COURT: SUPREME COURT OF TASMANIA (COURT OF CRIMINAL APPEAL)

CITATION: *Neill-Fraser v Tasmania* [2021] TASCCA 12

PARTIES: NEILL-FRASER, Susan Blyth
v
STATE OF TASMANIA

FILE NO: 2015/2019

DELIVERED ON: 30 November 2021

DELIVERED AT: Hobart

HEARING DATE/S: 1–3 March 2021

JUDGMENT OF: Wood J, Estcourt J, Pearce J

CATCHWORDS:

Criminal law – Appeal and new trial – Particular grounds of appeal – Fresh evidence – Availability at trial, materiality and cogency – Availability at trial – Evidence in possession of Crown not disclosed to defence – Not established that evidence could not, even with the exercise of reasonable diligence, have been adduced at trial.
Criminal Code Act 1924, s 402A(6), (10)(a).
Van Beelen v The Queen [2017] HCA 48; 262 CLR 565, followed.
R v Keogh (No 2) [2014] SASCFC 136, 121 SASR 307 and *R v Drummond (No 2)* [2015] SASCFC 82, applied.
Aust Dig Criminal Law [3498]

Criminal law – Appeal and new trial – Particular grounds of appeal – Fresh evidence – Availability at trial, materiality and cogency – Materiality and cogency – Generally – Evidence not compelling.
Criminal Code Act 1924, s 402A(6) and (10)(b)
Van Beelen v The Queen [2017] HCA 48; 262 CLR 565, followed.
R v Keogh (No 2) [2014] SASCFC 136, 121 SASR 307 and *R v Drummond (No 2)* [2015] SASCFC 82, applied.
Aust Dig Criminal Law [3498]

Criminal law – Appeal and new trial – Miscarriage of justice – Generally – Second or subsequent appeal – Substantial miscarriage of justice not demonstrated.
Criminal Code Act 1924, s 402A(6).
Mickelberg v The Queen (1998) 167 CLR 259, *Van Beelen v The Queen* [2017] HCA 48; 262 CLR 565, followed.
R v Keogh (No 2) [2014] SASCFC 136, 121 SASR 307 *and R v Drummond (No 2)* [2015] SASCFC 82, applied.
Aust Dig Criminal Law [3455]

REPRESENTATION:

***Counsel*:**

Appellant:	R Richter QC, C Carr SC, P Smallwood
Respondent:	D Coates SC, J Shapiro

Solicitors:

Appellant:	P Galbally (Galbally O'Bryan)
Respondent:	Director of Public Prosecutions

Judgment Number:	[2021] TASCCA 12
Number of paragraphs:	544

Serial No 12/2021
File No 2015/2019

SUSAN BLYTH NEILL-FRASER v STATE OF TASMANIA

REASONS FOR JUDGMENT

COURT OF CRIMINAL APPEAL
WOOD J
ESTCOURT J (Dissenting)
PEARCE J
30 November 2021

Order of the Court:

Appeal dismissed

SUSAN BLYTH NEILL-FRASER v STATE OF TASMANIA

REASONS FOR JUDGMENT **COURT OF CRIMINAL APPEAL**
WOOD J
30 November 2021

1 On 27 October 2010 the appellant was convicted after a trial by jury of the murder of her partner Robert Adrian Chappell on or about 26 January 2009.

2 The trial was conducted before Blow J (as he then was). The Crown case consisted entirely of circumstantial evidence. In order for the jury to have found the appellant guilty, they needed to be satisfied beyond reasonable doubt that the appellant was responsible for the murder of Mr Chappell and also, that her guilt was the only rational inference that could be drawn from the evidence accepted by the jury. The jury was directed by the trial judge that if there was any rational hypothesis consistent with innocence open on the evidence, the accused had to be found not guilty. The defence case at the trial was that a reasonable hypothesis consistent with her innocence had not been excluded that someone other than the appellant had killed Mr Chappell.

3 The appellant appealed her conviction and sentence to this Court. There were several grounds of appeal against conviction that were pursued on appeal, but it was not asserted that the verdict of the jury was unreasonable or unsupported by the evidence. On 6 March 2012 the appeal against conviction was dismissed, but the appeal against sentence was upheld and her sentence reduced from 26 years' imprisonment with a non-parole period of 18 years, to 23 years with a non-parole period of 13 years: *Neill-Fraser v Tasmania* [2012] TASCCA 2. The appellant sought leave to appeal to the High Court and special leave was refused: [2012] HCA Trans 213.

4 The appellant's statutory rights of appeal to this Court were, at that time, exhausted (see s 401 of the Code and *Grierson v The King* (1938) 60 CLR 432 at 435-436; *Postiglione v The* Queen (1997) 189 CLR 295 at 300; *Burrell v The Queen* [2008] HCA 34, 238 CLR 218 at 225).

