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Case No: PL15C00120

Neutral Citation Number: [2015] EWFC 99

IN THE FAMILY COURT

Sitting on the Western Circuit

Date: 8th December 2015

Before :

THE HONOURABLE MR JUSTICE BAKER

- -

IN THE MATTER OF THE CHILDREN ACT 1989

AND IN THE MATTER OF S (A CHILD) (CARE PROCEEDINGS; SURROGACY)

Between :

A LOCAL AUTHORITY	**Applicant**
- and -	
W (1)	**Respondents**
K (2)	
D (3)	
S (by her children's guardian) (4)	
-and-	
MRS A	**Intervener**

- -

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Kathryn Skellorn QC (instructed by **Local Authority Legal Services**) for the **Applicant**
Christopher Godfrey (instructed by **Stones, Solicitors**) for the **First Respondent**
Frances Judd QC and **Kambiz Moradifar** (instructed by **Woollcombe Young**) for the **Second Respondent**
Paul Storey QC and **Mark Whitehall** (instructed by **Nash and Co**) for the **Third Respondent**

Zahid Hussain (instructed by **The Family Law Company)** for the **Fourth Respondent by her children's guardian**
Abigail Bond (instructed by **Wolferstans**) for the **Intervener**

Hearing dates: 19th to 23rd and 26th to 30th October 2015

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Judgment

The Honourable Mr Justice Baker :

Introduction

1. On 13th February 2015, a baby girl, hereafter referred to as S, then aged just 40 days old, was taken to hospital by her fathers, a male couple hereafter called K and D, having been referred by their GP because of concerns about a possible heart murmur. She seemed alert and well on arrival but further examination revealed that she had intracranial bleeding. Police and social services became involved, and care proceeding were started. S was placed in the care of foster carers where she remains. Because of a number of complex issues, the case was transferred to me and in October 2015 I conducted a fact-finding hearing. This judgment is delivered following the conclusion of that hearing.

Background

2. D was born in 1983 and is therefore now aged 32. He has a degree in Classic Civilisations and a Masters in Egyptology. After initially working in specialist retailing, he then took employment in health service management, specialising in quality assurance. K was born in 1987 and is therefore now aged 28. After leaving school, he worked in the hotel industry. He was still in this employment when he met D. Subsequently, he obtained a degree in social work.

3. D and K met and began a relationship in the summer of 2009. On 29th November 2009, D was seriously injured falling down steps at the hotel where K was working. He suffered multiple skull fractures, subdural haemorrhage and brain damage. He underwent a bifrontal craniectomy operation involving evacuation of the bruising and haematoma. As a result of this serious injury, he sustained significant cognitive impairment including significant damage to his memory and executive functioning. In May 2010, D underwent further surgery which left him confused as to place and time for a period. His memory remained impaired. He was said to exhibit personality changes including impaired perception of emotions in other people. He was advised to abstain from drinking alcohol, but according to his partner K at one point he was drinking significantly. By October 2010, his memory was said to have improved and he returned to work. By May 2011, however, it was becoming clear that he was struggling in his previous managerial post and in the Autumn of that year, he lost his job. He subsequently brought a personal injuries claim against the hotel company and recovered damages.

4. D has serious and chronic problems with memory, insight and executive functioning. His condition is a significant factor in these proceedings for reasons I shall return to later in this judgment.

5. In May 2013, D and K went through a civil partnership ceremony and subsequently registered themselves as married. In August of that year, they bought a business and moved to accommodation in the same premises. They now run the business together. D works as the front of house of the business every day, and K is in effect the business manager responsible for the paperwork. I visited the premises in the course of the hearing.

6. In October 2013, K and D applied to the British Surrogacy Centre with a view to having a baby through a surrogate mother. In submitting written documents to the Centre, D asserted that there was no aspect of his medical history which might impair his ability to look after a child. Through the Centre they were introduced to a woman, hereafter referred to as W. W was born in 1974 and is therefore now aged 41. She has two children aged 24 and 22. In January 2014, K and D (described as "intended parents") and W, (described as "embryo carrier") entered into a surrogacy agreement whereunder K and D agreed to pay a total of £15,000 in nine instalments. It was agreed that there would only be limited occasional communication with W after the birth of the baby. It was further agreed that, although K was to provide sperm and therefore would be the biological father of any child that was conceived, D would be registered as the father of any child born as a result of the treatment.

7. K and D were matched with an egg donor and in April 2014, an egg from the donor was fertilised with K's sperm at the fertility centre and the egg implanted into W. Shortly afterwards, W reported that she had undergone a positive pregnancy test. Further examination confirmed that she was expecting twins, but subsequently it was discovered that she had suffered a heterotopic pregnancy for which she subsequently underwent a laparoscopic removal of a fallopian tube. Examination revealed that the other twin pregnancy was proceeding normally. Thereafter, W attended an antenatal clinic and K and D also attended those appointments. Examination of the foetus revealed that all was proceeding satisfactorily and foetal measurements were within normal range.

8. In November 2014, K and D met with their local health visitor. Details of the surrogacy arrangement were discussed. D informed the health visitor of his head injury in 2009. The health visitor notes recorded that he no longer required treatment although sometimes suffered from short term memory loss. D was described in these notes as being teetotal.

9. A further antenatal assessment on 26th November 2014, revealed that the foetus was lying in a cephalic position. At a planning meeting at the hospital that day, it was agreed that a declaration of parenting would be signed so that K and D could register the baby themselves. In December, W experienced a number of problems commonly associated with late pregnancy and attended hospital on two or three occasions. On 13th December she attended a birth options clinic and requested an elective caesarean. She was concerned that she might develop a strong bond with the baby following a long labour with adverse psychological consequences. It was agreed that she would have an elective caesarean at 39 weeks, although there would be an attempt at vaginal birth in the event of earlier onset of labour.

10. Shortly after midnight on 5th January 2015, some four days before the estimated delivery date, W was admitted to hospital having suffered a spontaneous rupture of her membranes some three hours earlier. K and D were called to the hospital. During labour, after the baby's head had engaged, it was discovered that the baby was lying in the right occipitoposterior position. For the baby to be delivered, it was necessary for the head to be rotated, a process which can occur naturally or alternatively be performed manually by the midwife. In W's case, rotation occurred naturally. At 12.43 that afternoon, after just under nine hours of labour, W gave birth to a little girl, hereafter referred to as S. Within three minutes, the baby was taken out of the delivery room and handed to K and D. Later, W and her daughter visited K, D and S in the

hospital room for a few minutes. At 18.20, W was discharged home. Examination of the baby after birth recorded inter alia that her suture lines and fontanelles appeared normal. She was discharged from hospital in the care of K and D. The following morning, they noticed that S had been sick in her cot. They contacted the hospital midwife who reassured them that all was well. Later that day, S's birth was registered by W and D.

11. Over the next few days, midwives carried out regular visits. When S developed oral thrush, K contacted the GP who prescribed nystatin. On 20th January, a health visitor carried out an initial visit. Her records describe the baby as being alert and lively with a lusty cry, looking pink and alert, and feeding "hungrily". The notes added that she was being fed with "ready-made formula to prevent mistakes – D has some issues with memory". The health visitor also noted that K was the main carer whilst D runs the business and that "K has been emotional as he is so happy to be a father". In his statement in these proceedings, K stated that S's eyes were dark from birth and during the health visitor's first visit he had mentioned that she seemed to roll her eyes on occasions in opposite directions. The health visitor reassured him that at this age S could not focus and that was why her eyes "rolled". K states that he raised this matter again on another occasion with the health visitor and that D and K's mother, (hereafter "Mrs. A") had mentioned this.

12. On 28th January, the health visitor visited again and carried out a three-week check. On this occasion, K and his mother were present. S was described as feeding well and K said that he had no concerns. The health visitor recorded: "Handles well, has a lusty cry…seen to soothe at K's voice and stopped crying when cuddled by him. Reciprocity observed." The health visitor also noted that K was happy with the situation, had good support from D and Mrs. A "who is relocating to the area". Thereafter, for the next few days, S was in good health. The only concern about her health was that she was not opening her bowels every day, for which the health visitor advised giving her cooled boiled water. She was seen by many friends and relations, although the only people who had sole care of her were K, D and Mrs. A.

13. The account of the events of the next few days set out below is derived principally from the evidence given by K and Mrs. A. The principal written documents are a "chronology" complied by the fathers and Mrs. A shortly after S was admitted to hospital, the written statements filed in these proceedings by K and Mrs. A, K's police interview, and the oral evidence given by K and Mrs. A. I note that these accounts are substantially consistent. Because of D's memory problem, for reasons set out more fully below, the court has not considered any statement made by D in connection with these events, nor did he give oral evidence about them.

14. On 4th February, the health visitor attended the home again. On this occasion, K was present alone with the baby. D was at a concert with a friend. S was again said to be feeding well. The health visitor again noted: "handles well – lusty cry". S was said to have been snuffly but with no pyrexia. K was said to be coping well and reported no concerns, except for the ongoing problem opening her bowels.

15. On 5th February, Mrs.A arrived at about 4 pm to look after S while D and K went to the theatre. Between 4 and 5, she looked after S while K went into the business to finish up for the day. Just as they were about to leave, the family's dogs came into the kitchen, whereupon S woke up and started crying. In the fathers' chronology, it is

recorded that: "Mum [i.e. Mrs. A] picked S up quite quickly, by under the arms rather than behind her neck and bottom and put S against her shoulder she feels quite quickly. S's head hit Mum's shoulder, Mum turned her head to face into her neck." In his evidence, K said that he had been unaware of this incident at the time and only heard about it after S was admitted to hospital eight days later. S was crying but Mrs. A urged the fathers to go to the theatre. After they left, Mrs. A recalled S being grizzly and that she cried when put down. On arriving back from the theatre, the fathers found that S was still grizzly and after retiring to bed K took her downstairs and they watched television together until she fell asleep. At about 1 – 1.30 am, he put S back in her cot and thereafter she slept well.

16. The next day, 6th February, K got up with S just before 6, fed her downstairs and then took her back up to the nursery to change and dress her. That morning, he took her to the local city for the day where he had various errands and appointments. D stayed behind to work in the business. K records nothing happening of any significance during the day, save that during a visit to Mrs. A's house S was bounced vigorously by Mrs. A's partner on his knee, an incident which K recorded on his phone. At about 4pm, K and S arrived home. At 5, K went into the business to finish up for the day, leaving D feeding S in the living room. K subsequently recalled that on this occasion he observed D winding S in an inappropriate way, tapping her on one point on her back on her nappy line. In his written statement, K said that D had been following advice given by the health visitor too literally and had also not supported S well so that her head would be jiggled around. K said that he had "repeatedly tried to get D to wind her differently." In oral evidence he described what D had been doing on this occasion as "rough". S was crying and K told D to stop. That evening, S did not sleep well and kept waking up. After K put her on her front, she went to sleep.

17. On 7th February, K looked after S at home for most of the day while D worked in the business. During the morning, she was sick on one occasion. An examination of D's Facebook pages indicates that at one point in the afternoon he was looking after S alone while K was in the business. S seemed irritable, so the fathers took her for a drive in an effort to settle her. At one point on the trip, K had to execute an emergency stop to avoid another vehicle. S slept through this incident. By the time they got home, Mrs. A had arrived for the night. During the evening, S was sick on Mrs. A's dress. They went to bed, K and D in their bed with S in her usual place in a crib by K's side of the bed, and Mrs. A in the spare room at the end of the corridor with the door open. K recalls asking D to feed S when she woke but thereafter slept through the night and has no recollection of anything that happened. Mrs. A's evidence is that she read for a while and then turned her light off but some time after at about 1 am she heard the sound of a door latch (in oral evidence she was unable to say which door) and saw D walking along the corridor holding S. They went downstairs and Mrs. A went to sleep. At about 2, she heard S grizzling downstairs, and went down and on entering the living room saw D just sitting down on the sofa with S in his arms. She took over, D went upstairs, and Mrs. A continued to sit with her for several hours until S went to sleep at about 5 whereupon Mrs. A put her back into her crib next to K.

