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# England and Wales Court of Appeal (Criminal Division) Decisions

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**Neutral Citation Number: [2003] EWCA Crim 1020**

Case No: 200203824 Y3

**IN THE SUPREME COURT OF JUDICATURE  
COURT OF APPEAL (CRIMINAL DIVISION)  
REFERENCE BY THE CRIMINAL CASE REVIEW COMMISSION  
UNDER SECTION 9 OF THE CRIMINAL APPEAL ACT 1995**

Royal Courts of Justice  
Strand,  
London, WC2A 2LL  
Friday 11th April 2003

**B e f o r e :**

**LORD JUSTICE KAY  
MR JUSTICE HOLLAND  
and  
MRS JUSTICE HALLETT**

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**Between:**

**R**

**- and -**

**SALLY CLARK**

**Appellant**

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**(Transcript of the Handed Down Judgment of  
Smith Bernal Wordwave Limited, 190 Fleet Street**

**London EC4A 2AG**  
**Tel No: 020 7421 4040, Fax No: 020 7831 8838**  
**Official Shorthand Writers to the Court)**

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**Mr R Spencer QC and Mr M L Chambers (instructed by CPS, Cheshire) for the Crown**  
**Miss C P Montgomery QC and Mr J H Gregory (instructed by Burton Copeland) for the Appellant**

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**HTML VERSION OF JUDGMENT**

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**Lord Justice Kay:**

1. On 9 November 1999, Sally Clark was convicted by a majority of 10 to 2 in the Crown Court at Chester of the murder of her baby sons, Christopher and Harry. She appealed against her convictions but her appeal was dismissed on 2 October 2000.
2. There were those, including Mrs Clark's husband, who could not accept that she had killed her children and they continued to strive to demonstrate that the convictions were wrong. In due course, records of the results of microbiological tests performed on samples of Harry's blood, body tissue and cerebrospinal fluid gathered at post mortem were discovered. These had not featured at all in the evidence at trial because all the lawyers involved on both sides were unaware of their existence. They were submitted to medical experts and this submission gave rise to expert evidence that suggested that Harry may not after all have been murdered but may have died from natural causes. This in turn cast doubt upon the jury's finding that Christopher was murdered.
3. This information was submitted to the Criminal Cases Review Commission ("The CCRC") with an application that the CCRC should refer the case back to the Court of Appeal. The CCRC considered the matter and made such enquiries as seemed appropriate.
4. On 2 July 2002, the CCRC concluded:

"...that there is a real possibility that the Court of Appeal will find that the new evidence renders Mrs Clark's convictions for the murders of Christopher and Harry unsafe."

Accordingly it referred the case back to this Court pursuant to its powers under Section 9 of the Criminal Appeal Act 1995.

5. On 28 and 29 January 2003 this court heard the appeal and concluded that the convictions were unsafe and must be set aside. The Crown did not seek a re-trial and accordingly Mrs Clark was released. In view of the public attention given to this case, we stated our reasons for our decision very briefly at the time but indicated that we would give detailed reasons at a later date. This judgment sets out our reasons.
6. The grounds of appeal settled on behalf of the appellant following the referral by the CCRC, as

developed before the court, made two essential points. First and principally, the failure to disclose the information contained in the microbiological reports meant that important aspects of the case which should have been before the jury were never considered at trial. They contended that the failure to disclose the evidence and/or the existence of the new evidence rendered the resulting convictions unsafe. Secondly, they contended that statistical information given to the jury about the likelihood of two sudden and unexpected deaths of infants from natural causes misled the jury and painted a picture which is now accepted as overstating very considerably the rarity of two such events happening in the same family.

7. It is necessary to summarise the case that the jury were invited to consider at trial, which remained unchanged at the time of the original appeal.

### **The factual background**

8. The appellant is now 36 years old and a solicitor of previous good character. She lived with her husband, Stephen, at Wilmslow in Cheshire, having married in 1990. Her husband is also a solicitor. Their first child, Christopher, was born on 26 September 1996. He was an apparently healthy baby but died on the evening of 13 December 1996 while the appellant's husband was out at an office party. The appellant called an ambulance at 9.35 pm. When the ambulance arrived, she was unable to unlock the door and was hysterical and in shock. It was apparent that the baby had been cyanosed for some time prior to the arrival of the ambulance. He was declared dead at 10.40 pm. A post mortem examination was carried out by a Home Office pathologist, Dr Williams. He gave evidence of having found bruises and abraded bruises on the body and a small split and slight bruise in the frenulum. At the time he considered that these findings were consistent with minor harm caused during the resuscitation attempts. He also found evidence of infection in the lungs and as a result he concluded that the cause of death was lower respiratory tract infection. The case was treated as a case of Sudden Infant Death Syndrome (SIDS or "Cot Death"). Following this conclusion, the body was cremated. Photographs had however been taken and slides of samples from the lungs were preserved.
9. On 29 November 1997, the appellant gave birth to a second child, Harry. He was three weeks premature but was a healthy baby. The appellant received counselling and advice as part of the Care of Next Infant programme (CONI) for parents who had suffered a cot death. From about 8.10 pm on 26 January 1998, both the appellant and her husband were at home together with their child. There came a time when Mr Clark left the room to prepare a bottle for a night feed for Harry since the appellant was supplementing breast feeding in this way. Whilst he was out of the room, the baby suddenly became unwell. Mrs Clark called her husband and then summoned an ambulance at 9.27 pm. When the ambulance arrived, Mr Clark was kneeling beside the baby on the bedroom floor. There was no sign of life. He was taken to hospital where despite further resuscitation attempts, he was pronounced dead at 10.41 pm.
10. Again Dr Williams carried out a post mortem examination. He found injuries, which he considered to be indicative of non-accidental injury, consistent with episodes of shaking on several occasions over several days. He concluded, therefore, that shaking was the likely cause of death.
11. These conclusions in relation to Harry caused him to reconsider the cause of death in respect of Christopher. He consulted others and re-examined the material that had been retained and concluded that Christopher's death had also been unnatural and that there was evidence suggestive of smothering.

12. On the 23 February 1998 both the appellant and her husband were arrested on suspicion of Harry's murder. In a lengthy interview the following day, the appellant gave a detailed account of relevant events and strenuously denied shaking Harry or harming him in anyway.
13. On 9 April 1998 she was interviewed further in relation to Harry and was arrested on suspicion of the murder of Christopher. Having received advice from her solicitors, she decided not to answer questions. She was interviewed again on the 2 July 1998 and again on advice did not answer the questions.

#### **The nature of the prosecution case at trial**

14. The prosecution put their case at trial in the following way. First they pointed to a number of similarities in the detailed history of the death of each child which they suggested went far beyond coincidence. They submitted that in such circumstances where there was no evidence in each case to suggest that the child had died from natural causes, the inference could safely be drawn that the death resulted from the act of the person in whose care the child was when he suddenly became unwell, namely the appellant. The similarities were:
  - i). Christopher and Harry were about the same age at death namely 11 weeks and 8 weeks.
  - ii). They were both discovered unconscious by Mrs Clark in the bedroom, allegedly both in a bouncy chair.
  - iii). Both were found at about 9.30 in the evening, shortly after having taken a successful feed.
  - iv). Mrs Clark had been alone with each child when he was discovered lifeless.
  - v). In each case Mr Clark was either away or about to go away from home in connection with his work.
  - vi). In each case there was evidence consistent with previous abuse.
  - vii). In each case there was evidence consistent with recently inflicted deliberate injury.
15. As to factors (i), (ii), (iv) and (v), we fail to see how realistically on the facts of this case they can be thought to be any significant indication of murder. Some are open to real criticism. Babies are at their most vulnerable in the first few weeks of their life. Therefore, it is difficult to see how any sort of adverse conclusion could properly be drawn simply from the fact that one died at 8 weeks old and the other at 11 weeks old. Children frequently spend the majority of the early part of their life in the sole care of their mother and hence it cannot in any way be said to be an unusual feature for just two events to occur when the babies are in the mother's sole care. The suggestion that the coincidence of the fact that Mr Clark was out on the night when Christopher died and the fact that he was going away the day after Harry died were in some way significant is one we cannot accept. In the ordinary incidence of family life, it could be anticipated that some imprecise similarity of this kind could always be found. If there was any evidence, which there was not, that on each occasion the appellant had been distressed by the absence of her husband, we could begin to see that the coincidence of distress might be thought to be significant but otherwise we fail to see the relevance.

16. The third factor was that each had recently taken a successful feed. In so far as a successful feed might be considered as relevant evidence of the well-being of the child shortly before death, then there may be possible relevance. However this evidence needed to be treated with caution. Certainly in each case the appellant spoke of each child having taken a successful feed, but that was not the only available evidence. In Harry's case there was evidence that at some stage before death he had vomited. The finding at post mortem as contained in the Post-Mortem Examination Report prepared by Dr Williams was: "no evidence of a recent meal". The fact that Harry had vomited was before the jury but the potentially important finding at the Post Mortem Examination appears not to have been put before the jury. Having regard to the reliance placed upon this feature by the prosecution, we are surprised that they did not think it was evidence that should have been led. The defence may or may not have had reasons why they did not establish the fact but the case proceeded on the basis that Harry had taken a successful feed and that contention was still being advanced in the evidence placed before us for this second appeal and in the way the prosecution put their case on appeal. If the totality of the available material is considered and not just the belief expressed by the mother, it is difficult to see how any real significance could be attached to the suggested coincidence of a recent successful feed. Hence we conclude that the only factors in the list that could truly be said to be relevant coincidences indicative of guilt were the evidence, if accepted, of previous abuse and of recently inflicted deliberate injury.
17. There was no evidence that anyone had noticed any injury to either child during their lives that had given rise to suspicion that either child was being abused. Such evidence as there was suggested that they were babies who were well cared for, loved by their parents and happy and content. Hence this was a case where realistically any finding of guilt was bound to be decided upon the medical evidence relating to each death and particularly upon the evidence of the pathologists. It is necessary therefore to look in a little detail at the nature of the evidence as presented to the jury.

