us during our deliberations, which is whether the multi-factorial aspect

of each of these incidents was sufficiently addressed. These concerns did not contribute to the quashing of the convictions, and as they do not affect the result, we need not deal with them further. In subsequent cases, this issue may arise more starkly than it does here.

In view of the fact that, although not identical to each other, this is the third case of its type to come before the courts in 2003, we must add these further observations.

We recognise that the occurrence of three sudden and unexpected infant deaths in the same family is very rare, or very rare indeed, and therefore demands an investigation into their causes. Nevertheless the fact that such deaths have occurred does not identify, let alone prescribe, the deliberate infliction of harm as the cause of death. Throughout the process great care must be taken not to allow the rarity of these sad events, standing on their own, to be subsumed into an assumption or virtual assumption that the dead infants were deliberately killed, or consciously or unconsciously to regard the inability of the defendant to produce some convincing explanation for these deaths as providing a measure of support for the Prosecution's case. If on examination of all the evidence every possible known cause has been excluded, the cause remains unknown.

The trial, and this appeal, have proceeded in a most unusual context. Experts in many fields will acknowledge the possibility that later research may undermine the accepted wisdom of today. "Never say never" is a phrase which we have heard in many different contexts from expert witnesses. That does not normally provide a basis for rejecting the expert evidence, or indeed for conjuring up fanciful doubts about the possible impact of later research. With unexplained infant deaths, however, as this judgment has demonstrated, in many important respects we are still at the frontiers of knowledge. Necessarily, further research is needed, and fortunately, thanks to the dedication of the medical profession, it is continuing. All this suggests that, for the time being, where a full investigation into two or more sudden unexplained infant deaths in the same family is followed by a serious disagreement between reputable experts about the cause of death, and a body of such expert opinion concludes that natural causes, whether explained or unexplained, cannot be excluded as a reasonable (and not a fanciful) possibility, the prosecution of a parent or parents for murder should not be started, or continued, unless there is additional cogent evidence, extraneous to the expert evidence, (such as we have exemplified in paragraph 10) which tends to support the conclusion that the infant, or where there is more than one death, one of the infants, was deliberately harmed. In cases like the present, if the outcome of the trial depends exclusively or almost exclusively on a serious disagreement between distinguished and reputable experts, it will often be unwise, and therefore unsafe, to proceed.

In expressing ourselves in this way we recognise that justice may not be done in a small number of cases where in truth a mother has deliberately killed her baby without leaving any identifiable evidence of the crime. That is an undesirable result, which however avoids a worse one. If murder cannot be proved, the conviction cannot be safe. In a criminal case, it is simply not enough to be able to establish even a high probability of guilt. Unless we are sure of guilt the dreadful possibility always remains that a mother, already brutally scarred by the unexplained death or deaths of her babies, may

find herself in prison for life for killing them when she should not be there at all. In our community, and in any civilised community, that is abhorrent." – Conclusion, 175-179

Comparisons in *Folbigg*

224. The Crown contention on appeal in *Folbigg* was that *Folbigg* is different from *Clark* and *Canning* due to the presence of incriminating evidence, primarily the diary entries, which is above and beyond mere statistical evidence as to the rarity of the deaths. In the *Folbigg* appeal, Sully J distinguished it from *Cannings* in the following way:

(a) **Distinguishing factors in *Cannings***

(i) A principal Crown witness admitted in another trial that the evidence he gave in the *Canning* was seriously flawed. The expert was not able to be cross-examined properly on these flaws, and undermine the weight of the witness's evidence; (*R v Folbigg* [2005] NSWCCA 23 [138])

(ii) The appeal court in *Cannings* received a substantial body of scientific research that was not before the jury; [139]

(iii) There was fresh genetic evidence from Ms Cannings' family tree that could paint the evidence at trial in a different light.;[140]