18. On 8th February, K was woken by the baby alarm sounding because the battery was low. S was asleep on her front in her crib. D got up to attend to the business and K went back to sleep. Later he and S got up and he looked after her for the day. S was

sick several times during the day. At around midday, K was passing the baby to his mother in the kitchen when he moved his arm under her head a little too quickly and S cried. K was upset that he had hurt her and his mother had told him that S had made the same noise last night when she moved her. Following this, K had phoned the NHS out of hours doctor explaining that S had been sick and was irritable and had cried when her head was moved. K was advised to bring S into the out of hours centre. The doctor's record of the subsequent visit reads: "Has improved since call. Is of normal colour now (whereas was pale earlier). No history of cyanosis. No cough. Bringing up end of formula…large normal bowel movement this morning (prior to this had not had a stool for 1 week) on appearance appears well. Systolic murmur…may have reflux but short history so far". The doctor said he would write to the GP about the possible heart murmur.

19. On the following day, 9th February, K telephoned the family doctors' surgery and spoke to one of the GPs whose note reads: "Unwell for 3 days, background of longer history of constipation. Vomiting for 2-3 days. Overnight listless and drowsy, reviewed by [out of hours doctors] last night". K was advised to bring the baby into the surgery which he did later that day. The GP's record describes the vomiting as being "low pressure – sounds like posseting". The GP thought the heart sounds were normal and made a note that the issue of a potential heart murmur should be revisited at the 6-8 week check.

20. The following day, 10th February, the health visitor visited the home again. K was present with S. The health visitor's notes record that she was told of a four-day history of being unwell. S had not had her bowels open for a few days and was vomiting. The notes also state that S has had a pallor and was slightly pyrexial over the weekend. She advised K that S should be seen by the doctor again for a further assessment. As a result, S was taken back to the GP that day. On this occasion, S was seen by a different GP whose note recorded that he was told "slight weight loss, less vomiting today, Dad states blue lips when feeding." . On examination, this GP thought he detected a heart murmur and, as a result of this, and because of the report of her upper lip turning blue when feeding, he agreed to refer S to the local hospital paediatric department for an urgent outpatient appointment. In his statement in these proceedings, K said that he was "incredibly anxious" but had been reassured by the GP who had told him that the weight loss was not significant but that he should phone the surgery or NHS Direct if he had concerns.

21. On the morning of 11th February, the health visitor spoke to K who told her that S was continuing to have reflux. They discussed the heart murmur, and the health visitor reassured K that heart murmurs are very common and he should try not to panic about it. It was agreed that another health visitor would visit the house the following day. When the health visitor visited on 12th February, she noted that S's weight had dropped and advised K to take S to the GP again. On this occasion, the health visitor recorded S as being "a good colour, pink and healthy looking". K reported that S had kept down three bottles of feed, had had wet nappies and "seemed better today". Following this visit, one of the fathers telephoned the surgery and an appointment was made for the following Monday, the 16th.

22. The next day, Friday 13th, as agreed three days earlier, the GP faxed a referral to the local hospital paediatric department. Upon receiving the letter, the hospital doctor advised the GP that S should be seen that day because of the concern about a possible

heart murmur. The surgery informed the fathers who duly took S into the hospital. When they received this phone call, the fathers had been out with S who had been heavily sick during the trip.

23. According to hospital records, S was presented to the hospital at 17.53 that afternoon. A history was taken focussing in particular on the account of vomiting. It was recorded that S had become unwell six days earlier, had appeared pale, was more lethargic than normal, and would vomit after every feed. K also told the doctors about the blue discolouration of the upper lip on feeding. On the first examination, no abnormality was detected. She was noted to have mottled skin on her arms and legs but her peripheries were described as warm and she was described as "alert and appropriate". On the second examination by the specialist registrar, she was described as "alert, not irritable". Examination of S's head revealed a circumference on the 99.6 centile, (compared to the 91st centile at birth and 75th centile at the first health visitor check) and her anterior fontanelle was described as "large, soft" and her posterior fontanelle as "palpable". No distended skull variation was seen and her eye movements were described as normal. No heart murmur was detected. A blood gas sample was taken and her haemoglobin recorded at 109g/l. At this stage, the provisional diagnosis was that she was suffering from pyloric stenosis and she was admitted overnight for observation.

24. At 9 pm in the evening, S took 70 mls of milk and then vomited. She was transferred into the paediatric assessment unit. At 10 pm in the evening, she took another 55 mls of milk and then vomited again. At midnight she took 70 mls of milk. At 2 am on the following morning, she took 45 mls and then vomited again. During the night, a nurse noted that she was "very unsettled and difficult to console" and looked "pale and mottled" and that she had a "noticeably large head and floppy head when handling, irritable on handling. Eyes appear to be uncoordinated". At 4 am, she took 30 mls of milk which she tolerated and then settled. K was staying overnight at the hospital but had little sleep and was described in the hospital notes as "tearful at times".

25. At 8.45 am on the 14th, S was reviewed by a registrar who noticed "widened sagittal suture and large anterior and posterior fontanelles" and directed ultra sound and MRI investigations. At 9 am, S took 120 mls of milk. She was then examined by Dr O, a consultant paediatrician, who re-measured her head circumference and found it to be half a centimetre more than the evening before. He directed that there should be a CT scan and ophthalmic examination. The record of this examination states inter alia "K has shown me a video (6th February 2015) of S being bounced on his step dad's knee. Not vigorous but head not well supported. No other events recalled – this information was offered spontaneously i.e. without prompting". The paediatrician attempted an examination of the retina and optic nerve but was unsuccessful. At 12 noon, S took 30 mls of milk. At some point thereafter, (the exact time is unclear), S was examined by a consultant ophthalmologist who observed "retinal haemorrhages consistent with non-accidental injury". At 14.00, a CT scan was performed, revealing extensive bilateral subdural haemorrhages. It was decided to refer S to Bristol Children's Hospital. Her fathers were told that her injures were thought to be non-accidental. Social services were informed and it was agreed there would be a section 47 investigation. Blood tests were carried out revealing her haemoglobin level to be 99. A consultant ophthalmologist carried out a further examination of S's eyes and noted multiple intraretinal haemorrhages in both eyes, although the note indicates that S had

been crying during the examination. A nursing note recorded that S had been very fractious throughout the day with high pitched cries. The nurse also recorded that over a 5 hour period she had observed K show ease and confidence at handling S and giving instructions and guidance to D. The nurse added that K had been the one asking lots of questions and sharing his concerns whereas D had remained very quiet throughout. K had become very emotional at one point, wailing and crying and being consoled by his mother as S was seen off to Bristol in the ambulance. D is also said to have cried at that point. At 17.30, the fathers and Mrs A left the hospital.

26. En route, the accompanying nurse was concerned about the effect of the vibrations on S and asked the driver to slow down. After arriving at Bristol, S underwent an MRI examination which confirmed the presence of subdural haemorrhages. It was also noticed that there was some evidence of parenchymal abnormality although there was no definite evidence of more widespread hypoxic – ischaemic change. Subdural blood was also seen in the thoraco-lumbar region. A surgical procedure, a right-sided fontanelle tap, was carried out and blood-stained cerebrospinal fluid aspirated from the intracranial subdural space. Afterwards, her head circumference reduced and her fontanelle appeared shrunken. Further blood tests were carried out and her haemoglobin recorded at the low level of 77. A skeletal survey was carried out but no evidence of bony injuries was detected. By 8 am on the following morning, her haemoglobin level had risen to 92. Following S's transfer to Bristol, an ophthalmological registrar reviewed her on 16th February and noted pre-retinal haemorrhages centred on the disc together with scattered superficial intra-retinal haemorrhages. On 18th February, S was examined again by the distinguished consultant ophthalmologist Miss Williams who recorded the presence of bilateral retinal haemorrhages in both eyes, including the pre-retinal, intra-retinal, and superficial layers.

27. During the following days, S's condition continued to give cause for concern. The subdural haematomas appeared to increase in size and the anterior fontanelle continued to be seen as bulging on occasions. A series of further procedures were carried out (specifically, bilateral transfontanelle aspirations on the 19th, a right-sided fontanelle tap on the 21st and a right parietal burrhole drain on the 24th) in which increasing volumes of fluid were removed. Despite this, her head circumference remained very high – above the 99.6th centile – for a number of days. The fluid removed was variously described by the different doctors who carried out the procedures. On the 14th, it was described as "blood-stained CSF". On the 19th, the operation note included no description, although according to Mr. Carter, the surgeon who gave evidence before me, microscopic analysis described samples from the fluid as "blood-stained" and other microbiological records suggested that the samples approximated frank blood. On the 21st, the operation notes recorded that "s[ub]d[ural] blood came out under pressure (the word "blood" being underlined three times in the note). On the 24th, the operation notes recorded "straw coloured fluid under high pressure with some altered blood staining". On the 24th, her haemoglobin was measured at 101.

28. During these days, K telephoned the hospital repeatedly to check on S's condition and D also telephoned on occasions. W was also informed about what had happened to S and contacted the hospital regularly. She indicated that she was willing to have a role in S's life if it transpired that S had been injured in the care of her fathers. K and D

had supervised contact at the hospital and W also visited S there. All were reported to handle the baby well.

29. On 19th February, the local authority issued care proceedings. Prior to the first court hearing, W's solicitors circulated a letter in which she confirmed that she was no longer willing to agree to the making of a parental order in respect of S and was going to request that the baby be returned to her care. On 20th February, at the first hearing before Mr. Recorder Powell, an interim care order and case management order were made and the case allocated to be heard by me.

30. On 5th March, K and D were interviewed separately by the police.

31. On 6th March, after a further surgical procedure in which a small amount of bloodstained CSF was aspirated, S experienced a number of seizures for which she was prescribed medication. Gradually her condition, including her head circumference, stabilised, and on 17th March she returned to the local hospital. No further seizures were noted and on 23rd March she was discharged into foster care. On 16th April, the foster carer reported concerns to the GP about a change in S's head shape and drowsiness. It seems that both W and K had pointed out these changes to the foster carer. Following this, she was examined again at the local hospital but no concerning findings were noted. The fontanelles had now nearly closed but the sagittal sutures were now recorded as being overlapping and ridged as a result of decompression following the intracranial surgery. Examination by a paediatric physiotherapist revealed concerns about her motor development, although it was difficult to carry out a full assessment because S was irritable on handling. On 29th April, her condition was reviewed at Bristol where she was described as having made excellent progress and discharged from further attendance at that hospital. After further physiotherapy, some improvement was noted in her motor development although it was felt that her head fell to the right in some positions and she had some slight stiffness in her left hand. The foster carer reported increased bouts of screaming and poor sleep, but opthalmic examination revealed no residual retinal haemorrhages and no other evidence of damage in the eyes. By 13th May, S's head circumference had dropped to the 91st centile. An MRI scan carried out on the 18th June revealed significant improvements in the appearance of her brain with only tiny residual subdural effusions in the left frontal region. The parenchymal changes had also improved and there was no residual spinal subdural haemorrhage.

32. Meanwhile, a series of case management hearings took place before me. W confirmed that she no longer consented to the making of a parental order and that she wished to apply for the return of S to her care. Enquiries were made through the fertility clinic to establish whether the egg donor had any relevant medical history. She agreed to answer questions and no relevant history was disclosed. Expert reports were commissioned and the case listed for a fact-finding hearing before me starting on 19th October 2015. Meanwhile, S remains in foster care with supervised contact several days each week with K and D, and, separately, with W.