### **Approach of a pathologist to a case of suspicious death**

18. It is desirable, however, that we should first set out our clear understanding of how a pathologist will approach a case of suspicious death. In the first place, he will obtain information about the circumstances of the death. This may, in some cases, involve a visit to the body in situ before it is removed to the mortuary. It will almost inevitably involve receiving information from the investigating officers. This will include any version of the circumstances emanating from witnesses and any possible explanation advanced by any suspect. Although the suggestion has been made that the obtaining of such information may be undesirable, we have no doubt that this is wrong. The initial post mortem is critical to any conclusion as to the cause of death. Amongst the questions the pathologist will want to answer are whether any competing explanations for the death are consistent with his findings. The very act of carrying out the post mortem examination will alter the condition of parts of the body and to learn only after examination of explanations that have been advanced runs the risk that the best evidence to confirm or contradict the explanation may no longer be available. A competent pathologist will not assume that any one of the explanations for death advanced is necessarily the correct explanation but in considering the range of possibilities, he will have specific regard to evidence consistent with or contradictory of such explanations. It is, of course, important that the pathologist records such information so that any one else can understand any matter that he may have had in mind in conducting the examination.
19. Having thus equipped himself so far as he can with information about the likely issues that he will have to resolve, the pathologist will embark upon the actual examination. He will note any significant features of the body where his findings reveal something out of the ordinary whether or not they

immediately strike him as relevant to the cause of death and he will also note the fact that he has examined parts of the body and found no abnormality because the negative finding may turn out to be equally significant.

20. Where there are findings of apparent significance which can be demonstrated visually, it would be normal to cause photographs to be taken so that others will be in a position at a later date to see for themselves. This is particularly necessary where the carrying out of the post mortem will interfere with the finding and prevent anyone else from having the same opportunity to assess the significance of a finding.
21. In addition the pathologist may think it necessary to take samples either for microscopic examination or for submission for laboratory examination or may decide to retain organs for later more thorough investigation.
22. Having obtained all the information that he considers may assist him and others in reaching a conclusion as to the cause of death, he will then reach his conclusions, in so far as it is possible, as to the cause of death resolving where he can any issues that he foresees may arise as a part of the investigation into the suspicious death including those that can be anticipated at the trial of any person thought to be responsible for the death.
23. Since the conduct of Dr Williams is called into question in this case, it is pertinent to record his evidence as to how he would arrive at a cause of death:

"The cause of death given at the end of a post mortem investigation is by a process of elimination. You eliminate various things and you are left with a short list from which you select, and the short list can be one item, the most probable cause of death. There is no such thing as an absolute cause of death except perhaps from decapitation but, you know, in the normal course of events you put the cause of death down as your best opinion based on your findings."

24. Having reached his conclusions, the pathologist will then prepare a report. That report should detail the information he received in advance of the examination, all the investigations that he has made either personally or by submission to a laboratory for report, his conclusions and an explanation for those conclusions. Where features out of the ordinary are found and the pathologist concludes that they are not relevant, he should explain why he discounts the finding. Thus by way of extreme example, a pathologist examining a man with a shot wound to the head might discover that he had a severe heart condition that could have killed him at any moment. He might nonetheless conclude that the shot wound was such that it would have killed instantaneously any person, however healthy, and that the heart condition can, therefore, have played no part. In such circumstances the clear duty of the pathologist would be to record the heart condition in his report but to explain that since death would have been instantaneous and since the victim was clearly alive when shot, his conclusion was that the heart condition played no part in the death.
25. We do not believe that any of the above would come as the slightest surprise to even an inexperienced pathologist.
26. Where a second post mortem examination was to be performed by a different doctor or where some other medical expert was to become involved in the case, we would expect the original pathologist to

understand the need to share all information that he had obtained with the other doctors whether or not at the end of the day he had concluded that it provided an explanation for the cause of death. If he did not, he would deprive the other doctor of the opportunity to decide for himself whether that information was relevant or not. There are good reasons why this duty is such an obvious and important one. The first is that to which we have already referred, namely the fact that the carrying out of the initial post mortem may have caused changes to the body that obscure findings made during the course of that post mortem, or prevent the observation of other important features. The second is that there is a clear responsibility to avoid any interference with the body unless it is necessary to reach a proper understanding of the death. Thus repetition of the interference with the body, necessarily a part of a post mortem examination, should be limited to that which is truly necessary. It is because of these factors that in our experience, doctors quite rightly come to depend upon one another for the provision of any information available to the person carrying out the initial post mortem examination however unlikely it may seem to the first pathologist that it provides an explanation for the cause of death. To this end it is the normal practice for the first pathologist to attend a second post mortem examination, which has the added benefit that he can also see for himself anything found at the subsequent post mortem which he may not have noted or recorded for himself.

### **The Post-Mortem examination of the bodies of Harry and Christopher**

27. Having thus considered the practice and responsibility of the pathologist conducting the initial post mortem, we turn to consider what happened in each of these cases. In each case the initial post mortem examination was carried out by Dr Alan Williams. In Christopher's case, because he concluded that death was due to natural causes, there was no other post mortem examination. In Harry's case, there was a second examination carried out jointly by Professor Emery and Dr Rushton.
28. In Christopher's case there was evidence, which it was suggested, was consistent with physical harm suffered by Christopher both shortly before his death and at some earlier stage or stages. In addition there was evidence that Christopher was suffering at least to some extent from some infection at the time of death. The former led to the diagnosis that Christopher's death was not from natural causes and resulted in the appellant's conviction for his murder. The latter led to the initial diagnosis at the time of his death that he died from an infection of the lower respiratory tract. It will be convenient to look at each in turn.
29. In Harry's case, there was evidence led at trial, of a number of findings said by the Crown to be only consistent with physical harm to Harry shortly before death and at an earlier stage or stages. There was at trial no evidence of any infection that might have caused or contributed to death. Hence in his case either the prosecution case was right or the cause of death was not capable of being ascertained. The evidence which has emerged since trial and since the original appeal however suggests the possibility that his death may have been due to infection. Stated in that way, we can readily see why those acting for the appellant submitted that, at the very least, such evidence may have had a critical effect upon the jury's consideration of the case. Again we will look at each of these distinct areas.

### **Evidence suggesting physical harm to Christopher**

30. There were three distinct features of the post-mortem findings in respect of Christopher that doctors called by the prosecution suggested were the result of physical harm caused to him before death, a number of bruises, a tear in the frenulum, and the presence of blood in the lungs.

31. The bruises which Dr Williams said at trial that he had found were marked by him on a diagram and photographs were available for the jury. They were:
- (i) a bruise on the rear of the left leg,  $\frac{1}{2}$  cm x  $\frac{1}{2}$  cm.
  - (ii) 2 abraded (i.e. roughened) bruises on the back of the right thigh, each  $\frac{1}{2}$  cm x  $\frac{1}{2}$  cm.
  - (iii) A bruise on the right arm close to the elbow,  $\frac{1}{2}$  cm across.
  - (iv) A reddened area,  $\frac{1}{2}$  cm across, over the wrist at the base of the right thumb.
  - (v) A reddened area,  $\frac{1}{2}$  cm x  $\frac{1}{2}$  cm, on the joint of the right thumb.
  - (vi) 2 abraded bruises on the front of the left thigh, one 1 cm x  $\frac{1}{2}$  cm and the other 2 cm x 1 cm.
  - (vii) 2 bruises on the left leg above the right knee, each  $\frac{1}{4}$  cm across.

All these "bruises" were acknowledged to be very small and were described as "finger tip bruises". It was further accepted that the "bruises" did not form any pattern of the type frequently found when a child has been gripped tightly and subjected to some form of physical harm. If they were bruises, then they must have been caused pre-death and having regard to the evidence of Christopher's condition from the time of the arrival of the ambulance it was, therefore, unlikely that they had resulted from any of the resuscitation procedures adopted by the ambulance personnel or the medical staff at hospital.

32. The dispute at trial as to these marks centred essentially on whether they were bruises at all or whether they may have been post-mortem effects. Such a possibility was certainly consistent with the fact that the medical staff at the hospital had not noticed any evidence of any such marks. The Crown suggested that this was because the "bruises" must have been of very recent origin and they had not yet become visible.
33. Doctors called by the defence were sceptical as to whether they were bruises. They pointed to the fact that the conclusion of Dr Williams was purely from his observations and had not been confirmed by incision of any of the bruises. The Crown's answer to this criticism was that Dr Williams was an experienced pathologist. Since he was in no doubt that they were bruises, incision was unnecessary and would do nothing more than to cause mutilation of the body over and above that which was required.
34. There was thus a significant issue in respect of this aspect of the case that was entirely dependent upon the accuracy and reliability of the evidence of Dr Williams. Any other failing that could be demonstrated on his part was, therefore, of potential importance to the reliance that the jury could place on this aspect of the evidence.
35. The second finding made by Dr Williams upon which the Crown relied was that there was a small split and slight bruising into the frenulum between the upper lip and jaw. The existence of such an injury should have been put beyond question by photographs but unfortunately the photographs that were taken were on any view of very poor quality and offered no opportunity for others to assess the finding



Dr Williams claimed to have made. Thus before the jury could have relied upon this alleged injury they would have had to be sure that Dr Williams was accurate and reliable in this respect as well and as with the "bruises" any issue relevant to his reliability may have impacted on this part of the case.