(iv) The court in *Cannings* emphasised that "there is no suggestion of ill-temper, inappropriate behaviour, ill treatment let alone violence, at any time, with any one of the four children"; contrasted to *Folbigg*, with the diary entries, etc. [141]

(b) Whereas in *Folbigg*

(i) Sully J considered there was ample evidence at trial to justify conviction, listing the following reasons:

A. None of the four deaths, or Patrick's ALTE, was caused by an identified natural cause;

B. It was possible that each of the five events had been caused by an unidentified natural cause, *but only in the sense of a debating point possibility and not in the sense of a reasonable possibility*.[172] The evidence of the appellant's episodes of temper and ill-treatment, coupled with the very powerful evidence provided by the diary entries, was overwhelmingly to the contrary of any reasonable possibility of unidentified natural causes. So were the striking similarities of the four deaths. (Emphasis added)

C. There remained reasonably open, therefore, only the conclusion that somebody had killed the children, and that smothering was the obvious method.

D. In that event, the evidence pointed to nobody other than the appellant as being the person who had killed the children; and who, by reasonable parity of reasoning, had caused Patrick's ALTE by the same method." – *Folbigg* [143].

225. Justice Sully gave no reasons to conclude that an unidentified natural cause cannot be considered a reasonable possibility.[173] Whatever was the evidence at trial, and although Folbigg has no obligation to establish an alternative natural cause as a matter of scientific certainty, there are now clearly reasonably available alternative natural causes that the Crown was obliged to exclude at trial. This will be addressed later. Certainly in the light of the evidence before this Inquiry, there are reasonable alternative natural causes dealt with elsewhere for the deaths that are more than just a "*debating point possibility*". A finding should be made to this effect.

[172] *R V Follbigg* [2005] NSWCCA 23 at [143] which needs to be read in the context of findings and observations at [63], [80]-[81], [91], [103], [128], and [143].
[173] See [143(2)].

226. On this point, an observation in *Canning* is relevant, where the court considered research by the Care of Next Infant foundation (CONI), quoting it at [23]:

> *'In the CONI study there were two families in which both deaths were attributed to the same condition (one … VLCAD, and one prolonged QT syndrome). In both families, diagnosis was assisted or confirmed by the birth of a third child identified with the same condition. Rib fractures, attributed to resuscitation, were found in the VLCAD CONI infant. A few years ago these deaths would have been totally unexplained. Both families would probably have had a third unexplained death had the underlying cause not been identified and treated, and at least one of the parents might have been suspected of murder.'*

227. It is later observed in *Cannings* at [148]:

> *"What is abundantly clear is that in our present state of knowledge, it does not necessarily follow that three sudden unexplained infant deaths in the same family leads to the inexorable conclusion that they must have resulted from the deliberate infliction of harm. There is acceptable evidence that even three infant deaths in the same family may be natural, and may indeed all properly be described as SIDS. At the risk of repetition, we emphasise the passage in the CONI study (see paragraph 23), where the third birth helped to establish not that the earlier deaths resulted from deliberate harm but that they were natural." (emphasis added)*

228. This reasoning flies in the face of Sully J's ruling in *Folbigg* [143(2)] that the possibility of an unidentified natural cause is not a reasonable one.

229. In Folbigg, the finding that the possibility of a natural cause of death was "unreasonable" is made in light of additional evidence of ill temper attested to by Craig Folbigg and found in the diaries together with the medical evidence and elsewhere. No reference is made by Justice Sully to the absence of prior abuse, the absence of evidence of smothering, the absence of any ill temper at the time of Caleb's birth and death, the care and attention afforded by Ms Folbigg to all of her children. These issues are dealt with elsewhere in these submissions in greater detail. However, the pieces of evidence referred to by Justice Sully are given weight and particular inculpatory colour only in light of the circumstances of multiple deaths and with the "four deaths in one family" reasoning. The evidence of ill temper by a husband or wife amounts to nothing when read in context of a young family adjusting to parenthood and, after the death of Caleb, struggling with loss. Domestic arguments occur between