Threshold findings

33. The findings sought by the local authority in support of its case that the threshold conditions under s.31 of the Children Act 1989 are satisfied went through several minor amendments prior to and during the hearing (not surprisingly, in the light of

developments in the evidence). By the time of final submissions, the findings sought, as refined by Miss Kathryn Skellorn QC on behalf of the local authority, were as follows.

(1) S sustained all or some of the following (a) bilateral subdural haemorrhagic effusion overlying both cerebral hemispheres; (b) bilateral subdural collections within the posterior fossa, either side of the cerebellum; (c) areas of subarachnoid blood over both cerebral hemispheres; (d) multiple contusion injuries to the white matter of the brain including within the right temporal lobe, right frontal lobe and right occipital lobe; (e) extensive spinal subdural haemorrhage in the lumbar region; (f) bilateral pre-retinal and retinal haemorrhage; (g) raised intracranial pressure and associated encephalopathy with vomiting, pallor, irritability and lethargy.

(2) (Severally) each of the above did not have an organic cause, a perinatal cause, or an accidental cause, but rather was caused by or consequential to one or more episodes of trauma.

(3) The said episode(s) of trauma were inflicted upon S by one or more of the following adult carers in the period 6th to 13th February 2015 (a) K (by shaking +/- impact) and/or D (by shaking +/- impact and/or by traumatic handling generating acceleration-deceleration forces +/- impact) and/or Mrs. A (by shaking+/- impact).

(4) The three named adult carers failed to protect S.

(5) K, (1) as D's partner, husband and carer and (2) from his extensive involvement in the civil litigation relating to D's personal injury failed to protect S from significant harm in that he permitted D to have unsupervised care of her in the knowledge that (a) medical assessments had identified significant residual impairments upon D's executive function, and his day-to-day life skills; and (b) there was a potential for his husband to become cognitively overwhelmed, a likelihood of him struggling in new situations, in learning new information, tasks or routines, in generating solutions, in responding flexibly and in solving problems in unstructured environments; (c) D had limited insight into the needs of others and a poor appreciation of cues.

34. This last proposed finding raises separate issues which I shall return to at the end of this judgment. The principal focus of the hearing, however, was directed at the issues, succinctly summarised by Miss Skellorn in an earlier case summary: the injuries suffered by S, their causation and timeframe, and the identification of potential and actual perpetrator(s).

The Law

35. The law to be applied at fact-finding hearings is well established. I have set it out at length in a number of cases, for example *Re JS* [2012] EWHC 1370, *Re AA (Fact-finding hearing)* [2012] EWHC 2647 and *Re IB and EB (Children)* [2014] EWHC 369. Inevitably, further insights arise from other cases, and I think it would be helpful

to set out the legal principles again, in somewhat briefer terms, drawing on what I said in ***Re IB and EB***, but incorporating a number of additional comments.

36. First, the burden of proof rests on the local authority. It is the local authority that brings these proceedings and identifies the findings that they invite the court to make.

37. Secondly, the standard of proof is the balance of probabilities: ***Re B*** [2008] UKHL 35. In assessing whether or not a fact is proved to have been more probable than not, I bear in mind that

> "Common-sense, not law, requires that in deciding this question, regard should be had to whatever extent is appropriate to inherent probabilities," (per Lord Hoffman in ***Re B*** at paragraph 15)

38. Third, findings of fact in these cases must be based on evidence. The court must be careful to avoid speculation, particularly in situations where there is a gap in the evidence.

39. Fourth, when considering cases of suspected child abuse, the court "invariably surveys a wide canvas," per Dame Elizabeth Butler-Sloss, P, in ***Re U, Re B (Serious Injury: Standard of Proof***) [2004] EWCA Civ. 567, and must take into account all the evidence and furthermore consider each piece of evidence in the context of all the other evidence. As Dame Elizabeth observed in ***Re T*** [2004] EWCA Civ.558,

> > "Evidence cannot be evaluated and assessed in separate compartments. A judge in these difficult cases must have regard to the relevance of each piece of evidence to other evidence and exercise an overview of the totality of the evidence in order to come to the conclusion of whether the case put forward by the local authority has been made out to the appropriate standard of proof."

40. Fifth, whilst appropriate attention must be paid to the opinion of medical experts, those opinions need to be considered in the context of all the other evidence. In ***A County Council v K D & L*** [2005] EWHC 144 (Fam) at paragraphs 39 and 44, Charles J observed,

> > "It is important to remember (1) that the roles of the court and the expert are distinct and (2) it is the court that is in the position to weigh up the expert evidence against its findings on the other evidence. The judge must always remember that he or she is the person who makes the final decision."

Later in the same judgment, Charles J added at paragraph 49,

> > "In a case where the medical evidence is to the effect that the likely cause is non-accidental and thus human agency, a court can reach a finding on the totality of the evidence either (a) that on the balance of probability an injury has a natural cause, or is not a non-accidental injury, or (b) that a local authority has not established the existence of the threshold to the civil standard of proof … The other side of the coin is that in a case where the medical evidence is that there is

> nothing diagnostic of a non-accidental injury or human agency and the clinical observations of the child, although consistent with non-accidental injury or human agency, are the type asserted is more usually associated with accidental injury or infection, a court can reach a finding on the totality of the evidence that, on the balance of probability there has been a non-accidental injury or human agency as asserted and the threshold is established."

41. Sixth, in assessing the expert evidence I bear in mind that in cases involving a multi-disciplinary analysis of the medical information conducted by a group of specialists, each bringing their own expertise to bear on the problem, the court must be careful to ensure that each expert keeps within the bounds of their own expertise and defers, where appropriate, to the expertise of others.

42. Seventh, the evidence of the parents and any other carers is of the utmost importance. It is essential that, where possible, the court forms a clear assessment of their credibility and reliability. They must have the fullest opportunity to take part in the hearing and the court is likely to place considerable weight on the evidence and the impression it forms of them (see ***Re W and another (Non-accidental injury)*** [2003] FCR 346). In assessing the evidence of the parents (as with any other witness) I bear in mind their personal characteristics and in particular, any disabilities from which they suffer which may impinge on their evidence. I shall return to the specific difficulties concerning D's evidence in a moment. I also bear in mind the observations of Mostyn J in ***Lancashire County Council v R*** [2013] EWHC 3064 (Fam)

> "The assessment of credibility generally involves wider problems than mere 'demeanour' which is mostly concerned with whether the witness appears to be telling the truth as he now believes it to be. With every day that passes the memory becomes fainter and the imagination becomes more active. The human capacity for honestly believing something which bears no relation to what actually happened is unlimited. Therefore, contemporary documents are always of the utmost importance"

43. Eighth, it is common for witnesses in these cases to tell lies in the course of the investigation and the hearing. The court must be careful to bear in mind that a witness may lie for many reasons, such as shame, misplaced loyalty, panic, fear and distress, and the fact that a witness has lied about some matters does not mean that he or she has lied about everything (see ***R v Lucas*** [1981] QB 720).

44. To this I add the following insight of Peter Jackson J in the case of ***Lancashire County Council v The Children*** [2014] EWHC 3 (Fam), para 9. Having quoted my summary of the law from an earlier case he added:

> "To these matters I would only add that in cases where repeated accounts are given of events surrounding injury and death, the court must think carefully about the significance or otherwise of any reported discrepancies. They may arise for a number of reasons. One possibility is of course that they are lies designed to hide culpability. Another is that they are lies told for other reasons. Further possibilities include faulty recollection or confusion at times of stress or when the importance of accuracy is not fully appreciated, or there may be inaccuracy or mistake in the record-keeping or

> recollection of the person hearing and relaying the account. The possible effects of delay and repeated questioning upon memory should also be considered, as should the effect on one person of hearing accounts given by others. As memory fades, a desire to iron out wrinkles may not be unnatural – a process that might inelegantly be described as 'story-creep' – may occur without any necessary inference of bad faith."

45. Ninth, as observed by Dame Elizabeth Butler-Sloss P in *Re U, Re B*, supra

> "The judge in care proceedings must never forget that today's medical certainty may be discarded by the next generation of experts or that scientific research would throw a light into corners that are at present dark."

46. The Court must always bear in mind the possibility of the unknown cause: *R v Henderson-Butler and Oyediran* [2010] EWCA Crim. 126; *Re R (Care Proceedings: Causation)* [2011] EWHC 1715 (Fam)

47. Finally, when seeking to identify the perpetrators of non-accidental injuries the test of whether a particular person is in the pool of possible perpetrators is whether there is a likelihood or a real possibility that he or she was the perpetrator (see *North Yorkshire County Council v SA* [2003] 2 FLR 849. In order to make a finding that a particular person was the perpetrator of non-accidental injury the court must be satisfied on a balance of probabilities. It is always desirable, where possible, for the perpetrator of non-accidental injury to be identified both in the public interest and in the interest of the child, although where it is impossible for a judge to find on the balance of probabilities, for example that Parent A rather than Parent B caused the injury, then neither can be excluded from the pool and the judge should not strain to do so (see *Re D (Children)* [2009] 2 FLR 668, *Re SB (Children)* [2010] 1 FLR 1161).

The hearing

48. The hearing took place in Exeter in October 2015. The parties were represented as follows: the local authority by Kathryn Skellorn QC; K by Frances Judd QC and Kambiz Moradifar; D (through his litigation friend) by Paul Storey QC and Mark Whitehall; W by Christopher Godfrey; Mrs. A by Abigail Bond; and S, through her children's guardian, by Zahid Hussain. The preponderance of the advocacy was carried out by the three leading counsel, all of whom are recognised as leading specialists in cases of alleged non-accidental injury. The court is very grateful to them for their insight and industry and the clarity of their questions and presentation. In addition, however, taking my cue from the observations made by Mr. Hussain in his brief submissions at the conclusion of the hearing, I wish to pay tribute to the unsung efforts of junior counsel, their instructing solicitors and legal executives, and the other professionals, in particular the social worker and guardian, and to D's litigation friend. Although a casual observer might have thought that the only protagonists at the hearing were leading counsel and the judge, this court is well aware of, and very grateful for, all the hard work of all those involved in preparing this case for hearing.

49. The court bundles consisted of 14 lever arch files. This included expert evidence from a number of experts – Dr. James Tonks, clinical psychologist, Dr. Dipak Kanabar, consultant paediatrician at Evelina Children's Hospital, Guy's Hospital, London, Mr. William Newman, consultant paediatric ophthalmologist at Alder Hey Children's

Hospital, Liverpool, Dr. Kieran Hogarth, consultant radiologist at the Royal Berkshire Hospital, Reading, and Mr. Jayaratnam Jayamohan,, consultant paediatric neurosurgeon at the John Radcliffe Hospital, Oxford. Oral evidence was given by the following witnesses: Dr. Tonks; Dr. Kanabar; Dr. Hogarth; Mr. Newman; Dr. O, consultant paediatrician responsible for treating S following her admission to the local hospital; Mr. Carter, the consultant paediatric neurosurgeon who was one of the team who performed operations on S at the Bristol Children's Hospital; Mr. Jayamohan; D; JB, the health visitor; Mrs. A; and K. At the conclusion of the evidence, I received extensive written submissions from counsel, supplemented by oral submissions. Judgment was then reserved. I regret that delivery of this judgment has been somewhat delayed by other judicial commitments. It should be noted that, whatever the outcome of this hearing, there is likely to be some further litigation because, in addition to the care proceedings brought by the local authority, there is the further dispute between D and K and W as to with whom S should hereafter live.

The family members

50. Although the evidence of family members was heard towards the end of the hearing, it is convenient to consider it at this point because of the unusual circumstances concerning D which set the parameters of the hearing.

51. I start by considering the evidence of Dr James Tonks, who is a consultant psychologist with a particular expertise in the field of brain injury and the assessment of neuro-cognitive and socio-emotional functions. His instructions were to assess D in the context of the current proceedings, including an assessment of his capacity to instruct his solicitors and of his current neuro-psychological profile, in particular his memory capacity and executive function. In passing, I record that Dr Tonks spoke in his evidence of another case in which he is involved with compiling and implementing a plan to enable an individual with impaired cognitive functioning to care for a child.