36. If the jury were sure that there was a tear in the frenulum, the next issue raised was whether this might have been caused in resuscitation attempts. At the time of Christopher's death, Dr Williams concluded that this was the likely explanation. By the date of trial he had changed his view. He said that he had not appreciated that Christopher had been cyanosed when the ambulance arrived and if that was the situation, the accompanying bruising could not have been caused by any subsequent resuscitation attempts as there would not have been the blood pressure necessary to cause such bruising. He suggested that in the absence of any such innocent explanation, the most likely cause was smothering.
37. Apart from Dr Williams, the prosecution relied on the evidence of three other expert witnesses:
  - (i) Professor Sir Roy Meadow, Emeritus Professor of Paediatrics and Child Health at St James's University Hospital in Leeds.
  - (ii) Dr Keeling, a consultant paediatric pathologist and
  - (iii) Professor Michael Green, Emeritus Professor of Forensic Pathology at the University of Sheffield.
38. Professor Meadow, Dr Keeling and Professor Green, each said that the injury to the frenulum was unlikely to have been from resuscitation. Professor Meadow in his evidence and Dr Keeling in her evidence each suggested it was a sign of abuse consistent with smothering.
39. Expert evidence on behalf of the defence was given by:
  - (i) Professor Berry, a paediatric pathologist specialising in sudden and unexpected infant death;
  - (ii) Dr Rushton, a consultant paediatric and peri-natal pathologist;
  - (iii) Professor David, a consultant paediatrician;
  - (iv) Dr Whitwell, a senior lecturer and forensic pathologist; and
  - (vi) Professor Luthert, a pathologist specialising in eyes.
40. Of these witnesses, it is perhaps important to make clear the precise standing of Professor David in respect of these matters. He was not a doctor approached by the defence to advise them. He was appointed by the Family Court. The appellant had given birth to a third child and decisions had to be made as to the welfare of this child quite independently of the criminal process. The Family Court charged with the responsibility of making these decisions had thought it right to approach an independent expert of its own to review the case. That expert was Professor David. He came, therefore, to the case with a completely independent stance. It was only when his conclusions were favourable to the defence that they sought to rely upon his evidence. Recording these matters is not in any way to suggest that other experts did not do their best to give evidence which was independent of the side that instructed them but the value of an expert free from any influence, however innocently manifesting itself, cannot be discounted.

41. Professor Berry, Dr Rushton and Professor David thought that it was possible but unlikely that such an injury would result from resuscitation. Each agreed, however, that if there was bruising, injury to the frenulum and bleeding in the lungs, it did suggest asphyxia.
42. The third aspect of the evidence said to suggest that the death was other than from natural causes and probably the most significant since it was this that led to the rejection of Dr Williams' original conclusion at the time of death was evidence of bleeding in Christopher's lungs. Dr Williams had made no record of any such finding at the time but he had taken samples from the lungs which were available for microscopic examination. These were examined by Dr Williams after the death of Harry and it was this further examination coupled with awareness of findings published between the date of the two deaths and discussions with Professor Green that caused Dr Williams to change his conclusion as to the cause of death. Dr Williams said that he had made no reference to this finding because he considered it was "part of the dying process" and "a non specific finding". He was not then aware that haemosiderin (a breakdown product formed by the destruction of haemoglobin - the principal constituent of red blood cells) in the lungs was associated with asphyxia. Even allowing for his lack of appreciation of this possible diagnostic relevance, it suggests that Dr Williams was being selective as to his recording of his findings only recording those facts that seemed to him to be supportive of his conclusion. It is perhaps of significance that this failure to record facts cannot have been the result of any deliberate attempt to conceal the truth since at the time when he did it, it could have done no harm to the position of the appellant or anyone else.
43. The evidence of Dr Williams confirmed by the other doctors called by the prosecution was that microscopic examination showed the presence of extensive recent bleeding in the lungs together with haemosiderin which provided evidence of bleeding on a much earlier occasion.
44. The defence sought to deal with this evidence in a number of distinct ways. As to the presence of haemosiderin, they led evidence of an episode of nose bleeding that Christopher had suffered on 3 or 4 December 1996 whilst staying with his parents at a hotel in London. Initially it would seem that the prosecution were reluctant to accept that this had occurred because if it did, it was at a time when Christopher was in the sole charge of his father, his mother being out at the time. However by the conclusion of the trial, the evidence that Christopher had suffered this nosebleed was accepted to be right.
45. The Crown's evidence was that a spontaneous nosebleed in such a young child would be extremely rare and the happening of the nosebleed was in itself evidence of an earlier attempted smothering which had only manifested itself once the mother had left the hotel leaving the child with its father.
46. Professor Meadow, Professor Green and Dr Keeling all agreed that there was extensive fresh and old bleeding in Christopher's lungs. A spontaneous nosebleed in such a young baby would be very serious and it was unlikely that the haemosiderin in the lungs resulted from the nosebleed. Professor Meadow described the finding as an important indication of previous smothering. Professor Green said that it crossed the threshold to require further investigation. Dr Keeling said that it was an important marker for further investigation.
47. For the defence, Professor Berry and Dr Rushton thought that haemorrhage in the lungs was a marker for, but not diagnostic of, the possibility of asphyxiation. The old blood could have been due to the nosebleed, although that would have been unusual in a baby of Christopher's age. It was also consistent with smothering, but by no means conclusive.

48. Professor David raised another possibility. He noted that blood test results taken from Christopher soon after death were abnormal. Dr Cowan who had been called to Christopher when he was admitted to hospital gave evidence that the figures (including those for sodium and glucose) were strikingly abnormal. Professor David also thought that they were abnormal and this raised in his mind the possibility of acute idiopathic pulmonary haemosiderosis. He told the court that a Canadian expert, Dr Cutts, had produced a paper which showed similar levels of iron in the lungs of SIDS babies and those who had died from haemosiderosis. He accepted that the other classic signs of that rare disease were absent, but the possibility could not be discounted. He also acknowledged that suffocation was a possibility.
49. None of the other doctors called on either side accepted that haemosideorsis was a possible explanation for the findings in the lungs or that it could be the cause of death.
50. Dr Williams gave evidence that the abnormal blood tests results were not significant. They were consistent with changes after death and he spoke of research that he had done and of his conclusion that blood was so unstable that save when examining for poison and other similar matters not relevant to this case, it would not permit any reliable conclusion.
51. Clearly this aspect of the case had some impact on the jury because they asked a question about whether Harry's blood was tested which has relevance to the considerations to which we will turn later.

#### **Evidence suggesting that Christopher may have died from an infection**

52. As already made clear Dr Williams immediately after Christopher's death considered that he had died from a lower respiratory tract infection. By the date of trial not only had Dr Williams changed this diagnosis as to the likely cause of death but somewhat more surprisingly he went so far as to rule out such an infection as a possible cause of death.
53. Findings in his initial report that supported, or may have supported his original diagnosis included:
  - (i) On external examination "there was a frothy muco pus coming from the nose;
  - (ii) On internal examination of the respiratory system, "the trachea and bronchi contain small amounts of muco pus. The lower lobes of the right lung show acute serosal inflammation, slight grey linear deposits on the surface of both the right and lower lobes. On sectioning no macroscopic evidence of pus, no macroscopic evidence of consolidation. The lungs are slightly oedematous on compression".
  - (iii) From the post mortem histology, "Lung – acute inflammation; spleen – focal haemorrhages and inflammation; tonsils/pharynxes - minor inflammation"
54. Dr Williams expressed his conclusions in his report as:

"In summary, this is a well nourished male infant 12 weeks of age showing evidence of respiratory tract infection with inflammation of the right lower lobe of the lung predominantly

Cultures and Histology have been taken

In my opinion ... the cause of death was ... Lower respiratory tract infection."

55. By the date of trial, Dr Williams had concluded that there were "no significant features of respiratory infection." He was cross-examined about how he could have expressed two such conflicting views at different times and having read the cross-examination, we conclude that he advanced no convincing explanation for the alteration of his position. He explained why he had changed his view as to the cause of death following re-examination of the slides after Harry's death but he was unable to explain why he had previously asserted that there was evidence of the respiratory infection but now concluded that there were no significant features of such an infection. Put at its very lowest, this aspect of the matter called into question the competence of Dr Williams.
56. None of the other doctors found any evidence of a respiratory tract infection although the only material upon which they could assess the position was the evidence available from the slides taken by Dr Williams.

### **Conclusions of doctors at trial in respect of the cause of death of Christopher**

57. Dr Williams in cross-examination explained his opinion as to the cause of Christopher's death in the following way: there was a "possibility that the child was smothered ... a possibility in a broad range".
58. Professor Meadow concluded that Christopher's death was not from lower respiratory tract infection, nor could it be classified as SIDS. In his opinion it was not a natural death.
59. Professor Green considered that there was no evidence of natural disease. He felt that it was extremely likely that death was other than natural but he would have given the cause of death as "unascertained".
60. Dr Keeling considered that this was not a SIDS case and she was unable to find a natural explanation for Christopher's death. In her opinion, the cause of death was "unascertained", which meant that it might have not been natural.
61. Professor Berry said that he would have given the cause of death as unascertained. He explained this by saying:

"It means that the child's death may have been natural but without explanation, perhaps what the jury knows as cot death. It might be that the child died unnaturally but I can't find out why or it might be the child died of a natural disease that I am not clever enough to diagnose and recognise and that is why the examination of children found suddenly and unexpectedly dead has to be done more thoroughly and more carefully perhaps than any other type of post mortem examination."
62. Professor Berry expressed the view that the post mortem examination whilst it may have been "done in the way that many forensic post mortems are undertaken", was not sufficiently thorough "to document possible injuries that might indicate a pattern of care of the child".
63. Dr Rushton gave evidence that if he had given a cause of death, he would have said that it was unascertained.
64. Professor David, as set out above, considered that one possible cause of death was idiopathic pulmonary haemosiderosis. He also acknowledged that suffocation was a possibility.