parents but that does not develop to murderous intent. There were no signs of abuse or ill-treatment of any of the children. It may equally be read in the context of a mother suffering from grief and take the responsibilities for the deaths upon herself. It is difficult to imagine their significance being as high if it were a case of a single sudden unexpected death. As referenced above, *'if however the deaths were natural, virtually anything done by the mother on discovering such shattering and repeated disasters would be readily understandable as personal manifestations of profound natural shock and grief'* (*Canning* [11]). This observation in *Canning* is supported by the reports of Dr Diamond[174], and Giuffrida.[175]

230. While not ignoring the necessity that the evidence in circumstantial cases must be considered as a whole, and must to some extent be self-supporting, there is an untenable stream of circular reasoning in the event that the same methodology adopted by Justice Sully is applied in the light of the new evidence that is before this Inquiry:

    (a) Evidence of the mother's behaviour is interpreted as incriminating in light of how many children suffered the same fate; and

    (b) Natural unidentified causes of the deaths of four children are excluded as a reasonable possibility in light of the incriminating evidence of the mother's behaviour.

231. The legal problem here is approaching the evidence with a presumption of guilt (discussed elsewhere in these submissions).

232. Observing the importance of starting at the correct point of reasoning, demonstrated in *Canning*, one could also start from the position of assumption of innocence, or alternatively not an assumption of guilt:

    (a) There is an unexplained cause of death;

[174] Dr Diamond Exh BA and Dr Guiffrida Exh BR.
[175] Exh BD and Exh BR.

(b) In a case of the extreme grief of losing a child, one is used to making allowances for profound, personal manifestations of grief experienced by a mother;

(c) There is no reason to attribute the cause of death to filicide any more than to an unexplained natural cause, let alone attribute to the former beyond reasonable doubt that the latter is a possibility.

Three or More Deaths – Statistical Bias

233. Putting aside the fact the submission to the jury was wrong, the fact is that to state that "reported cases" of three or more deaths in the one family ignores the following statistical biases that make the assertion fundamentally unreliable and can give rise to confusion and misunderstanding:

(a) The reporting of events is reliant upon a publisher deciding they warrant publication;[176]

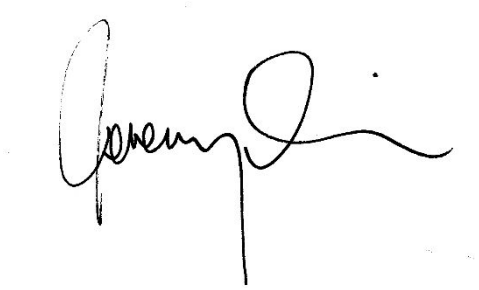
(b) There is no analysis to demonstrate what a "family" is for the purpose of the studies. There may well be divorce or separation which has the effect of distorting the understanding of the studies;

(c) It presupposes that any family who has two children who die of sudden unexplained death or SIDS proceed to further attempts at having children, when they may not do so due to the trauma of their past loss.

234. The Inquiry should make findings to this effect.

[176] See Duflou Exh L pages 44-46.

Dated: 7 June 2019



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ANNEXURE A

ACUTE ASPHYXIATING EVENT	**Question**	**Answer**	
Opening	N/A	N/A	T 36.07-.36
Dezordi		T 451.52	
Crown Argument			T 944.43
Beal	T 1143.43		
Byard (VD)	T 1251.21	T 1251.25	
Crown Address			T 1325.03
CATASTROPHIC ASPHYXIATING EVENT			
Dezordi	T:505.45		
Wilkinson	T 509.53		
	T 511.23		
	T 514.22		
	T 514.38		
Singh Khaira	T 560.45		
	T 562.53		
	T 563.04		
Kan	T 928.16		
	T 928.20		
	T 928.32		
Beal	T 990.12		
	T 990.53-991.02		
Herdson	T 1035.24		
	T 1035.41		
	T 1036.09		
	T 1038.51		
	T 1042.49		
	T 1043.02		
Crown			T 1324.58
Zahra			T 1115.43
Beal	T 1138.51		
	T 1142.31		
	T 1143.37		
Byard	T 1214.58		
	T 1215.11		