52. Dr. Tonks first reviewed the various experts reports prepared for the personal injury claim which D pursued following his accident in 2009. The claimant's expert psychologist reported evidence of severe brain injury, indicated by the length of post-traumatic amnesia of several weeks' duration and the scanning of the brain which showed damage to both the left and right frontal brain areas together with left temporal damage and a midline shift, regarded as a phenomenon which would increase the likelihood of long term negative neuro-cognitive effects. The claimant's psychologist identified problems with immediate memory, auditory verbal learning and delayed memory, and also with D's "executive functioning". This was defined by Dr. Tonks as meaning a set of behavioural competences based on the effectiveness of the frontal lobes in the brain, including speech production, decision making, planning, initiative, assigning priority, sequencing, motor control, emotional regulation, inhibition, problem-solving, impulse control, establishing goals, monitoring the results of action and self-correcting. The claimant's psychologist at this stage identified impaired ability to inhibit responses and respond to novel and unusual situations. He concluded that executive functioning impairments became more apparent when greater demands were placed upon D. In such circumstances, he appeared to become cognitively derailed by the complexities of such tasks. He had a profound deficit in verbal memory at both immediate and delayed levels and furthermore did not have accurate insight into the nature of his memory errors. The

expert concluded that these problems would make it difficult for D to conduct moderately complex tasks successfully and that D would struggle in novel situations when required to learn new material. He would not have the ability to think flexibly and generate solutions to problems or plan effectively in unstructured environments.

53. This opinion was broadly confirmed by the expert neuropsychologist instructed for the defence in the personal injury litigation who identified in addition problems with reading facial expressions and the emotions of others, reduced insight, problems with the visual field and mild diminution of overall IQ. Both experts agreed that there was a poor prognosis so that the likelihood of positive outcomes for interventions such as cognitive rehabilitation was reduced.

54. Reporting on his own assessment, Dr Tonks noted that D had a generally blunted emotional presentation. He was able to engage in conversation as appropriate although a little direct at time. Dr Tonks felt that D put in an appropriate level of effort into the tests he asked him to complete. Dr Tonks cross-checked his analysis with validity tests and concluded that D was not exaggerating or malingering in any way. In cross-examination, Dr Tonks expressed confidence in the validity of the test. He stated that the person being assessed would have no knowledge they were being assessed as to their validity. In answering written questions by the local authority, Dr Tonks accepted that the evidence of D's impaired memory did not exclude the possibility that D could remember something but chose to conceal it. He could not rule out the possibility that D has an accurate memory of doing something to S that he has not talked about.

55. Having carried out his own analysis of D's memory, Dr Tonks concluded that, whilst there is some variation in D's immediate memory, it is clear that, in retaining information over a delayed period of time, his memory is significantly impaired. According to the results of the formal assessment, there has been no recovery in memory function since the post – acute phase following the injury in 2010. From his discussions with D, Dr Tonks concluded that he had very little insight when it comes to reporting the actual memory errors that he makes on a daily basis. Tests suggested that D was not accurately able to identify what he does and does not remember. Whilst it would appear that he is able to recall information with a higher degree of repetition, it was not possible to determine conclusively whether this would result in improvement in his memory to ensure reliability and consistency. Corroboration of this assessment was provided to Dr Tonks by K, who described D's memory as "terrible". K told Dr Tonks that D relies on high levels of structure and repetition in functioning in daily life. K added that D could be socially inappropriate and on occasions rude, although customers to the business also see his comments as humorous.

56. Dr. Tonks advised that D's post brain injury memory is likely to be complicated by a number of variables that will help to determine what he will recall. These include whether the events concerned are emotionally-charged or highly significant, and the degree of repetition of information provided to him. In addition to a poor memory, Dr. Tonks observed in D evidence of post-brain injury confabulation, meaning the tendency to come up with an explanation for things that have been forgotten. There is, in Dr. Tonks' view, a high risk that confabulated information could enter into D's statement of events so that he does not have a reliable enough memory to provide accurate testimony.

57. As for executive function, Dr. Tonks advised that verbal and non-verbal fluency remains problematic and he will struggle in complex situations when facing decisions that may require flexible or adaptive thinking. There is, however, evidence of average or above-average functioning in other areas. Dr Tonks considers it likely that the strengths in his cognitive profile may mask the severity of his more subtle difficulties which are not all immediately apparent. Cross-examined by Mr Storey, Dr Tonks warned that, in assessing D, it was necessary to take into account his pre-morbid capabilities as a highly-educated individual with a good vocabulary. Dr Tonks concluded that, in general, verbal and non-verbal fluency/cognitive flexibility remained problematic for D. As a result, he will not manage well in complex situations. His response patterns in the formal test also indicated some inattentiveness. Dr Tonks concluded that he may not be able to attend adequately for longer periods and at times may not be attentive at all. In oral evidence, Dr Tonks stressed that for D, novel problem-solving challenges are particularly difficult and this could be compounded if one has difficulties responding to emotional cues from others.

58. Overall, Dr Tonks concluded that D did not have the capacity to instruct his solicitors in these care proceedings because of the substantial evidence of a memory impairment following the brain injury. Dr Tonks also suspected that D's level of insight into the complexities of this court hearing would fluctuate. He further advised that D should not give evidence.

59. In the light of this evidence, D was represented at the hearing via a litigation friend. At an earlier case management hearing, I enquired whether an intermediary was required but, having considered the advice of Dr Tonks, those representing D made no such application. At no point in the hearing has it been suggested that D's position, or the forensic process, has been adversely effected by the absence of any intermediary.

60. Dr Tonks's opinion, which after careful cross-examination by Miss Skellorn was not challenged by the local authority, was that D's problems with memory meant that he would not be a reliable witness of the events leading to S's admission to hospital. It was therefore accepted that he should not give evidence concerning those matters. On his behalf, however, Mr Storey was concerned that the court should be in a position to form an impression of D from direct evidence to assist in considering the "wider canvas" issues. He therefore proposed that D should be asked to give general evidence about his life and personal background. Mr Storey submitted that this was an important element of his rights of access to justice. Accordingly, D was called as a witness on a limited basis. He gave a description of aspects of his background and current life, including his present work in the business, his life with K and their pets, and his attitude to life, which he summarised as "enjoy life, its short". D was not asked questions concerning S, or the events leading to her admission to hospital. In this brief evidence, D came across as intelligent, affable, and charming with a droll sense of humour. Although on one view this process was of limited forensic value, it did give me some insight into D's character and circumstances. This process assisted the court to obtain a general impression of D as an individual, but did not extend to evidence about S or the care given to her when she was living with D and K. D was interviewed by the police in the course of their investigation. At the time of that interview, it seems the police had little if any understanding of the true extent of D's disability. He was not accompanied by an intermediary. By agreement, no weight can

attach to what was said during that interview. It follows, as I have said, that there is no evidence from D concerning S or the circumstances prior to her admission to hospital.

61. In contrast, the court has received very full evidence on those matters from K and his mother. K was interviewed at length by the police, has filed three statements in the course of these proceedings, and gave extensive oral evidence. Mrs A was also interviewed by the police, has filed a statement and gave oral evidence.

62. In my judgment, K was an excellent witness – clear, articulate and plausible. He spoke movingly and with manifest devotion about his daughter. In reading his statements and the transcript of his police interview, and hearing his oral testimony, I detected nothing to suggest that he had, or would have, injured the baby. In saying that, I recognise, of course, that children are sometimes injured by otherwise devoted and blameless parents in a momentary loss of control. Although plainly loyal to, and concerned about, his husband D, it was my very firm impression having heard his evidence that K would not keep quiet if he had reason to believe that D may have injured S, intentionally or otherwise.

63. There was to my mind only one aspect of K's evidence which caused me any doubt as to whether he was being completely frank with the court. During cross-examination by Miss Skellorn, he was questioned closely concerning information given to the fertility clinic concerning D's disability. In completing a form for the clinic, D had put a cross in the box indicating that he did not have any mental or physical conditions. He also put a cross in the box indicating that he had not had problems with alcohol. K's evidence was that D had completed this form himself, and he, K, did not remember any discussion about it. He said he would have expected the clinic to carry out checks and, had it done so, D's answers on this issue would have been flagged. K had himself completed an identical form about himself. He accepted that D's answer to the question concerning his mental condition was inaccurate, and further that an inaccurate answer to such a question could affect the welfare of any child resulting from the surrogacy. He denied, however, that he had deliberately withheld information concerning D's brain injury in case it would impede their ability to receive the treatment.

64. There was, in my judgment, an element of disingenuousness in K's answers during this part of his evidence. Given that he and D anticipated being refused as prospective adopters because of D's disability, I think it must have been in K's mind that a fertility clinic considering a surrogacy application would be likely to scrutinise this issue. When K was filling in his own form, it is likely that it crossed his mind that D's answers to the question might affect their application. In closing submissions, Miss Judd on behalf of K contended that the clinic knew about D's head injury. That submission, as I understand it, was based on a passage in a further document, headed "Personal Profile" in which K and D had told the surrogacy centre:

> "We started living together. After about six months, D suffered a fall and acquired a head injury. At the time, D spent a fair while in hospital undergoing treatment and rehabilitation so he would return to his previous position and back to living an independent life. K left his job and moved to help support D in his recovery. After a year life was almost back to normal with

> D working in a different position and K involved in university to train as a social worker."

In my judgment, that summary does not provide a complete picture concerning D's disability.

65. Having carefully considered this in the context of all the other evidence, however, I do not find that K was party to any deliberate deception of the clinic. Even if he was economical with the truth about the extent of D's disability when applying to the clinic, this does not in my judgment (applying the principle in ***Lucas***) lead to the conclusion that K has been untruthful in other aspects of his evidence. Furthermore, I take into account that K and D fully informed the health visitor and the primary care services concerning the extent of D's disability and its potential impact on his capacity to care for S. I also note that it was K who identified in his evidence occasions when D did not seem to be handling S appropriately, and the steps he then took to ensure that S did not come to any harm. My concern about K's answers to questions concerning information given to the clinic did not lead me to conclude that there is any real reason to doubt his utter devotion to S, the priority he gives to her over everything else, or his general reliability as a witness.

66. Overall, I do not consider that K's lack of candour to the fertility clinic provides significant evidence in support of the suggestion that he has failed to recognise that S may be at risk through D's lack of awareness attributable to his problems with memory and executive functioning, or that K has, or may have, concealed evidence concerning D's behaviour towards their daughter.

67. In my assessment of K and D, I take into account the evidence from a variety of professionals concerning their parenting capacity. First, there is contemporaneous evidence of professionals involved with the family prior to, and during, S's hospital admission, in particular that of the health visitor who visited the home, and the medical staff in hospital.. The picture emerges of two parents who were devoted to their daughter. Plainly it was K who was principally involved in discussions with professionals and carried out the majority of caring tasks. All professionals who comment on his care speak extremely highly of the quality of care he provided to S. I could not find a single critical comment about his care of the child. With regard to D, there is nothing to give rise to any doubt about his love for S, but there are fewer positive comments, partly because he was much more reticent and hesitant in handling the child, at least in the early stages.

68. Secondly, there are contact sheets in which those who supervised contacts between February and September 2015 recorded comments and impressions about what they observed passing between S and the fathers. Throughout this period, K consistently demonstrated a close emotional attachment to S, and an awareness of, and capacity to meet, her needs. In the early stages, D again appeared on occasions much more reticent and hesitant, and sometimes struggled with caring tasks. Over the months, however, there was a marked change. He became more demonstrative in expressing his feelings towards S, and more confident in carrying out tasks. To take one example, on 23rd July 2015, the supervisor observed:

> "S seems to be happy to move between D and K for both play, touch, warmth and comfort, though K appears more at ease

> than D when she becomes upset. Both K and D provide opportunities to extend S's development and praise her appropriately when milestones are attempted or achieved. K in particular instigates the planning ahead for S ie is play appropriate or is she ready for sleep? D offers his opinion in discussion when asked by K. Both K and D kiss S goodbye. D now does this at every visit whereas in the past he would sometimes hang back."