65. 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.

### **Evidence suggesting injuries to Harry**

66. Dr Williams at the post mortem examination carried out on Harry's body recorded the following findings that suggested the possibility that Harry had been subjected to violence:

(i) haemorrhages to the eyes and eye-lids;

(ii) contusional tears in the brain with haemosiderin in the arachnoid space;

(iii) haemorrhage of the spinal cord with haemosiderin discolouration;

(iv) a small area of callus formation on the second right rib; and

(v) the dislocation of the costal cartilage of the right first rib from the end of the bony section of the rib.

67. Dr Williams concluded that "the spinal injuries and lesions in the brain and the eyes are those that would be expected from non-accidental injury ... The pattern of injury is that which is seen in shaking ... The post mortem findings are those of a child shaken on several occasions over several days."

68. Dr Williams indicated that he had found no evidence of any illness or infection that might have had any bearing on the death. No other evidence was led before the jury by either side to suggest that there was any possibility that Harry was suffering from the effects of any illness or disease at the time of his death.

### **The findings in respect of Harry's eyes**

69. As set out above, one of the factors relied upon by Dr Williams to conclude that death was due to shaking were the finding of haemorrhages in the eyes and eye-lids. The findings in greater detail were:

(i) one or two petechial or pinpoint haemorrhages on the left eyelid. Dr Williams accepted that these were a feature in mechanisms of death other than asphyxia, but said there was no evidence of any such alternative.

(ii) A 7 mm area of haemorrhage on the upper surface of the right eye and a 2 mm area of haemorrhage on the outer aspect of the left eye. He had only ever seen this type of haemorrhage in cases of death caused by over-laying or smothering.

(iii) Intra-retinal haemorrhaging in both eyes.

70. In respect of the intra-retinal haemorrhaging of the eyes, Professor Green had also attached

significance to this finding but shortly before trial he had a meeting with Professor Luthert, the defence expert and as a result of that meeting he accepted that the bleeding which he saw was almost certainly of post mortem origin, the result of an error in the slide preparation and that it must be completely discounted. This evidence, therefore, again called into question the competence of Dr Williams.

71. In respect of the haemorrhages on the surface of the eye, again substantial issues arose as to whether they were caused post-mortem. Professor Luthert thought that it was quite possible that the blood might have dropped down onto the eyes during dissection. He pointed out that the blood appeared to be beneath the access points for dissection to both of the eyes. In any event he said that such a finding was not a classic sign of shaking nor was it a finding associated with any particular disease. In this latter respect Professor Green agreed with him.
72. As to the 1 or 2 petechial haemorrhages in the left eyelid, Professor Meadow said that if they were established with certainty, such petechiae were of significance because they provided a link with a traumatic event having occurred. Dr Keeling said that they were a significant and worrying feature because they were a sign of asphyxial injury but she was unable to say positively that the child had been smothered.
73. For the defence Professor Berry said that the two petechial haemorrhages were a worrying feature, but he and Dr Whitwell felt that although consistent with smothering, their presence was not strongly indicative that it had occurred. Dr Rushton thought it was difficult to say if they had any significance. He agreed that they were consistent with asphyxia and that they were unusual in SIDS cases. Professor David concluded that there was no evidence that the haemorrhages were due to abuse.

#### **The findings in respect of Harry's brain**

74. In respect of Harry's brain, Dr Williams found some tears and some old blood. He accepted in evidence that the tears were not unequivocal and he accepted that the old blood might properly have been attributed to birth.
75. The Crown called a further expert to deal with this aspect of the case Dr Smith, a consultant neuropathologist. Dr Smith said that she did not see any tears of the brain unequivocally caused before death. She said that there was no indisputable evidence of traumatic injury but she had found signs of hypoxic damage to nerve cells due to lack of oxygen before death. She concluded that something had happened some hours before death to cause this damage and although Harry survived this event, she could not rule out that the hypoxia had been a contributory factor to the subsequent death.
76. Dr Keeling also thought that the hypoxic damage indicated some sort of episode causing oxygen not to get to the brain. The damage did not give any indication of causality but one possible cause was trauma.
77. For the defence Professor Berry said that the old haemorrhages were a common finding consistent with almost any cause of death and Dr Rushton felt that they might have been birth related. Both considered that the hypoxic damage was not significant: it was a subtle finding that could have occurred naturally after death. Dr Whitwell agreed that the hypoxic damage was consistent with smothering, but it was a non-specific finding.

#### **The findings in respect of Harry's spine**

78. The most significant of the findings relied upon by the prosecution in terms of the cause of death were the findings relating to Harry's spinal cord. Dr Williams gave evidence that he had found the spinal cord was swollen and that there was an excessive amount of blood, both fresh and old. His conclusion was that this was a result of more than one episode of shaking at least 48 hours apart. He said that he could not gauge the severity or mechanism and he agreed that other features that could be expected in a case of shaking were absent. He said that he had seen haemorrhages in the spinal cord where a baby had been shaken but that he had not seen them so low down the spine. He explained that damage of this kind which appeared relatively small could nonetheless have a catastrophic effect. He was sure that there must have been some sort of trauma to that part of the spine and he denied a suggestion that it had been caused during the post-mortem examination.
79. Dr Smith supported the findings of Dr Williams. She felt that the fresh bleeding could not be dismissed as having been caused in the post mortem process. She agreed that this was not one of the usual findings in a shaken baby and she was unable to explain the mechanism by which it was caused. She said that she had never regarded it as a classic case of shaking.
80. Professor Green gave evidence that he had seen some such damage in cases of shaking, but not this particular injury. He too agreed that there were features frequently found when a baby had been shaken which were not found here. He considered that shaking was a very strong possibility.
81. Dr Keeling had never encountered such a degree of bleeding as shown in the photographs. She said in cross-examination that she could not positively say that Harry's haemorrhages had been caused by trauma.
82. Professor Meadow said that an injury causing the bleeding around the spine would suggest an unusual trauma. He also said that he would have expected damage to the cervical cord if it had caused death. He said that there was a lack of research on the shaking of babies. Asked if he would expect to find bruising on a baby shaken in that way, he replied that it would not necessarily be found.
83. For the defence, Professor Berry, Dr Whitwell and Dr Rushton doubted the interpretation of the photograph as showing a swollen cord. Many of the findings had either been shown not to exist or had been misinterpreted. Bleeding in the epidural space was commonly found in post mortems of babies and was not significant. The old bleeding was not in an area where one would have expected to find trauma and was more consistent with a birth injury than a shaking injury. Dr Rushton could not envisage a feasible mechanism to produce such an injury. However if there had been fresh bleeding and a swollen cord, he would have concluded that the death had been unnatural.

### **Evidence of rib injuries to Harry**

84. It was not suggested that the rib injuries had played any part in causing Harry's death but rather that they were evidence of physical abuse. Dr Williams said that Harry had suffered a fracture of the second right rib at the side under the armpit. X-rays of the whole of Harry's skeleton had been taken and they on examination had revealed no evidence of any fractures. He had however found the callus where the fracture had healed.
85. He accepted that in his statement he had only said that there was a "possible" old fracture but he was firm that there was no other possible explanation for his finding. He further agreed that he had told a police officer that it could have been caused at birth but he said that this was unlikely because he had

since learnt that Harry's birth had been a normal, uncomplicated delivery.

86. The other finding of which he gave evidence was of the first rib being dislocated from the cartilage near the breastbone. He had made no reference to this in his report because he said it was of unknown significance. He said that he was sure that it had not been caused at birth or during the post-mortem and he had not seen such a dislocation from resuscitation attempts.
87. Professor Meadow and Dr Keeling said that the fracture of the rib would have been an unusual birth injury. Dr Keeling said that she was able to confirm from examination of the microscopic slide that there had been bone growth indicating the presence of an injury such as a fracture. Professor Meadow and Dr Keeling each said that the dislocation of the first rib would have been an unusual resuscitation injury. Dr Keeling was surprised that there was no haemorrhage at the site of the dislocation and thus she could not exclude the possibility that it happened post mortem.
88. Professor Berry for the defence said that the fracture of the second rib had not been confirmed and the process of new bone formation was not necessarily confirmation of a fracture. If the dislocated first rib had occurred in life, he would have expected some haemorrhage or tissue damage of which there was none. He did not think that either was a birth injury but the evidence suggested that the dislocation occurred after death.

### **The doctors' conclusions as to Harry's death**

89. Dr Williams was of the opinion that death was caused by shaking.
90. Professor Meadow said that Harry's death could not be classified as SIDS and in his opinion the baby had not died a natural death. Dr Smith said that she was unable to specify a mechanism of death and was, therefore, unable to say that this was a shaking death. She accepted in cross-examination that she could not exclude some unidentified natural disease, but that there were features suggestive of some assault to the child. In purely pathological terms it was an unexplained death, although in her opinion Harry did not die a natural death. Professor Green said that Harry's death could well not be natural. He thought though that the most appropriate diagnosis was unascertained. Dr Keeling felt that the possibility of a non-natural death should be considered but she too would give the cause of death as unascertained.
91. Professor Berry considered that the most worrying features were the petechiae in the eyelids and the fracture of the right rib, if such it were. If the spinal cord had been swollen and the bleeding in the spine caused by trauma, he would have concluded that it had been a traumatic and non-natural death, but it could have been due to an accident.
92. Dr Whitwell and Dr Rushton would each have given the cause of death as unascertained. They each spoke of features that would militate against a classification of the death as a SIDS death. Dr Rushton said that there were features that gave rise to very great concern. Professor David thought that there was insufficient data to know why Harry died.