ACUTE CATASTROPHIC ASPHYXIATING EVENT			
Beal	T 1145.51-.53	T 1146.02	
"ASPHYXIA" AND ITS DERIVATIVES			
Crown opening			T 34.43
			T 37.21
			T 39.45
			T 44.50
			T 66.50-.56
			T 67.04
			T 67.23
Dezordi		T 449.54	
	T 449.57		
		T 451.52	
Crown			T 479.51
Walker	T 474.28		
Dezordi	T 500.05		
	T 500.12		
	T 500.19		
		T 505.36	
Wilkinson		T 510.02	
		T 509.13	
		T 510.24	
	T 510.29		
		T 510.32	
	T 511.27		
	T 511.33		
	T 511.37		
		T 511.40-.42	
	T 511.47-.48		
	T 512.11-.13		
	T 514.28		
		T 514.42-.46	
	T 514.52		
	T 514.57		
		T 515.03	
	T 515.22		
	T 515.27		
		T 515.38	
	T 514.43		
		T 515.45-516.15	
		T 516.39	
	T 516.42		

		T 516.44	
	T 516.46-.48		
	T 516.54		
	T 517.04		
	T 517.11		
Singh Khaira	T 561.38		
	T 561.48		
Hilton	T 619.16	T 619.17	
	T 619.20		
	T 619.24		
	T 620.20	T 620.21-.23	
	T 620.27-.28		
	T 648.39		
	T 649.07		
	T 649.16		
	T 649.22	T 649.23	
	T 650.48		
		T 651.26-.28	
Cala	T 705.50		
	T 705.56	T 705.57	Cala gives a definition.
	T 709.35	T 705.37	
	T 709.42		
	T 709.52		
		T 725.30	
	T 746.56		
	T 747.12		
	T 747.30		
	T 749.03		
	T 749.18		
	T 749.32		
	T 750.45		
	T 750.49		
	T 750.52		
	T 751.11		
	T 751.18-.20		
	T 753.02	T 753.04	
	T 753.07	T 753.09	
Wilkinson	T 860.09		
	T 863.28		
		T 865.39	
		T 865.53-.58	
		T 873.56	
	T 874.33		
	T 874.52	T 872.54	
	T 875.11		

	T 875.34		
		T 875.41	
		T 876.15	
	T 876.17	T 876.18-.24	
Kan			This is listed in catastrophic asphyxiating event
Beal			
Herdson	T 1043.14		
Berry		T 1058.04	
		T 1058.21	
		T 1061.43	
		T 1061.51	
	T 1062.04		
		T 1065.31	
		T 1070.13	
Herdson	T 1076.36		
Zahra			T 1131.13
Beal		T 1139.11	
		T 1139.28	
	T 1139.30		
	T 1139.54		
Byard	T 1201.55		
		T 1202.03	
	T 1214.47		
		T 1215.01-.11	
	T 1235.11		
	T 1235.17-.18		
	T 1237.58		
	T 1238.16		
	T 1238.24		
	T 1238.37		
		T 1239.56	
	T 1240.31	T 1240.33	
	T 1240.40		
	T 1254.41		
Crown address			T 1315.11
			T 1315.15
			T 1315.43
			T 1319.27-.47
			T 1324.30
			T 1324.38-.43
			T 1326.18
			T 1357.04

Defence address			T 1413.34-.47
			T 1414.42
			T 1449.37-.47 (quote)
			T 1457.36-.49
			T 1460.49 (quote)
			T 1510.25
Summing up			T 25
			"Accidental or deliberate asphyxiation" T 26, T 33 (x2), T 64, T 65, T 99