I was shown a number of photographs taken at contact visits which support this general impression.

69. Thirdly, there is a formal parenting assessment carried out in the course of the proceedings and filed on 30th September 2015. The assessor did not make any recommendation, given the imminent fact-finding hearing. She concluded, however, that K and D together had demonstrated that they have the competence and understanding to meet S's needs on a day to day basis, and for the foreseeable future, on a practical and emotional level. As for the individual capacity of each father, she concluded that K could meet S's needs on his own, but thought that D was not able to care for S without assistance and support, although acknowledging that the assessment had demonstrated that he has developed much of the skills and understanding required. The assessor did note that K had become emotional on occasions and this led her to question whether the couple's devotion for each other might mean that the implications of D's acquired condition may be underestimated when sharing parenting tasks. The assessor noted, however, that K and D work well with the local authority and remained dedicated to S throughout the assessment.

70. At this point, I record that at the request of all parties I visited the fathers' property. This is located in an idyllic part of the country. I endorse the description in Miss Judd and Mr Moradifar's closing submissions. The property was in immaculate condition, beautifully furnished and decorated, notwithstanding the fact that the couple own several dogs and other pets, and the fact that the house was at the time of my visit full of lawyers, who had been supplied with tea and coffee and other refreshments awaiting my arrival which was delayed for over an hour by other court business. Photographs of S are in every room so that, in the words of Mr Storey and Mr Whitehall, their home is a credit to them, both in relation to the work that they have conducted to make it pleasing decoratively, but also for the warmth which shines from every wall, picture frame and notice board in the house.

71. The evidence concerning K gives a clear and consistent picture. He was at all times, and remains, utterly devoted to S, and highly competent at meeting her needs. There is nothing to suggest he may have injured S. The accounts that he has given of the events between S's birth, and her admission to hospital, whilst not being absolutely identical, are very substantially consistent. The local authority did not suggest that there was any material inconsistency in his various accounts. In the modern era, the evidence provided to the court in cases where there has been a significant police investigation invariably includes telephone records, text messages, and internet history. These documents were duly produced in this case, but there was nothing in those records to suggest that K, or for that matter D, was responsible for injuring S, or that either of them has any information concerning any injuries which has not been

disclosed. K's internet search history after S became poorly indicates, to my mind, a worried new parent trying to find out what is wrong with his baby.

72. At this point, I turn to consider the evidence of Mrs A. On her behalf, Miss Bond, in her lucid and helpful written submission, summarises the evidence as showing that Mrs A played a significant and valuable role in these early weeks. As an experienced and loving mother and grandmother, she warmly and enthusiastically welcomed the arrival of S, and was keen to support her son and his husband with the care of the baby and with the running of their business in any way she could. Miss Bond invites the court to accept that Mrs A was an honest witness doing her best to assist the court in the course of this hearing. I agree. Miss Bond further submits that there is no realistic possibility that this grandmother has caused any injury to S. She invites the court to infer from Mrs A's evidence that she would not have put S in an unsafe situation or allowed others to do so and, furthermore, that if Mrs A had any concerns about S's welfare when she was with D on the night of 7th – 8th February, or any other time, she would have done something about it.

73. There is certainly nothing in Mrs A's evidence, or any evidence about her to indicate that she would have injured S, or knowingly failed to protect her. I did not form the impression that she would withhold information concerning how S sustained her injuries. In particular, I accept the evidence she gave about the events of night of 7th – 8th February as summarised above.

74. The court therefore finds itself in the unusual position of having heard detailed evidence concerning S's care in the period prior to her hospital admission from two of the three family members who were involved in providing care, but no evidence at all about that subject from the third person, namely D. In closing submissions, Mr Storey and Mr Whitehall forcefully submit that "this court will have to give itself a very protective direction in relation to D where it has not had the opportunity to hear him deny hurting his beloved daughter, or to see his reaction to the allegation being put to him but has instead seen how the witnesses speak at great length about the events involving him in such a way as to call into question his competence and safety in relation to a child". They further submit that the court "must not allow itself to be seduced by K's use of the word 'rough' in describing D's winding technique. Section 31 is not about over-exuberance/rough handlers. The important point here is that K roundly dismisses suggestions that D would harm S by shaking or otherwise. It is not a proper inference for the court to draw against D that, because he winded over-exuberantly or roughly, he would act in a way which would cause S significant harm." In her closing submissions, Miss Skellorn addresses this point by accepting that the local authority is not entitled to, and does not, advance a case predicted upon any degree of D's disabilities *per se*. She acknowledges that the local authority's case must not be speculative. She accepts that the court must be satisfied on the balance of probabilities of a specific factual matrix in assessing the local authority's case on significant harm. She acknowledges that this is a case where there is a gap in the evidence. She submits, however, that "although the gap here is significant, it is neither unfathomable nor unbridgeable". She points out that it is not uncommon for a lay party to be unable to contribute oral evidence so that the court has to find ways of bridging the gap. In this case, she submits that contemporaneous documents and the evidence of other witnesses can be scrutinised for verification, corroboration or inconsistency.

75. Miss Skellorn is right in that there is evidence from other sources, in particular K and Mrs A but also to some extent from professionals, about how D cared for S during the period prior to her hospital admission. Broadly speaking, the picture that emerges is of a man who found aspects of caring for the new baby difficult. K anticipated that he would find caring for S challenging, given his memory problems, and took careful and patient steps to deal with this by giving him clear instructions. Despite this, there were occasions when D continued to struggle with caring for S appropriately. In particular, there is evidence given by K of how D winded S in an inappropriate way which in evidence he described on one occasion as rough.

76. In addition, there is the evidence of the events of the night of 7th February. Much of the cross-examination of K and Mrs A concerned the events of this night. I have summarised that evidence above. At no point during that evidence, or in my subsequent reflection and analysis of the evidence, did I have any cause for concern that either K, or Mrs A, was concealing any fact from me. Taken on its own, their evidence was credible on this point, as it was on all other aspects of their evidence concerning the care provided to the baby. In this context, it is important to note that, on the accounts given by K and Mrs. A, there is no evidence that D was solely responsible for S's care for any significant period of time when S became unwell save for the hour or so in the early hours of 8th February.

77. Taking stock at this point, and looking at the evidence of and about the family members, I conclude that, in the case of K and Mrs A, there is nothing about their background, characters or care for S, to indicate that they may have injured S, either intentionally or otherwise. As for D, there is nothing in his background, character, or care of S to indicate that he might have injured S intentionally. There is some evidence that his handling of S was on occasions, lacking in confidence and competence. It is therefore possible that he may have handled her in a similar fashion on other occasions, and that, as a result, S may have come to some harm. The fact that he has not given evidence about this himself does not preclude the court considering this possibility. On the contrary, it must be considered, albeit with great care, bearing in mind at all points the fact that he has not given evidence and scrupulously avoiding speculation on those matters about which there is no evidence. Furthermore, the court must have regard to the possibility that even an apparently blameless parent or grandparent may injure a child inadvertently or in a momentary loss of control.

78. None of this evidence, of course, must be considered in isolation. It has to be considered in the context of all the other evidence, in particular the medical evidence, to which I now turn.

The Medical Evidence – introduction

79. S suffered no external injuries – no bruises or fractures. The injuries or symptoms identified were internal – subdural haemorrhage; subarachnoid haemorrhage; contusion injuries to the white matter of the brain; spinal subdural haemorrhage in the lumbar region; bilateral retinal haemorrhage; raised intracranial pressure; and, it is said, associated encephalopathy.

80. In recent years, there has been much debate amongst doctors concerning the diagnosis of non-accidental head injury and in particular the interpretation of the so called "triad" of intracranial injuries, consisting of encephalopathy, subdural haemorrhage

and retinal haemorrhage. In ***R v Harris*** [2005] EWCA Crim 1980, the Court of Appeal held that:

> "Whilst a strong pointer to non-accidental head injury on its own, we do not think it possible to find that [the triad] must automatically and necessarily lead to a diagnosis of non-accidental head injury. All the circumstances, including the clinical picture, must be taken into account." (Per Gage LJ at para 70).

81. In S's case, her injuries do not precisely fit what might be called the conventional pattern of the triad, but it is helpful to analyse the injuries by reference to three components – encephalopathy, retinal haemorrhage and subdural and intra-cranial bleeding and injuries, including the spinal subdural haemorrhage.

Encephalopathy

82. Encephalopathy is defined as disturbance of brain function. There is a spectrum of possible clinical manifestations of encephalopathy identified by Dr Kanabar as including acute deterioration of consciousness; a stunned period of silence immediately after the injury followed by a period of crying or whimpering inconsolably; seizure activity; loss of body tone or floppiness; rasping breathing noises; the effects of poor blood volume circulation (greyness, pallor, lethargy); a fluctuating level of consciousness; later periods of irritability or inconsolable crying; and poor milk intake and vomiting of feeds.

83. As Miss Judd and Mr Storey were quick to emphasise, and Dr Kanabar accepted, there is no record of S demonstrating the more florid or serious of the symptoms described above. The only symptoms on the list observed in S prior to her admission were pallor, lethargy, vomiting of large volumes of feed, coupled with episodes of blue discolouration of the upper lip during feeding. Counsel for the fathers rightly point out that these symptoms are also consistent with other causes. Dr Kanabar agreed with Mr Storey that they could be described as "normal baby symptoms". In my judgment, at their highest, these symptoms could be described as consistent with encephalopathy, but they are non-specific signs equally consistent with other conditions.

84. If encephalopathy was the cause of these symptoms, Dr Kanabar considered it possible that there had been more than one insult to the brain, but he thought it more likely that there was only one insult which manifested itself in more subtle ways over several days. He described this process as a "crescendo". Cross-examined by Miss Judd, however, he conceded that, looking at the examination of S on admission to hospital, there were no signs consistent with encephalopathy observed at that point, except possibly a slightly higher heart rate and "mottled skin. On presentation at the hospital, she was described as "alert not irritable". It is also important to remember that she was not taken to hospital as a result of a deterioration in her condition, but rather because of the GP's referral resulting from the concern about a possible heart murmur. Dr Kanabar conceded in evidence that at the point of admission to hospital, there was no evidence of any "crescendo" in the symptoms.

85. In my judgment it is difficult to discern any real "crescendo" in the symptoms prior to her admission. Pallor and vomiting was seen on the 6th or 7th February, blue lips a day or so later. None of these symptoms were present on admission. There was no evidence at all of any acute deterioration or loss of consciousness. Floppiness and irritability and crying were noticed overnight between 13th and 14th. Seizures only occurred much later, in a brief period in early March following one of the surgical tapping procedures. As explained below, there is considerable evidence that the subdural bleeding and retinal haemorrhages occurred much more close in time to or possibly even after, S's admission to hospital, several days after the vomiting and pallor were first observed. In these circumstances, whilst the signs seen overnight after her admission to hospital may have been evidence of encephalopathy, it seems improbable that the non-specific symptoms seen in the week or so prior to her admission to hospital are related to any disturbance of brain function attributable to the event or events which led to the subdural and retinal bleeding. Overall, the evidence of encephalopathy in this case is not strong.

Retinal haemorrhages

86. Retinal haemorrhages have been associated with non-accidental head injury as a component of the triad. There are, however, a number of other causes of such haemorrhages, and in such cases it is always important to obtain the opinion of a specialist such as Mr. Newman.

87. As he reminded the court, analysis of the evidence about retinal haemorrhages is affected by three factors. First, the examination of the retina, especially in a small baby, is a difficult exercise. Even experienced paediatricians, and many junior ophthalmologists, often struggle to get a clear view of the retina. The evidence presented to an independent specialist such as Mr. Newman can often include records of imperfect or incomplete examinations by junior or non-specialist doctors in the early stages of the investigation.