### **Conclusions on the medical evidence at trial**

93. The medical evidence at trial which we have set out in detail made clear that in any view this was a difficult case. There was a wide difference of views in respect of each death as to the conclusions that



could properly be drawn from the available evidence. However a number of factors seem to us to emerge which are of relevance to this appeal:

(i) in each case, before a conclusion adverse to the appellant could be drawn the jury would have had to be sure that they could rely upon the evidence of Dr Williams. There were important features said to have been found at each post mortem examination which depended both upon the competence of Dr Williams in carrying out the post mortems and upon the extent to which he could be considered as a reliable and objective witness as to his findings. There were features at that time that must have caused the jury to hesitate. His change from a conclusion that Christopher died of a lower respiratory tract infection to an opinion that there was no evidence that he had such an infection that could have led to death, and the acceptance by the Crown that Professor Luthert was right about the intra-retinal haemorrhaging of the eyes being the result of an error in slide preparation were the most obvious examples of the need for caution. Anything further that cast doubt upon the approach of Dr Williams must, therefore, have been of potential significance to the jury's conclusions.

(ii) it was of potentially crucial importance that there was no evidence of any illness or infection suffered by Harry that might have explained his death. If this was not a true SIDS case, as the doctors were largely agreed, and since there was no apparent natural explanation for the death, the evidence pointed towards an unnatural death. The only disagreement between the doctors was whether it did so to a sufficient degree to permit a firm conclusion that the cause of death was unnatural or whether the case had still to be classified as an unascertained cause of death. Thus any evidence which positively suggested that Harry died from natural causes was of potentially crucial relevance to the jury's considerations and might very well have resulted in different verdicts.

(iii) as already indicated, the evidence in respect of Christopher's death, if it stood in isolation would not have justified a finding of murder and if, therefore, there had been evidence that suggested that Harry died from natural causes so that the jury accepted this was a possibility, it seems inevitably to follow that they could not have been sure that Christopher was murdered.

### **The statistical evidence**

94. Before turning to consider the evidence which it is alleged was not disclosed to the defence and the evidence now available that flows from it, we must record the other feature of the evidence at trial which it is contended may well have had an unfair impact upon the jury's considerations. That evidence was statistical evidence given by Professor Meadow.
95. Professor Meadow was asked about some statistical information as to the happening of two cot deaths within the same family, which at that time was about to be published in a report of a government funded multi-disciplinary research team, the Confidential Enquiry into Sudden Death in Infancy ("CESDI") entitled "Sudden Unexpected Deaths in Infancy" to which the Professor was then writing a Preface. Professor Meadow said that it was "the most reliable study and easily the largest and in that sense the latest and the best" ever done in this country.
96. It was explained to the jury that there were factors that were suggested as relevant to the chances of a SIDS death within a given family; namely the age of the mother, whether there was a smoker in the household and the absence of a wage earner in the family. None of these factors had relevance to the Clark family and Professor Meadow was asked if a figure of 1 in 8,543 reflected the risk of there being a single SIDS within such a family. He agreed that it was. A table from the CESDI report was placed

before the jury. He was then asked if the report calculated the risk of two infants dying of SIDS in that family by chance. His reply was:

"Yes, you have to multiply 1 in 8,543 times 1 in 8,543 and I think it gives that in the penultimate paragraph. It points out that it's approximately a chance of 1 in 73 million."

97. It seems that at this point Professor Meadow's voice was dropping and so the figure was repeated and then Professor Meadow added:

"...in England, Wales and Scotland there are about say 700,000 live births a year, so it is saying by chance that happening will occur about once every hundred years."

98. Mr Spencer then pointed to the suspicious features alleged by the Crown in this present case and asked:

"So is this right, not only would the chance be 1 in 73 million but in addition in these two deaths there are features which would be regarded as suspicious in any event?"

He elicited the reply "I believe so."

99. All of this evidence was given without objection from the defence but Mr Bevan QC (who represented the appellant at trial and at the first appeal but not before us) cross-examined the doctor. He put to him figures from other research that suggested that the figure of 1 in 8,543 for a single cot death might be much too high. He then dealt with the chance of two cot deaths and Professor Meadow responded:

"This is why you take what's happened to all the children into account, and that is why you end up saying the chance of the children dying naturally in these circumstances is very, very long odds indeed one in 73 million."

He then added:

"... it's the chance of backing that long odds outsider at the Grand National, you know; let's say it's a 80 to 1 chance, you back the winner last year, then the next year there's another horse at 80 to 1 and it is still 80 to 1 and you back it again and it wins. Now here we're in a situation that, you know, to get to these odds of 73 million you've got to back that 1 in 80 chance four years running, so yes, you might be very, very lucky because each time it's just been a 1 in 80 chance and you know, you've happened to have won it, but the chance of it happening four years running we all know is extraordinarily unlikely. So it's the same with these deaths. You have to say two unlikely events have happened and together it's very, very, very unlikely."

100. The table that was produced to the jury gave just the figures for probability of a SIDS death in families where one or more factors thought to be relevant were present together with the figures when there was no such factor. In the CESDI report the table was accompanied by explanatory text but although this was available to the prosecution and the defence, it was not before the jury. It made clear the purpose of the information saying:

"The identification of families at higher risk of SIDS is of importance in allowing the appropriate deployment of scarce health care resources and in attempting to achieve

changes in lifestyle or patterns of child care that might reduce this risk."

It did not in any way suggest that it provided statistical information that would enable diagnosis of an unnatural death in an individual case.

101. The report also made clear that the figures did not "take account of possible familial incidence of factors other than those included" in the table. It ended with the warning: "When a second SIDS death occurs in the same family, in addition to careful search for inherited disorder, there must always be a very thorough investigation of the circumstances- though it would be inappropriate to assume maltreatment was always the cause".
102. None of these qualifications were referred to by Professor Meadow in his evidence to the jury and thus it was the headline figures of 1 in 73 million that would be uppermost in the jury's minds with the evidence equated to the chances of backing four 80 to 1 winners of the Grand National in successive years.
103. Professor Berry was one of the four editors of the CESDI study. He made the point that simply squaring the figure was an illegitimate over simplification and he drew attention to the qualifications to which we have referred.
104. The trial judge clearly tried to divert the jury away from reliance on this statistical evidence. He said:

"I should, I think, members of the jury just sound a word of caution about the statistics. However compelling you may find them to be, we do not convict people in these courts on statistics. It would be a terrible day if that were so. If there is one SIDS death in a family, it does not mean that there cannot be another one in the same family."
105. This aspect of the case was raised on the first appeal. The areas of attack were threefold. First, evidence was called to show that the statistics were misleading; second, it was said that the evidence was led without regard to the guidance given by this Court in R v Doheny and Adams [1997] Cr App R 369; and third it was contended that the prosecution utilised the statistics in a way that gave rise to the "prosecutor's fallacy" identified in relation to DNA statistical evidence in R v Deen, The Times 10 January 1994.
106. As to the first point, the Court of Appeal (at paragraph 155) concluded:

"The existence of arguments against squaring was known to the jury at trial. Professor Berry made the points to which we have already referred, and the judge reminded the jury about these in his summing-up. But again the precise figures are not important since the Crown was making the broad point that repeated SIDS deaths were very unusual, in which exercise the number of noughts separating the lower risk households from higher risk households did not matter once the overall point was made, as here it was."
107. The court also rejected the second ground which was effectively a complaint that Professor Meadow trespassed beyond his mere expertise. The court said (paragraph 160):

"No-one would know better than Professor Meadow that this important evidence as to whether these deaths were unnatural lay in the physical finding post-mortem, in the

account of the last hours of the infants, and in the evidence and credibility of the parents – it certainly did not lie in statistics. And it is clear from reading his evidence that his conclusions were firmly based on that medical and circumstantial evidence, as we would expect."

108. As to "the prosecutor's fallacy" the court found merit in this argument saying:

"Therefore we accept that when one is looking post facto at whether two deaths were natural or unnatural, the 1:73 million figure is no help. It is merely a distraction. All that matters for the jury is that when your child is born, you are at a very low risk of a true SIDS death, and at an even lower risk with a second child."

109. The court absolved Professor Meadow of misusing the figure in his evidence but added that "he did not help to explain this limited significance".

110. The court then asked themselves whether the jury might have focussed on that figure to the exclusion of the "real and compelling" evidence in the case. They reminded themselves of the warning given by the judge but concluded that there was some substance in the criticism. Nonetheless the court looked at this matter in the light of all the evidence and concluded that there was an "overwhelming case" against the appellant.

### **The evidence discovered since the first appeal**

111. In reaching that conclusion about the strength of the case, the Court of Appeal, like the jury before them, were wholly unaware of the existence of any evidence to suggest that Harry might have died from natural causes. That was to remain the position until the discovery was made of documents amongst the records of the hospital where Harry died and it is to that evidence that we must turn.

112. During the course of the post-mortem examination swabs and samples from Harry's faeces, stomach tissue and fluid, blood, lung tissue, bronchus, throat and cerebrospinal fluid ("CSF") were taken by Dr Williams and he submitted these for testing on 27 January 1998, the day of the post mortem examination. Staphylococcus Aureus ("SA") was isolated in Harry's stomach tissue and fluid, lungs, bronchus, throat and CSF. SA is a fairly common and often harmless bacteria but in some sites it can prove lethal.

113. The finding of SA in some sites is not in any way unusual or significant. It can be transferred during the post mortem process and such contamination can explain its presence at differing sites. However, CSF is normally a sterile fluid and the finding of SA in the CSF would on any view be an abnormal finding. It might in some circumstances result from contamination. SA might be present on the surface overlying the site from which the fluid was drawn and the act of penetrating the skin surface might force SA into the fluid so as to suggest falsely its presence within the fluid before testing.

114. Having discovered for the first time the existence of this evidence, those acting for the appellant submitted them to Professor Morris, a consultant pathologist employed by Morecambe Bay Hospitals NHS Trust who has published over 100 research articles many of which have concerned the role of bacteria and bacterial toxins in SIDS. His conclusion can be stated shortly as being that this evidence provided clear evidence upon which it was possible to conclude that in all probability Harry died from natural causes. Thereafter a number of opinions were obtained from a variety of experts by both the

prosecution and the defence, including further reports from some of those who gave evidence. It was apparent from these reports that there was disagreement amongst the doctors as to the significance of this evidence. In due course, in circumstances to which we will refer later, the defence called before us just Professor Morris and the prosecution called one expert Dr Klein, a Consultant in Paediatric Infectious Diseases and Immunology with a medical background of the same distinction as Professor Morris. It is unnecessary to recite in great detail the evidence that each gave and we hope that in summarising the evidence in lay terms we will not be thought to under-estimating the complexity of the medical issues involved.

115. Professor Morris explained that SA is commonly found in the upper airways of infants aged two or three months, but it does not normally occur in the trachea, bronchus and lungs. Finding SA in the lungs is, therefore, significant. He considered possible explanations for the finding including the organism being blown into the lungs during attempted resuscitation and contamination at the time of the autopsy but explained why he doubted these as explaining the finding in this case.
116. Of greater significance was the finding of SA in the CSF. Since the fluid is normally sterile, the finding of SA in pure growth was he considered highly significant. The possibility of contamination had to be recognised but there were other findings relating to the CSF which were important in assessing the possibility.
117. The first matter considered by Professor Morris to be of significance was that in the CSF there were 80 nucleated cells per microlitre of fluid and a significant proportion of those cells were polymorphs. He explained that nucleated cells can be found in post mortem CSF in the absence of infection but that polymorphs were diagnostic of inflammation. The findings indicated that the SA was present prior to death because the body was beginning to mount an inflammatory response. He said that this was strong evidence against the idea that the SA was a contaminant and equally strong evidence that the infection was significant.
118. Although he was unaware of results relating to the protein content of the CSF when he prepared his initial report and reached his conclusions, he subsequently discovered that the CSF protein was 3.24 grams per litre. This, he explained, was markedly raised and indicated inflammation of the meninges. He said that this finding added considerable weight to his previous conclusions.
119. There was also a finding that the CSF glucose level was low which was consistent with his conclusions but he recognised that the glucose level can fall after death in the absence of infection. It was thus taken on its own not diagnostic.
120. Professor Morris considered a suggestion made by doctors consulted by the Crown, particularly Dr Wills, the consultant medical microbiologist who had reported to Dr Williams on the samples, that the explanation for the finding of polymorphs in the CSF was that the bleeding from the subarachnoid haemorrhage had resulted in blood getting into the CSF and that the polymorph had been a reaction to the irritation caused by the red blood cells. He discounted that possibility for reasons that he explained. First the volume of red blood cells within the CSF meant that the amount of blood was very small indeed (a drop the size of a pin head). He suggested that it was "contrary to common sense to suggest that a drop of blood so small could cause meningitis". Second if Harry was well, as the evidence clearly suggested, some four hours before death, the proportion of nucleated cells to red cells was something of the order of 80 times too high to be the result of an injury less than 4 hours before. Thirdly a fresh subarachoid haemorrhage which produced 230 red cells per microlitre could not

account for the protein content of 3.24 grams per litre.

121. Professor Morris further considered that the fact that the SA that was isolated from several sites was of the same strain was significant. He said that this was not the pattern of a contaminant and the most reasonable explanation was that the organism had spread from the lungs through the blood to the CSF prior to death. He argued that if this was correct, it was difficult to avoid the conclusion that the bacteraemia had contributed to death. He thought that it was also difficult to imagine postulating a different cause of death and arguing that the bacteraemia was a mere coincidence.
122. Having thus considered the available evidence and the suggested theories to explain the evidence, Professor Morris concluded that "overwhelming staphylococcal infection is the most likely cause of death". He thought that the evidence was sufficiently strong that no other diagnosis could be sustained. He explained that the infection could cause death in one of three ways: (i) SA meningitis; (ii) SA toxin induced damage or (iii) SA induced toxic shock.
123. Professor Morris said that everything that he had put forward came from mainstream medicine and was not in any sense a maverick view.
124. Professor Morris was cross-examined by Mr Spencer QC on behalf of the Crown and the differing conclusions of the doctors consulted for the prosecution were put to him. It was suggested that his evidence did not fit the known facts and particularly the history that Harry appeared well until very shortly before his death. Professor Morris remained firm in his opinion.
125. It appeared to us to be of the utmost importance that no sort of suggestion was made to him that his view was other than a respectable medical opinion which others might share even though it was not the opinion of doctors upon whom the prosecution sought to rely.
126. This approach by the prosecution puzzled us. It was common ground that the material upon which Professor Morris relied was not available to the defence at the time of the trial. It followed that there was no way in which Professor Morris' evidence could have been obtained by the defence prior to trial. Putting to one side any question of fault in the failure to disclose the information, the evidence seemed to us to be material evidence satisfying the criteria contained in Section 23(2) of the Criminal Appeal Act 1968 that are required to be considered by the court before receiving fresh evidence. If that was so we reminded ourselves that the House of Lords had recently reaffirmed the proper approach of the Court of Appeal to such evidence in Pendleton [2002] 1 Cr. App. R. 441. The Court of Appeal is not to decide for itself what impact evidence might have had on the jury's deliberations and "must not intrude into territory which properly belongs to the jury". The position was clearly stated by Lord Bingham of Cornhill at page 454:

"The Court of Appeal can make its assessment of the fresh evidence it has heard, but save in a clear case it is at a disadvantage in seeking to relate that evidence to the rest of the evidence which the jury heard. For these reasons it will usually be wise for the Court of Appeal, in a case of any difficulty, to test their own provisional view by asking whether the evidence, if given at trial, might reasonably have affected the decision of the trial jury to convict. If it might, the conviction must be thought to be unsafe."

We failed to see how in a case of this difficulty, if there was no suggestion that Professor Morris' opinion was other than a respectable medical assessment of the position, we could conclude that it

might not have affected the jury's decision. If that assessment was right, it followed considering the guidance given by the House of Lords that since the jury was deprived of the chance of considering that evidence, the resulting conviction had to be viewed as unsafe.

127. We raised these matters with Mr Spencer at the conclusion of the first day and asked him to consider how if our assessment of the position was right, the prosecution could invite us to uphold these convictions. Mr Spencer explained to us that the prosecution's concern was whether Professor Morris' theory fitted the known facts. In particular, although the Professor had said in his reports that the release of bacterial toxins could lead to rapid death, it was not apparent that he had considered in detail the immediate history preceding death and in particular the very short time between the child appearing perfectly well and then collapsing from an overwhelming infection. Counsel drew attention to the observations of Judge LJ in R v Hakala [\[2002\] Crim. L.R. 578](#) [\[2002\] EWCA Crim. 730](#) in which he said:

"It is integral to the process that if fresh evidence is disputed, this Court must decide whether and to what extent it should be accepted or rejected, and if it is to be accepted, to evaluate its importance, or otherwise, relative to the remaining material which is before the trial jury: hence the jury impact test..."

Professor Morris concluded his evidence on the second day and Miss Montgomery QC for the appellant, no doubt reassured by the observations that we had made and aware that the cross-examination of Professor Morris had not caused him to modify his opinions nor had any suggestion been made that his was not a respectable medical opinion, decided that it was not necessary for her to rely on the further evidence which she had available to her.

128. Mr Spencer then explained that consideration had been given by the prosecution to its position and that whilst it remained their contention that Professor Morris was wrong as their evidence demonstrated, they did not suggest that it was other than a respectable medical opinion that merited consideration. Since it was clear that the Professor's view was not affected by the immediate history put to him by the Crown he recognised that the court could not second guess what impact it might have had on the jury for the reasons explained by Lord Bingham in Pendleton. He would, therefore, limit himself to calling just one of his potential witnesses, Dr Klein so that at least the contrary medical contentions were in the public domain. We agreed to that course.
129. Dr Klein, like Professor Morris, is clearly a doctor with considerable expertise relevant to the issues raised by the microbiological reports. Just as the prosecution did not suggest that Professor Morris' view did not represent a legitimate medical opinion in a difficult case, the defence accepted that Dr Klein's opinion was a perfectly mainstream medical expression of opinion.
130. In essence the evidence of Dr Klein was that the history, clinical features, pathological features and pathological investigations were not consistent with death from staphylococcal septicaemia, staphylococcal toxic shock or staphylococcal meningitis. He put the matter quite simply by saying that the known data "did not fit with anything I have ever seen". In each case he explained what symptoms before death and what findings at post mortem examination he would anticipate if the diagnosis suggested was to be considered as a possibility. He concluded in each case that there was no evidence of the anticipated sort which would justify the suggested cause of death.
131. As to the presence of SA in the CSF, Dr Klein acknowledged that it was a very unusual finding. He

said that if he had received such a report on a sample of a patient of his, he would strongly suspect that it was a contaminant and would immediately ask that the test be repeated. He agreed further that the combination of the finding of SA and of polymorphs was a very unusual combination. He did not think that the finding of polymorphs was as specific as was suggested by Professor Morris. Something had caused a reaction but it could be trauma.