88. Secondly, there is no specific pattern that indicates that a child has suffered a shaking injury or shaking with impact injury, and the diagnosis is one of exclusion, requiring analysis of the complete clinical scenario and all the evidence.

89. Thirdly, unlike bruises or subdural haematomas, retinal haemorrhages do not mature or change. Once a retinal haemorrhage is present, it will persist unchanged until it disappears. There will be no development in appearance to assist in assessing the age of the retinal haemorrhage. The length of time which retinal haemorrhages persist varies, depending on the type of haemorrhage. Mr. Newman advised that superficial retinal haemorrhages would be likely to resolve within 4 to 5 days, intra-retinal haemorrhages within about 17 days, deeper darker haemorrhages within the retina usually about 4 weeks, and pre-retinal haemorrhages with possibly several months. The coincidence of different types of haemorrhage may enable the specialist to narrow the time-window in which the retinal haemorrhages occurred, but once present retinal haemorrhages do not evolve in a fashion which might assist in narrowing that window still further.

90. I have recorded the various attempts at examining S's eyes in my summary of the history above. Mr. Newman summarised them in his report - (a) an unsuccessful attempted examination at 11 am on 14th February by the consultant paediatrician; (b) a

consultant ophthalmologist's review at 14.20 that afternoon which noted bilateral retinal haemorrhages drawn on a rough plan in the medical notes; (c) a further review carried out by a consultant at 16.35 which identified multiple intra-retinal haemorrhages in both eyes; (d) following S's transfer to Bristol, an examination by ophthalmological registrar reviewed her on 16th February which noted pre-retinal haemorrhages centred on the disc together with scattered superficial intra-retinal haemorrhages; (e) on 18th February, an examination by the distinguished consultant ophthalmologist Miss Williams who recorded the presence of bilateral retinal haemorrhages in both eyes, including the pre-retinal, intra-retinal, and superficial layers. In his oral evidence, Mr Newman stressed that the examination of the eye of a very small baby is a difficult process and it is common for many doctors, including consultant paediatricians and junior ophthalmologists, to have trouble spotting the presence of retinal haemorrhages. He was not surprised that the paediatrician in this case was unable to see evidence of the haemorrhages and did not regard his failure to do so as evidence that they were not present at the time of his examination. He accepted that one interpretation of the difference in the respective examinations was that more bleeding had occurred. On the other hand, he thought it possible that the real explanation was that the earlier doctors had simply been unable to see the haemorrhages which were already present but, for reasons explained above, were difficult to see.

91. In his extensive report, Mr Newman considered various possible explanations for the retinal haemorrhages in this case, including seizures, and other disorders, and concluded that they were not likely to be the explanation here. There was nothing based on the current information available to suggest a significant underlying bleeding disorder as a cause or contributing factor to the retinal haemorrhages. His attention in his report, and his oral evidence, therefore focussed on three possible explanations for S's retinal haemorrhages – birth, trauma (including non-accidental head injury) and raised intracranial pressure.

92. Mr. Newman stated that birth was the most common cause for extensive retinal haemorrhages in young children and may be bilateral asymmetric or unilateral. They occur after all types of delivery but are more frequently found following assisted delivery. They may look identical to those found in cases of non-accidental head injury. However, superficial haemorrhages attributable to birth resolve in a few days and even deeper dark retinal haemorrhages have usually resolved by 28 days. Given that S was 40 days old at the time of the identification of the superficial and intra-retinal haemorrhages by Miss Williams, he expressed the view that it is unlikely that they were related to her birth. In passing, I record that Mr. Newman acknowledged that there have been studies of subdural haemorrhages at birth (which I shall consider below) and separate studies of retinal haemorrhages at birth but no studies to see if they were associated.

93. A second cause of retinal haemorrhages is trauma, both accidental and non-accidental. Mr Newman was given extensive details of the various incidents said to have occurred in this case which K suggested might be the cause of the retinal and subdural haemorrhages (for example, S's head hitting Mrs. A's shoulder; S being bounced vigorously on her partner's knee; the "inappropriate" winding; the emergency stop). He concluded that it was very unlikely that any of these incidents was responsible. He noted the conclusions of a systemic review in 2013 that short distance falls are

unlikely to cause retinal haemorrhages if the injury is not severe. In rare cases, accidental falls maybe associated with such haemorrhages, but these tend to be unilateral, localised and superficial. It is his opinion that it is very unlikely that minor accidental trauma which might occur in the normal handling of a child, or the potential explanations offered by the carers in this case, would have resulted in the retinal haemorrhages identified in S.

94. An alternative explanation is non-accidental head injury, involving shaking with or without impact. Mr Newman set out the commonly-held view that the cause of retinal haemorrhages in shaken baby syndrome is considered to be due to the shearing forces caused by shaking upon the vitreous gel within the eye. The movement of the vitreous gel during shaking is thought to exert traction and shearing forces, together with induced local tissue changes of hypoxia, auto-regulatory dysfunction, raised venous pressure, and the interface of the vitreous and retina, resulting in haemorrhages and sometimes more serious damage. Mr Newman acknowledged that the incidence of retinal haemorrhages in children is unknown. It is possible that children may have retinal haemorrhages and, because they have no sudden illness or an examination is not requested, then they are never seen or identified by an ophthalmologist. He noted that this has led some clinicians to be uncomfortable in concluding that retinal haemorrhages in the presence of subdural haematomas and in the absence of signs of external injury are likely to be the result of non-accidental injury. He added, however, that where it is considered that an infant has been subjected to an inflicted head injury, there is a close association of the presence of retinal haemorrhages and subdural haemorrhages.

95. The third possible cause of retinal haemorrhages is raised intracranial pressure. Mr. Newman advised that raised intra-cranial pressure may cause raised pressure within the optic nerve sheath and subsequently swelling of the optic nerve head. The disc swelling and oedema may take several days of raised intra-cranial pressure to occur. In young children, the skull is not fixed and the fontanelles are open. Therefore, the pressure may be decompressed in part by a separation of the sutures of the skull and through the fontanelles. In such circumstances, optic disc swelling may not occur in spite of quite high pressure. Where there is such swelling due to raised intra-cranial pressure, retinal haemorrhages may occur but they are usually limited to the nerve fibre layer and emanate radially from the optic nerve and are localised to that area. It is his opinion that it is unlikely that the retinal haemorrhages identified in S's case were due to isolated raised intra-cranial pressure. It is said by some that such haemorrhages are a secondary effect from transient raised intracranial pressure following intracranial bleeding, although Mr Newman added that this is not the mainstream view, nor the finding of any systematic review, nor within his clinical experience. Cross-examined by Miss Judd, Mr Newman confirmed that an acute rise in intra-cranial pressure could lead to retinal haemorrhages notwithstanding the presence of sutures in a child but he did not consider this to be a likely consequence of gradual rise in such pressure.

96. So far as timing is concerned, Mr. Newman expressed the view in his report that the retinal haemorrhages in this case are likely to have occurred, whatever the cause, within a period of 17 days from the date when they were last identified (18th February 2015) i.e. not before the 2nd February. Cross-examined by Miss Judd, however, he confirmed that he did not think that superficial haemorrhages would take 10 days to

resolve. As stated above, the more likely period was within 4-5 days – between 24 hours and 4-5 days. Given that Miss Williams had identified superficial haemorrhages on her examination on 18th February, he agreed with Miss Judd that this would be consistent with their having been caused around 13th and 14th February.

97. Mr Newman accepted that this type of case is the most difficult where one sees retinal haemorrhages with thin film subdural haemorrhages and encephalopathy but not external injuries. There is no specific pattern that indicates that a child has suffered a shaking injury or shaking with impact injury, and the diagnosis is one of exclusion, requiring analysis of the complete clinical scenario and all the evidence. In Mr. Newman's opinion, in the absence of an identifiable medical condition or history of significant trauma, the retinal haemorrhages remained unexplained but would be consistent with those found in a shaking type injury.

Intracranial injuries

98. The interpretation of radiological imaging plays a crucial role in the investigation of cases of suspected non-accidental head injury. CT scans and MR imaging are both used, and provide different insights, each having specific advantages. Although the importance of radiology in this field has been recognised for many years, the scientific interpretation of images has evolved, partly as a result of technological improvements and partly as a result of further research studies. It is the common experience of lawyers and judges specialising in this area that there have been marked changes in some aspects of the evidence given by experts. This is a paradigm example of the observation of Dame Elizabeth Butler-Sloss P in *Re U, Re B*, supra, quoted above, that "[t]he judge in care proceedings must never forget that today's medical certainty may be discarded by the next generation of experts or that scientific research may throw a light into corners that are at present dark."

99. This is illustrated by four examples, all from the direct experience of this court and all of which were alluded to in the course of this hearing. First, radiological appearances that were at one stage identified as chronic subdural haematomas are now not infrequently considered to be acute traumatic effusions. This reinterpretation has a potentially profound impact on the assessment of causation and timing of an injury, and therefore, if the injury is non-accidental, the identification of possible perpetrators. Secondly, it was in the past not infrequently said by some experts that the anatomical construction of the subdural potential space precluded the tracking of fluid from one compartment of that space to another. As Mr. Jayamohan acknowledged in this hearing, however, such tracking is now accepted as possible so that, for example it is feasible for subdural blood to track from the intracranial space to the spinal space. In this case, however, he thought it unlikely that this had occurred, for reasons considered below. Thirdly, recent investigations have included radiological examination of the spine, and in some cases detected the presence of blood in the subdural space that surrounds the spinal column. On this point, however, there is as yet no assistance to be derived from research, so that, as Dr. Kanabar observed in evidence, *the incidence of such bleeding – for example at birth - is unknown.* Finally, it is now accepted that intracranial subdural bleeding occurs far more frequently at birth than was previously recognised. This point featured prominently in the evidence in this case, and I shall return to it below.

100. These developments, and others, must lead courts to exercise caution about the interpretation of radiological evidence which is, after all, the analysis of an artefact – the image – rather than the direct examination of the body. Evidence from neurosurgeons who have treated a child, or, in cases where a child has died, from neuropathologists who have conducted a post mortem examination, often confirms the evidence of radiologists as to the results of imaging, but not infrequently undermines or contradicts that evidence. In his evidence, Dr Hogarth accepted that there are limits to the reliability of radiology in these cases, notwithstanding the technical advances that have occurred in recent years. He described the gold standard as pathology but of course that is only available where the child has died.

101. In this case the expert analysis of the intracranial imaging identified the following:

(1) bilateral subdural haemorrhagic effusion overlying both cerebral hemispheres and bilateral subdural collections within the posterior fossa, either side of the cerebellum – Dr Hogarth described this as a really quite extensive array of haemorrhagic collections on both sides of the brain, quite deep, coupled with collections both sides of the hind brain

(2) areas of subarachnoid haemorrhage over both cerebral hemispheres – Dr. Hogarth described these areas as diffusedly distributed and very small in volume, interpreted as subarachnoid because they were lying very close to the brain and thus within the CSF which is found within the subarachnoid space, some areas being contiguous to areas of damage within the brain.

(3) multiple contusion injuries to the white matter of the brain including within the right temporal lobe, right frontal lobe and right occipital lobe – Dr. Hogarth identified damage within temporal lobe which has bled and some cortical damage posteriorly and in the frontal lobes with a non-specific appearance of abnormality indicative of damage to tissue. Mr. Jayamohan, whilst deferring to Dr. Hogarth, considered this damage to be not very old.