132. When Dr Klein was cross-examined by Miss Montgomery he accepted that it was possible that Harry died from a non-classical toxin reaction. He acknowledged that the medical profession did not know the cause of a lot of sudden deaths in infants. In one of his reports Dr Klein said:

"The hypothesis that Staphylococcal toxins may in some as yet unexplained way lead to SUDI is interesting and clearly warrants further research."

133. We wish to record that we found both Professor Morris and Dr Klein to be equally impressive medical witnesses. If we had been required to reach a conclusion as to which of their compelling views was correct, we should have found it a very difficult decision to make. However that is not in any way the task that confronts us and there was certainly nothing in the evidence of Dr Klein that could have caused us to conclude that there was no prospect that the jury would have considered that Professor Morris' evidence was right.
134. From this it follows as the Crown acknowledged, that since there was evidence that was not before the jury that might have caused the jury to reach a different verdict on the count in respect of Harry; the verdict on that count has in our judgment to be viewed as unsafe and must be quashed.
135. For the reasons we have already explained, we are of the firm view that if Harry's death may have been from natural causes, it follows that no safe conclusion could be reached that Christopher was killed unnaturally.
136. Accordingly the conclusion that the verdict in respect of Harry's death is unsafe necessarily leads to a conclusion that the verdict in respect of Christopher's death is also unsafe and it too must be quashed.
137. These reasons were sufficient in themselves to dispose of the appeal but it is right that we should say a little more about two aspects of the case. The first is how it came about the microbiological results were not disclosed and the second is the statistical evidence. We must also record why the Crown decided it was inappropriate to invite the Court to order a re-trial.

### **Failure to disclose the microbiological reports in respect of Harry**

138. The microbiological results were undoubtedly known to Dr Williams. He had taken the samples and submitted them for testing by the hospital's laboratory. The fact that it was necessary to take such steps clearly shows that there was the possibility that they would reveal evidence relevant to the cause of death.
139. The results of the testing were considered sufficiently out of the ordinary for samples to be submitted to Withington Hospital in Manchester and the Central Public Health Laboratory in Colindale, London.
140. It is clear that Dr Williams was kept informed about the testing and on 3 March 1998 Dr Wills, the Consultant Microbiologist, wrote to Dr Williams saying:



"I think it is unlikely that this organism contributed to the death of the child. It is somewhat unusual to find a contaminating organism so widely spread and it may be that there was a transient or terminal bacteraemia."

141. It is clear that Dr Williams appreciated that this was information that needed to be considered before a final conclusion was reached on the cause of Harry's death. In a statement made as part of the preparation for this appeal, Dr Williams said:

"These reports were considered with the other post-mortem findings in reaching my diagnosis."

142. However Dr Williams made no reference to these results nor even to having submitted these samples for examination in any of the three statements he made for the trial. Oral committal proceedings were held in the Magistrates Court before the case was sent for trial at the Crown Court. Dr Williams gave evidence at those proceedings. The deposition of his evidence shows that no mention was made of these matters at that stage.
143. During examination in chief, Dr Williams was asked about the post mortem procedure for Christopher. He told the court he would usually "collect any samples that need collecting for microbiology, for example ... cerebrospinal fluid, swabs from the nose and mouth, although we do not have a protocol at Macclesfield and normally these have already been done by the paediatricians".
144. In respect of Christopher, microbiological tests were conducted on his blood and urine which showed no bacterial or viral infection. SA was isolated in the nasal and throat swabs. In contrast to the position in respect of Harry, these test results were made available to the medical experts for the prosecution and defence prior to trial.
145. The ordinary routine nature and importance of microbiological tests is clear from Dr Williams' evidence in relation to Christopher:

"I wouldn't have given a final cause of death until all the results were back on the microbiology and the virology and the various other investigations I did."

146. In respect of Harry Dr Williams in his evidence available pre-trial said:

"There is no evidence of acute infection ... There is no evidence that this child died as a result of natural disease."

In order to reach that conclusion, it is clear on his own evidence that Dr Williams had had to consider the unusual test results and reach conclusions as to why they could safely be discounted. There is no reference to his consideration of these matters nor of the reasoning by which he discounted the potential significance of these matters in his evidence pre-trial.

147. We are further satisfied that at no stage did Dr Williams draw the attention of any of the doctors examining the case on behalf of the appellant nor that of Professor David who was looking into the case on behalf of the Family Court to the existence of these abnormal microbiological results. It is important to record the reaction of some of these doctors to this failure.

148. Professor Berry was one of the defence experts. Having looked at each of the reports that he has provided and at his evidence at trial, it is abundantly clear that he has throughout dealt with this matter in a manner that is balanced, objective and independent as one might expect of one of the leading exponents of his field. He has not hesitated to say things that are adverse to the cause of the appellant if he believed that they were right. He said of the failure of Dr Williams to reveal matters:

"In routine practice it would be acceptable to mention only positive findings in the post-mortem report, followed by a note of other ancillary tests carried out that were negative. In the context of a police investigation it is best practice to include results of all ancillary tests to provide a complete record for anyone else who might need to interpret the post-mortem report later."

Later he said

"Defence experts are completely dependent on the original pathologist and the Crown to supply all relevant results and materials. I would no more expect another expert to withhold potentially relevant microbiology reports than I would expect him or her to withhold some of the microscopic slides or post-mortem photographs. This principle is especially important with respect to "surprise" results that could not have been anticipated by the defence expert."

149. Professor David who as we have made clear was acting as an independent expert on the instruction of the Family Court is equally critical. He says:

"It appears that all these reports, and the microbiology and virology reports, were all in the possession of Dr Williams, who chose to exclude them from the hospital records of Harry and to exclude them from the papers that were disclosed. Furthermore, there was no mention of them when Professor Berry and I went to see Dr Williams at Macclesfield Hospital, and similarly there was no mention of these results and reports when Dr Williams attended the experts' meeting.

The point I wish to make is quite simply that it is a matter of great concern that this wealth of laboratory data was not disclosed. There is no doubt that had these results been available, I would have referred to them in my report, and I would have investigated their possible significance further, not only in relation to the death of Harry but also the death of Christopher."

150. In a letter to solicitors acting in the care proceedings Professor David said:

"What is so extraordinary is that these results were obviously of special interest to the pathology department, to the extent that the samples were actually sent away to the headquarters of the Public Health Laboratory Service at Colindale for further testing, and yet despite this step being taken, none of these results were disclosed. The PHLS in Colindale is the national reference laboratory for microbiology, and I am at a loss to understand how all these results and laboratory data did not come to be passed into the care proceedings papers.

There is no doubt that had these results been available, I would have referred to them in

my report, and I would have investigated their possible significance further, not only in relation to the death of Harry but also the death of Christopher."

151. Professor Morris found it "astonishing" that the results of the CSF examination was not included in Dr Williams' report. He described it as an "error of judgment".
152. Professor Whitwell said that it was substandard practice for such results to be omitted from a report, particularly when that report may well form the basis of criminal or civil proceedings. Asked if she was entitled to assume that all potentially relevant material had been disclosed by the Crown's experts, she responded: "absolutely yes."
153. Dr Keeling, one of the Crown's own experts said that she was unaware of these results and added:

"I assumed that this was because there were no significant results from these investigations which might have bearing on the cause of death."
154. At the trial, there was again no mention of the microbiological results by anyone. It is quite clear that this resulted in large measure from the fact that Counsel for the prosecution and the Crown Prosecution Service were just as unaware of the existence of this material as all those doctors and lawyers, acting for the defence. Dr Williams revealed nothing in his evidence about these matters and he was not asked any direct questions about these matters in the main body of his evidence because no-one else knew that there was material of potential importance available.
155. It is clear, however, that the jury were interested in these matters and it shows a commendable awareness on their part that they asked a question that certainly provided an opportunity for these matters to be revealed even if it did not directly require the revealing of the information.
156. When Professor David gave evidence and advanced the possibilities in respect of Christopher of haemosiderosis, he referred to the tests carried out on Christopher's blood. The jury reacted to this by asking:

"Are there blood tests for Harry?"

157. After a short adjournment, Mr Spencer for the Crown provided the jury with this explanation:

"As I understand it, the answer is that there was no blood sample taken for chemical analysis at the Hospital in the case of Harry as there was for Christopher. There was a blood sample taken at post mortem which was simply for screening for the presence of drugs and it's been pointed out to me in the medical notes that there was a blood sample taken at the hospital for culture, in other words to see if there was any bacteria in that sample. That is as I understand it, but Dr Williams will be able to confirm."

The fact that Mr Spencer was unaware of the testing of the samples taken by Dr Williams at the post-mortem is all too clear from his observations. He indicated that Dr Williams would make the position clear.

158. During Cross-examination of Professor David, the issue of blood tests on Harry was again raised and the jury asked a further question:

"Why did Professor David analyse Christopher's blood for disease but did not analyse Harry's for comparison?"

159. Professor David responded:

"The answer I'm afraid is that a sample was not collected from Harry to measure the chemicals in his blood."

160. The Crown recalled Dr Williams to deal with these matters as they had indicated that they would. Dr Williams said:

"We've looked at the records as far back as we can. There is no record of a sample from Harry that was taken either during resuscitation or immediately after that was subject to a chemical analysis."

161. After a few further questions on the subject, the following exchange took place:

"Crown: Was a blood sample taken from Harry at post mortem...?"

Williams: Yes, a sample is always taken at post mortem

Crown: Do you know what was done with that?

Williams: That was submitted for toxicological examination and some of it would have been sent for viral studies."

162. On careful examination of these exchanges, it is clear that the answers given by Dr Williams were factually accurate. However, by the end of the exchange to which we have referred, Dr Williams was mentioning the very examination with which this appeal is concerned. To his knowledge the results were abnormal, albeit that he may have believed that the abnormality could properly be discounted after consideration. It is to our mind remarkable that knowing this matter had come into focus sufficiently for him to mention the examination in his evidence and knowing that he had not told either those connected with the prosecution or the defence doctors about the abnormality that he did not seize this opportunity to draw these matters to the attention of the prosecution.

163. We have had to consider carefully why Dr Williams behaved as he did. The first possibility is that he was deliberately concealing information which he knew showed that Harry may have died from natural causes. If that was the case it would be conduct of the most serious kind. Having studied all the material available to us we think that possibility can be discounted. It seems to us that throughout his dealings with the case, Dr Williams genuinely believed after the death of Harry that both Harry and Christopher died from unnatural causes. We do not believe that he was knowingly being a party to the putting forward of a false case.

164. Once we had eliminated that possibility, we were left trying to understand why it was that he had never revealed this material. Our provisional view was that his failure demonstrated that he had fallen a very long way short of standards to be expected of someone in his position upon whose evidence the court was inevitably going to be so dependent.

165. Having reached that view we thought it only fair before making a firm criticism of Dr Williams to offer

to him the opportunity to give evidence to explain his apparent shortcomings. We made clear that we did not think that he had acted in bad faith in the sense that we have already explained. The case was adjourned to see whether Dr Williams wished to answer the criticisms that had been raised against him. The response that we received was that having regard to our acceptance that he did not act other than in the honest belief that the case being advanced by the prosecution was a true case, he did not wish to avail himself of the opportunity that we had offered.

166. The only answer that we have, therefore, from Dr Williams was contained in a statement dated 5 September 2002. In that he said:

"It is not my practice to refer to additional results in my post mortem unless they are relevant to the cause of death, as the specimens were referred to another consultant."

167. We find that explanation wholly unacceptable. If it does correctly state Dr Williams' practice, then on the evidence available to us his practice is completely out of line with the practice accepted by other pathologists to be the standard. It is likely to mislead others, who may work on the same case and who will be denied the opportunity of considering the material in the way that Dr Williams explained that he found necessary, in reaching their own properly informed conclusions. It runs a significant risk of a miscarriage of justice. It is tantamount to saying "If I can discount it, nobody else need consider it". As an approach it only has to be voiced for the inherent danger to be obvious.
168. In so far as Dr Williams seems to suggest that the onus was on the defence experts to ask questions of him that would have revealed the existence of this information, we reject his contention. The evidence from the doctors quoted above shows the extent to which doctors reviewing the matter at a later stage are dependent upon the pathologist who conducted the original post-mortem to draw to their attention not only any material which justifies the original pathologist's conclusion but also any which reveals any abnormality that might need to be considered before being discounted. Where tests have been carried out and reported upon to the pathologist, his responsibility to make that material available for consideration by others is a clear one and his failure to do so may well mislead them into thinking that there have been negative findings when that is not the case.
169. Finally in relation to Dr Williams' involvement with this case, it is perhaps pertinent to record an overview of the pathology evidence expressed by Professor Byard a Specialist Forensic Pathologist at the Forensic Science Centre in Adelaide, Australia, who has particular expertise in cases of sudden infant and childhood deaths. He had been sent the papers in this case by the appellant's solicitors. His view was:

"Unfortunately there appears to have been significant and ongoing problems in the investigation of these deaths. Standard protocols were not followed and essential steps such as routine dissection and histology were omitted which prevented verification of alleged autopsy findings. As well, a number of potentially important diagnoses and conclusions were altered over time. For example, Christopher's initial cause of death of lower respiratory tract infection was withdrawn, observations of no significant haemorrhage within his lungs were changed to marked haemorrhage, .... The finding of retinal haemorrhages in Harry which was vital to sustain the diagnosis of shaken-impact syndrome was altered to no haemorrhage, brain lacerations were found to represent postmortem artefact, swelling of the spinal cord was not present and bruising of paraspinal tissues was also not able to be substantiated. This is not a unique situation with statements

in the literature in recent years that 'investigations into the pathology and circumstances of sudden infant death are often scanty and inexperienced' with significant omissions being documented when cases were audited. The Clark brothers demonstrate difficulties that may arise if cases are not fully investigated with all of the results being clearly summarised and discussed in the autopsy report. Trying to clarify findings, diagnoses and circumstances of death at a later stage may simply not be feasible due to a wide variety of possibilities other than inflicted injury."

170. Those observations substantially mirror our own views. Whether it would have been possible to ascertain with certainty the cause of death in either or both cases if a greater degree of expertise had been demonstrated and care taken in the examination, recording of results and consideration of the options we now find it impossible to say.
171. If the microbiological results had been considered, as they should have been at the time, then it seems highly likely that further tests would have been carried out at the time. It was the fact that such tests could no longer be undertaken as a result of the failure by Dr Williams to disclose the information that lay at the heart of the Crown's decision not to seek a re-trial in this case. They were also properly aware of the publicity that this case has attracted and of the resulting difficulty in obtaining a jury that would be free from any possible influence arising from such publicity. We endorse their decision not to seek a re-trial. It was clearly the right and proper course for the Crown to take. In any event, we would have taken a great deal of persuading that on the state of the evidence as we now know it to be, any jury could properly have been sure that either or both of these children were murdered. When the medical evidence is as divided as it is in this case, it seems to us that it would in all probability be impossible even if the case was reheard to reach a conclusion with the required degree of certainty about this matter.

### **Statistical evidence**

172. Finally we should say a little about the statistical evidence led before the jury. The matter was the subject of only brief argument before us and we certainly heard none of the evidence.
173. It is unfortunate that the trial did not feature any consideration as to whether the statistical evidence should be admitted in evidence and particularly, whether its proper use would be likely to offer the jury any real assistance. Inherent in the evidence were dangers. The jury were required to return separate verdicts on the two counts but the 1 in 73 million figure encouraged consideration of the two counts together as a package. If the jury concluded that one or other death was not a SIDS case (whether from natural causes or from unnatural causes), then the chance that the other child's death was a SIDS case was 1 in 8,543 and the 1 in 73 million figure was wholly irrelevant.
174. In any event, juries know from their own experience that cot deaths are rare. The 1 in 8,543 figure can do nothing to identify whether or not an individual case is one of those rare cases.
175. Generally juries would not need evidence to tell them that two deaths in a family are much rarer still. Putting the evidence of 1 in 73 million before the jury with its related statistic that it was the equivalent of a single occurrence of two such deaths in the same family once in a century was tantamount to saying that without consideration of the rest of the evidence one could be just about sure that this was a case of murder.

176. If the figure of 1 in 73 million accurately reflected the chance of two cot deaths in the same family, then the whole of the CONI scheme was effectively wasted effort. Seeking to provide guidance and monitoring against the possibility of a second cot death would be taking precautions against a risk that could effectively be discounted.
177. Like the Court of Appeal on the first occasion we are quite sure that the evidence should never have been before the jury in the way that it was when they considered their verdicts. If there had been a challenge to the admissibility of the evidence we would have thought that the wisest course would have been to exclude it altogether.
178. The argument before us would have addressed the question whether the 1 in 73 million figure was misleading in itself quite apart from the use made of it at trial. On the material before us, we think it very likely that it grossly overstates the chance of two sudden deaths within the same family from unexplained but natural causes. There is evidence to suggest that it may happen much more frequently than suggested by that figure although happily the risk remains a relatively unlikely one. The figure of 1 in 73 million was disputed by Professor Berry in his evidence who pointed to the obvious dangers of simply multiplying the risk of one such recurrence by the same figure to obtain the chance of two such deaths. Quite what impact all this evidence will have had on the jury will never be known but we rather suspect that with the graphic reference by Professor Meadow to the chances of backing long odds winners of the Grand National year after year it may have had a major effect on their thinking notwithstanding the efforts of the trial judge to down play it.
179. The Court of Appeal on the last occasion would, it seems clear to us, have felt obliged to allow the appeal but for their assessment of the rest of the evidence as overwhelming. In reaching that conclusion the Court was as misled by the absence of the evidence of the microbiological results as were the jury before it. We are quite satisfied that if the evidence in its entirety, as it is now known, had been known to the Court it would never have concluded that the evidence pointed overwhelmingly to guilt.
180. Thus it seems likely that if this matter had been fully argued before us we would, in all probability, have considered that the statistical evidence provided a quite distinct basis upon which the appeal had to be allowed.

## Conclusion

181. For the reasons we have explained we are quite sure that the Crown was right to recognise that these convictions could not be sustained once Professor Morris' evidence had been tested in cross-examination and further right not to seek a retrial of these matters. For these reasons we allowed the appeal and quashed the convictions.
182. We are aware that there is public speculation as to whether other convictions of mothers for killing their babies where the babies have died sudden deaths, are similarly unsafe. The matters to which we have referred are directly referable only to this case. If any other case is brought before this Court, it will receive the same anxious scrutiny by the court that we would like to think we have given to this case.