102. In addition, the imaging identified extensive spinal subdural haemorrhage in the lumbar region. As stated above, this is an area where there is a paucity of research. Drawing on his clinical experience, however, Dr Kanabar thought the lumbar subdural haemorrhages in this case were more in keeping with traumatic events to the subdural space than birth related trauma. He expressed this opinion from experience of dealing with these types of cases, stating that where there has been suspicions raised of NAHI, cases tend to have greater preponderance of bleeding elsewhere in spinal canal and subdural spaces. In considering this opinion, one must of course be careful to avoid circularity of argument. Simply because he has come across spinal subdural bleeding in cases where there has been a suspicion of non-accidental head injury does not mean that the presence of such bleeding is evidence of a non-accidental cause in the absence of any understanding of the incidence of such bleeding generally. Dr. Kanabar agreed that in order to exclude spinal subdural haemorrhage as a normal phenomenon of infancy future research studies need to scan the whole spine. .

103. Both Dr Hogarth and Mr. Jayamohan accepted that tracking of blood across the compartments of the subdural space can occur, so that it is possible for blood to track from the intracranial subdural space to the spinal space. Both of them, however,

would have expected evidence of such tracking in the cervical subdural space if the blood in the lumbar space had tracked down from the intracranial space. No such evidence was detected on the imaging in this case. Mr. Jayamohan observed that everything about this child radiologically suggests that this developed de novo in the spine.

104. The view of Dr Hogarth was that trauma, either accidental or inflicted, was the most likely explanation for the intracranial appearances of this case. The report from Dr O, the consultant paediatrician responsible for treating S, concluded that there was no evidence of any underlying bleeding disorder, sepsis, or any other relevant medical condition to explain the bleeding. For an accidental mechanism, a significant traumatic episode would have to be identified. Dr Hogarth considered the various incidents identified by K, but concluded that none of them provided a plausible explanation for the intracranial bleeding in this case. He therefore concluded that the findings pointed to inflicted injury as the most likely cause. He noted the commonly proposed mechanism for such injuries involving vigorous manual shaking with repetitive oscillations with rotational acceleration of the head causing damage to both vascular and neuronal structures.

105. Mr Jayamohan also considered all the suggested mechanisms put forward by K to account to account for S's injuries but did not consider that any of them was likely to have been responsible. On balance, he too believed that S had suffered a traumatic event of a shaking injury, plus or minus impact to the head, sufficient to cause the intracranial injuries.

106. There were, however, a number of questions raised in the course of the evidence which are relevant to assessing the opinion of the two experts both on the point in question, and on the weight to be attached to this aspect of the expert evidence in the context of all the other evidence which, as explained, is uniquely the function of the judge. These questions were as follow;

(1) Is it possible that S suffered intracranial bleeding at birth?
(2) How likely is it that she suffered a chronic subdural haemorrhage?
(3) How should the court interpret the evidence of the findings following the surgical procedures carried out in the days following S's admission to hospital?
(4) What is the significance of the fluctuations in her head circumference?
(5) What is the significance of the fluctuations in her haemoglobin level following her admission to hospital?

Birth Injury

107. Three research papers produced in the last decade have transformed the understanding of the incidence of intracranial haemorrhage at birth, namely the paper by Whitby and others "Frequency and natural history of subdural haemorrhages in babies in relation to obstetric factors", (Lancet 2004 363846), Looney and others "Intracranial haemorrhage in asymptomatic neonates: Prevalence on MR images and relationship to obstetric and neonatal risk factors, (Radiology 2007 242: 535) and Rooks and others "Prevalence and evolution of intracranial haemorrhage in asymptomatic term infants",

(American Journal of Neuroradiology 2008, 29:1082). The findings of these papers are well known to lawyers and judges specialising in this field (although surprisingly the details were not as well known by some of the experts in this case as might have been expected). It is worth spelling out here the key findings of these research papers.

(1) Whitby, using a low field strength 0.2 magnet MR scanner to image babies within 48 hours of birth, found an incidence of subdural haemorrhage of 8 per cent overall and 10.5 per cent in vaginal delivery. Looney, using a 3.0 – T MR scanner on 88 term neonates between the ages of 1 and 5 weeks found an incidence of 26 per cent of asymptomatic intracranial haemorrhage following a vaginal birth. Rooks, using a 1.5 MR scanner on 101 asymptomatic term neonates, found 46 per cent with subdural haemorrhage within 72 hours of delivery.
(2) Although Rooks found no evidence of other types of intracranial haemorrhage, Looney, using a stronger scanner, found evidence of subarachnoid and parenchymal haemorrhage in some infants, and some cases of two or more types of haemorrhage.
(3) Unlike Looney, however, Rooks found evidence of subdural haemorrhage after all types of delivery – spontaneous vaginal, induced, vacuum assisted, forceps assisted and C-section.
(4) Because subdural haemorrhage is found after caesarean section, not all term neonate subdural haemorrhages can be explained by the squeezing of the head during delivery. Rooks concludes that the true aetiology remains unknown because there is a paucity of evidence-based literature on this subject.
(5) Rooks advised that the pattern and location of subdural haemorrhage alone should not be used to make a distinction between subdural haemorrhage due to non-accidental injury and birth injury.
(6) Rooks followed up her studies at 3-7 days, two weeks, one month and 3 months, and found that most birth related subdural haemorrhages had resolved by one month and all by three months. She and her colleagues concluded that subdural haemorrhages in an infant older than three months of age are unlikely to be birth-related regardless of the mode of delivery.

108. Neither Mr Jayamohan nor Dr Hogarth thought it likely that the intracranial haemorrhages seen in S were due to birth. Mr Jayamohan accepted the theoretical possibility that subdural blood may remain and become chronic. He noted that some research has reported birth related subcortical matter injuries but he has found no evidence of such injuries occurring in multiple locations as seen in this case.

109. Dr Hogarth expressed his opinion in these terms;

> "The vast majority of subdural haematomas sustained during parturition would have resolved by one month (Rooks and others 2008). The typical appearance of these birth-related subdural haemorrhages is one of thin films of blood within the posterior fossa, posterior hemisphere or occasionally within the inter hemispheric fissure. The appearance on the scans included bleeding within the brain substance itself and further damage to the areas of temporal and frontal cortices as well as intra spinal haematoma. S was born spontaneously in good condition without complication. There is no history of a

traumatic or complicated delivery. In my opinion, a birth related cause for the injuries sustained by S can be safely discounted."

As Miss Judd effectively demonstrated in cross-examination, however, this passage was not in line with the published research in a number of respects. In cross-examination, Dr Hogarth conceded that the location of intracranial haemorrhage per se does not provide specificity, that research, specifically the Looney paper, show that birth-related bleeding may occur in the brain substance itself, and that research had further demonstrated that subdural haemorrhage can occur after any form of delivery, and that there is no research to assist in the significance of intraspinal haematomas. He did observe that the volume of intracranial blood seen here was not something he regularly sees in babies scanned at birth. Nevertheless, having regard to the way the rationale for his opinion was considerably undermined in cross-examination, I was left uneasy about his confident dismissal of birth as a relevant factor in this case.

110. The radical shifts in understanding concerning the incidence of birth-related intracranial haemorrhage is something which this court must take into account. Remembering the words of Butler-Sloss P quoted above, I anticipate that further research may lead to further changes in that understanding. In his evidence, Dr Kanabar accepted that at post-mortem it may be possible to detect birth related subdural haemorrhages that were not detected radiologically so that the incidence of such subdurals may be even higher than indicated in the research to date. Plainly, further research needs to be carried out on the causes of spinal subdural bleeding, and its coincidence with intracranial haemorrhage, and the coincidence between subdural haemorrhages and retinal haemorrhages. I also bear in mind at this point the acknowledgement which Dr Hogarth voiced on the limitations of radiology.

111. Statistically, there is therefore a very significant possibility that S was born with intracranial haemorrhage.

Was there a chronic collection?

112. Even if S was born with intracranial haemorrhage, that would not by itself explain the events following the admission to hospital nearly six weeks later. For that to occur, the haemorrhages must have persisted for longer than in most cases, evolved into chronic collections and then been subjected to re-bleeding. It was accepted by the experts that if chronic subdural haemorrhages were present, re-bleeding was possible with much less force. Dr Kanabar accepted that, if a birth haemorrhage was still present, it is possible that one or more of the events described by K could have exacerbated the haemorrhage. The key question, therefore, is whether or not a chronic collection was present.

113. The preponderance of expert opinion was that the collections here were effusions as opposed to chronic collections. Dr Hogarth was confident that the appearances seen on the imaging were not in keeping with the chronic injury. Although he thought it theoretically possible to have a chronic bleed masked by a subsequent re-bleed, it was not something he had seen and he was therefore not comfortable in this case with the idea that there was a chronic bleed, although it was not something that he could totally exclude. Mr Jayamohan observed, analysing the CT scan on 14th February, that the abnormal collections outside the arachnoid space were of a slightly higher density

compared to the cerebrospinal fluid ("CSF") indicating that they contained denser material than just CSF. The collections were relatively homogenous, although there were areas of higher density travelling through the collections in particular high up on the vertex or midline. He considered that these areas were likely to represent either veins traversing the space, or strands of membranes within the collection. However, on examination of the MRI conducted later that day at Bristol, he detected no sign of anything consistent with a membrane.

114. Had such a membrane been present, it would have provided support for the argument that the collection represented a chronic subdural haematoma. Mr Jayamohan stressed that the absence of evidence of such a membrane did not exclude the possibility that it may have been there. It merely meant that a supporting piece of the evidence which might have supported the argument that this was a chronic collection was not evident. In his opinion, therefore, taking the CT scan and MRI together, it was more likely that the appearance described constituted a vein, but he accepted that simply because he could not see a membrane did not mean that this was definitely a traumatic effusion rather than a chronic collection.

What is the interpretation of the results of the surgical procedures?

115. I have summarised the account given by Mr Carter based on the notes of the various surgical procedures carried out after S's admission to hospital in Bristol, including the descriptions, such as they are, recorded in the hospital notes. Mr Jayamohan was taken through these descriptions. He identified two particular problems. First, he was critical of the quality of the note keeping. This deficiency also emerged in the course of Mr Carter's evidence, although I hasten to add that the omissions were not the fault of Mr Carter himself. Secondly, when interpreting the significance of references to blood in the fluid drain from S's head in the course of these procedures, Mr Jayamohan counselled caution because of the risk that one or more of the taps could have punctured a vein, causing the leakage of blood into the collection thereby contaminating the results of that tap, and subsequent procedures.

116. With these caveats in mind, I note that Mr Jayamohan observed that the collections when tapped showed fluid which could potentially have two explanations. The first is that it was indeed an old collection of an age sufficient to allow it to break down into the fluid of the appearance and quality observed. The second explanation was that it was an acute effusion, which could be associated with the presence of some subdural blood. Mr Jayamohan preferred the latter explanation in this case. The pattern of repeated draining procedures with persisting raised intracranial pressure were in his view supportive of the collection being an acute effusion rather than old blood. It is, however, possible that the blood seen in the fluid extracted on at least one of the surgical taps represented an acute re-bleed rather than the result of a punctured vein.

Head circumference

117. When considering the evidence about fluctuating head circumference, it is important to bear in mind the warning given by Dr Kanabar that the measurement of head circumference is to some extent subjective so that there will inevitably be variation

between measurements taken by different observers, and sometimes between measurements taken by the same observer on different occasions.

118. The evidence of head circumference measurement in this case begins before S was born. A number of measurements were carried out in the course of ultrasound examination, a process which Mr Jayamohan described as "pretty accurate". On the 20 week scan in August 2014, the baby's head was on the normal average size head circumference. By the 24th week, however, the head had enlarged up to the 95th centile and 8 weeks later it had exceeded that centile, although other measurements were also on the same centile. At birth, S's head circumference had been measured as being on the 98th centile. Two weeks later, however, it had dropped to the 75th centile. On admission to hospital, it was found to be on the 99.6 centile. By the following morning, it had increased by a further half a centimetre. Thereafter, it remained very high, above the 99.6 centile for some time.

119. Dr Kanabar expressed the view that the measurement of the 75th centile some two weeks after birth should be regarded as the basis for the child's true head circumference. He pointed out that the measurement of the head circumference at birth can be increased as a result of the process of birth which may cause swelling of the skin. He would have expected S to have continued along the 75th centile had there been no intervening event. If this assessment is correct, this raises the question of the cause of the subsequent increase. It also, to my mind, underlines the question as to why the head circumference was so much larger pre-birth. Mr Jayamohan confirmed that the subdural bleeding may occur before birth and this was something he also bore in mind. He had thought about it here because of the increase in head circumference before birth but found no other evidence of any pre-birth subdural collection.

120. So far as the subsequent expansion of head circumference was concerned, Dr Kanabar considered it to be consistent with his explanation of the child sustaining some sort of insult several days prior to 14th February so that what was being measured in the two measurements that took place between the 13th and 14th February was the tail end of a process of expansion of her head following an episode of intracranial bleeding. He did not consider the half centimetre increase in head circumference between the 13th and 14th to be unusual. For my part, however, I was not persuaded that this sudden increase could be easily dismissed.

Haemoglobin levels

121. A further factor that occurred following admission was the significant drop in the level of S's haemoglobin. This feature only came to prominence at a latter stage in the hearing, during the evidence of Mr. Jayamohan, and after Dr Kanabar and Mr. Carter had given oral evidence. Further questions about this were therefore put to both witnesses by email.

122. The readings taken over the relevant period were (1) a blood gas machine recording on the ward at the local hospital at 20.53 on the 13th showing haemoglobin at 109 g/l and haemocrit at 0.32, (2) lab test at the local hospital at 11.50 on the 14th showing haemoglobin at 99 g/l and haemocrit at 0.286, (3) full blood count at Bristol at 21.57

on the 14th showing haemoglobin at 77 g/l and haemocrit at 0.22,(4) a full blood count at 08.05 on the 15th showing haemoglobin at 94 g/l and haemocrit at 0.26.

123. Dr. Kanabar suggested the low figure was a rogue result. Mr. Jayamohan thought it might be some sort of dilution in the collection process or because there had been a significant episode of bleeding between the taking of the two samples. Mr. Carter gave the fullest answer on this matter, whilst warning that he was straying outside his area of expertise and adding that the interpretation of these recordings was a matter for a haematologist (though no party suggested an adjournment for such evidence to be obtained). Mr. Carter stressed that all three lab results were low (the reference values given in Bristol being 115 to 165 for haemoglobin and 0.33 to 0.55 for haemocrit). He thought that the explanation might be either haemorrhage prior to the first lab sample being taken or the administration of IV fluids which would expand the overall volume of blood while diluting the blood cells, or a combination of both. Looking at the records, he thought that no intravenous fluids had been given at the local hospital and, although it was likely that IV fluids would have been given prior to the surgical procedure at Bristol, he was unable to give more details. The precise timing of the surgical procedure is unknown. It is known that S went into the recovery unit at 23.30 that evening. It is therefore unclear whether the sample taken at 21.57 was before or after IV fluids were first introduced. It seems likely, however, that the decline in haemoglobin to levels lower than the reference levels started before she received IV fluids.

Conclusions

124. Drawing all these threads together, I finally consider each piece of the evidence in the context of all the other evidence. It cannot be over-emphasised that it is the judge, not an expert or group of experts, who has the responsibility of making the findings in family cases involving allegations of child abuse. Only the judge hears the totality of the expert evidence, including cross-examination by specialist counsel which often, as in this case, brings to the fore issues that are less apparent from the written reports. Only the judge considers all the expert evidence together, and has the opportunity to identify strands and patterns running through that evidence. And only the judge is able to consider all of the evidence – including expert medical evidence and the testimony of family members and other lay witnesses.

125. Furthermore, as the case progressed, it appeared increasingly that a number of the symptoms relied on as evidence of encephalopathy may not have been contemporaneous with the onset of the episodes of bleeding. On arrival at hospital, two doctors described S as being alert and well. The fact that superficial retinal haemorrhages were present on the 18th February, when Miss Williams conducted her ophthalmic examination, means that they were caused approximately on or after the 13th February. In my judgment, the increase in head circumference overnight by half a centimetre and the alarming drop in haemoglobin at around the same time, also point to a causal event at the same time, i.e. after admission to hospital or shortly before. As Mr Jayamohan himself observed, had he been working from the scans and evidence of injuries alone, he would have thought the injuries were likely to have occurred within 24 hours of the CT scan. A number of the symptoms identified as suggestive of encephalopathy, such as they are, first appeared some days earlier, around the 6th, 7th or 8th February. Others appeared overnight on 13th / 14th February. I bear in mind, of

course, that it is possible that there were two events, one around 6th or 7th February, the other a week or so later

126. To my mind, the evidence of the repeated tapping surgical procedures carried out from 14th February onwards (limited though it is as a result of the indifferent quality of the record-keeping) is consistent with an event occurring around the 13th. The evidence of these procedures is also significant because of the evidence of recurrent bleeding. I acknowledge that these episodes could be caused by one or more of the surgical procedures themselves if a blood vessel was nicked in the course of inserting the needle, but they could also be explained by episodes of bleeding or re-bleeding attributable to other causes, since it is well established that a collection once present can re-bleed with minimal force or even spontaneously.

127. The experts did not consider it likely that the intracranial haemorrhages detected in S after her admission were attributable to birth. The pattern and extent of the bleeding was not in line with what is seen clinically or reported in the research. Yet the very strong impression one has from the research studies is that this is an area where the science is not yet fully understood. The incidence of bleeding is now recognised as being far higher than previously believed (see the Rooks paper). Furthermore, it is also now recognised that birth can lead to various types of intracranial bleeding, not just subdural but also subarachnoid and intra-parenchymal (see the Looney paper). There is as yet no research on the incidence of spinal subdural bleeding at birth, and in my view the interpretation of such bleeding, in the absence of other clinical signs, is very difficult. Given the strong possibility that S suffered some form of intra-cranial bleeding at birth, it is in my view possible that this occasioned episodes of re-bleeding caused as a result of some incident, perhaps one of those witnessed incidents described by K in the evidence, or even spontaneously.

128. There are, however, three features of the intra-cranial injuries which make that less likely, namely (1) the extent of the intra-cranial bleeding; (2) the opinion given by the experts that the subdural fluid was more likely to be traumatic effusions rather than chronic collections and (3) the evidence that intra-parenchymal haemorrhage resolves in a different way from subdural bleeding, with, as Dr Hogarth described, an oedema around the clot which contracts in a fashion visible on the MR imaging in this case. These factors all point to a traumatic cause that was not birth related.

129. On the other hand, there is no other evidence of any traumatic event. S had no bruises or fractures or other physical signs suggestive of trauma, abusive or accidental. She was, and is, a much wanted and much loved baby. Her fathers were, and are, devoted to her. There is no evidence to suggest that K might have shaken her. He was, if anything, overprotective and overanxious about his baby, like most new parents. Mrs A was, and is, a devoted and experienced grandmother. I find it almost inconceivable that she could have injured S, intentionally or otherwise.

130. So far as D is concerned, at the outset of the hearing it was the local authority's case that, if he was responsible, it could have been either by shaking (with or without impact), and/or by traumatic handling. In closing submissions, Miss Skellorn fairly conceded that the evidence was insufficient to find "infliction" versus handling error, or malice, intention or recklessness. When considering the possibility that D may have been responsible for S's injuries, it is important to consider the opportunities for such an event to have occurred. It was for that reason that much attention at the hearing

was focussed on the events of the early hours of 8th February. During that period, D was in charge of S downstairs for about one hour, while K was asleep and Mrs A dozed upstairs. It is possible that something happened during that period, and this court is of course hampered by the absence of any direct evidence from D. On balance, however, it seems to me improbable. S showed little if any sign of having sustained a major traumatic event when Mrs A came downstairs and took over. In any event, as the case has progressed, it is becoming increasingly clear that the medical evidence points to a precipitating event having occurred several days later, shortly before or after her admission to hospital, rather than on 8th February. There is no evidence that D was ever left in charge of S for any significant period of time after 8th February, and the evidence suggests that it was K alone, or K and D together, who were caring for S in the period prior to her hospital admission.

131. Thus there is nothing in the lay evidence to indicate that any family member injured S. I acknowledge that on occasions even an otherwise apparently blameless parent may lose control when caring for a baby, but I find the chances of that having happened here to be very small. All the evidence of the wider canvas issues is to the contrary. It is manifestly clear that S receives care of a very high quality.

132. I therefore return to the expert evidence and in particular the features about the intracranial bleeding identified above. Taken by itself, and in the context of the retinal haemorrhages, that evidence points to an unexplained traumatic cause and therefore non-accidental head injury. But a judge's role is to consider all the evidence together. As Charles J observed in *A County Council v K, D and L*, supra, when the medical evidence is to the effect that the likely cause is non-accidental, it is open to the court nonetheless having regard to the totality of the evidence to find on a balance of probabilities that an injury has a natural cause or is not non-accidental, or that the local authority has not proved its case on a balance of probabilities. In this case, notwithstanding the views of the medical experts, and having regard in particular to the absence of any other physical signs of injury, or any event of sudden collapse, the relatively weak evidence of encephalopathy in this case, the continuing debate concerning the incidence of birth related bleeding, the likely timing of the causative events at shortly before or after S's admission to hospital, the lack of any symptoms of ill-health on admission, my findings as to the truthfulness of K and Mrs A, and the overall evidence of the high quality of care given to S by her fathers, I conclude that the local authority has not proved on a balance of probabilities that S sustained injuries whilst in the care of her fathers either intentionally, or as a result of any action for which either parent was culpable.

133. Finally, I turn to the allegations of failure to protect. The local authority seeks a finding that K, as the partner, husband and carer of D, and given his extensive involvement in the civil litigation relating to D's personal injury, failed to protect S from significant harm or the likelihood of significant harm, in that he permitted D to have unsupervised care of her in the knowledge that (1) medical assessments had identified significant residual impairment in D's executive functioning and day to day life skills and (2) there was a potential for D to become cognitively overwhelmed, a likelihood of his struggling in new situations, in learning new information, tasks or routines, in generating solutions or responding flexibly, and in solving problems in unstructured environments, and that D had limited insight into the needs of others and a poor appreciation of cues. The local authority asserts that this last factor is sufficient

to cross the threshold under section 31, irrespective of the court's findings concerning the causation of S's injuries.

134. As stated above, I accept that K was less than candid in his dealings with the fertility clinic concerning the extent of D's problems. I do not, however, find that this lack of candour provides significant evidence in support of the suggestion that he failed to recognise that S may be at risk through D's problems. On the contrary, I find that K was totally aware of D's problems and at how they may impinge on S, and took active, constructive and detailed steps to address that impact by trying to devise ways of helping D care for S, and by taking other measures to ensure that she was safe. It may be that he was in some respects over-optimistic about D's capacity because he wanted and wants D to be able to play his part in caring for their daughter. Looking at the evidence overall, at having regard in particular to K's own evidence, I find that he was on the whole realistic concerning D's capacity and appropriately protective S. It was probably inappropriate to allow D to care for S unattended in the middle of the night, but standing back and considering that in the context of child protection litigation generally, and comparing this to the hundreds of other cases that come before this court every year, and the specific situation in this family, I do not regard that error (if error it was) as indicative of unreasonable parenting on the part of K. On the whole, the course he took in allowing D a measure of responsibility for the care of S, whilst being perhaps more than others would allow, and probably more than he himself would now allow on reflection, was not unreasonable. I therefore reject the local authority's argument that these circumstances amount to a likelihood of significant harm attributable to the care given to S not being what it would be reasonable to expect a parent to give.

135. On the balance of probabilities, the local authority has therefore failed to prove the findings it seeks, and its application for an order under section 31 of the Children Act is therefore dismissed.