5 Now, by virtue of amendments to the *Criminal Code* (Tas), in the form of s 402A, which came into effect on 2 November 2015, a convicted person may seek leave to bring a second or subsequent appeal to the Court of Criminal Appeal on the ground that they have fresh and compelling evidence. If the Court of Criminal Appeal is satisfied that there is such evidence and, after taking into account the fresh and compelling evidence, there has been a substantial miscarriage of justice, the new provision allows the court to quash the original conviction and to either direct a judgment and verdict of acquittal to be entered or to order a new trial (s 402A(8)).

6 This Court has heard an appeal brought under the new section by the appellant against her conviction on the ground that she has fresh and compelling evidence. This is the first such appeal to be heard in Tasmania.

Background

7 Some of the circumstances of the crime and aspects of the chronology of events are uncontentious.

8 The appellant was aged 55 and Mr Chappell was 65. The appellant and Mr Chappell were de facto partners having been in a relationship for some 20 years. They lived together at Mr Chappell's house in Allison Street, West Hobart. They had both been previously married. He had three adult children from his marriage and she had two adult children from her marriage.

9 The appellant and Mr Chappell were interested in purchasing a yacht. Ultimately they located a 53 foot ketch, the Four Winds, at Scarborough Marina in Queensland and purchased it in September 2008 for $203,000. There were a number of problems with the yacht, including mechanical issues with

the engine and by 28 December 2008 they had spent $40,000 on expenses connected with the yacht with more expenditure required. They were considering legal action in relation to the survey they purchased because of the problems.

10 They hired two crew to assist them sailing the yacht to Hobart. They commenced sailing on 7 December 2008. Mr Chappell suffered a number of nose bleeds and had to been seen by a doctor at Southport. He was admitted to hospital for treatment and the appellant and two crew members continued to sail to Hobart. Mechanical and equipment issues marred the trip. Initially the plan was for Mr Chappell to join them in Sydney. However, the crew were concerned about his medical condition and potential difficulties in evacuating him while crossing Bass Strait, and he flew home to Tasmania.

11 The appellant and the crew arrived in Hobart late on 23 December 2008 and Mr Chappell met them on the morning of Christmas Eve.

12 On 25 January the appellant and Mr Chappell spent a day cruising to Bruny Island and return with his sister Caroline Sanchez who was visiting from Sydney. Once they arrived at Bruny Island they were unable to lower the anchor as planned because the anchor winch failed. They returned to the yacht's mooring.

13 The mooring was on the River Derwent on the western side of the river, approximately 450 metres from shore. On the shore was a beach referred to as Short Beach or the Marieville Esplanade beach. There were a number of moorings in the area and the Four Winds was moored at one of the outer moorings.

14 Marieville Esplanade is a street that follows part of the foreshore in the suburbs of Sandy Bay and Battery Point, on the western shore of the Derwent River. Marieville Esplanade provides access to the foreshore and amenities, and houses on the western side of the street. Short Beach is at the northern end of the Esplanade. At the southern end of the beach is a narrow area of reclaimed land that juts out into the river. Situated on that land is the Sandy Bay Rowing Club and rowing sheds. On the southern side of the rowing sheds is a grassed area and rocky foreshore and then the Royal Yacht Club of Tasmania and marina. The Four Winds mooring was 600 metres north-east of the Royal Yacht Club.

15 On 26 January at about 8:30am or 9:00am the appellant and Mr Chappell went out to the Four Winds on its mooring and Mr Chappell worked on the yacht. They went out to the yacht in the Four Winds tender, an inflatable dinghy with an outboard motor.

16 The appellant had arranged to return and have lunch with Ms Sanchez at the Royal Yacht Club. She took the tender into Marieville Esplanade beach and tied it up at a pole. Mr Chappell remained on the yacht. She drove to Allison Street in West Hobart, changed and went with Ms Sanchez to lunch as arranged. Later, in the afternoon, she returned to the Four Winds. Ms Sanchez gave evidence that the appellant left her at about 1:30pm. Ms Sanchez was staying with the appellant and Mr Chappell but she left the house that afternoon to spend two days on Bruny Island.

17 There is no contention that the appellant returned to the Four Winds. She gave evidence that she was assisted by a man who freed the outboard motor that was stuck in the sand. A witness, Christopher Liaubon, gave evidence that he provided that assistance at about 2:00pm. She then made her way in the dinghy to the Four Winds.

18 The evidence of the appellant was that during the afternoon Mr Chappell worked in the engine room and on the anchor winch motor. He was in and out of the engine room and had an electrical switchboard open. She gave evidence that he wanted to spend the night on the yacht to keep working. She left her mobile telephone with him and went to shore in the dinghy. She gave evidence that she thought she had been on the yacht for an hour at the most.

19 At about 5:40am on the morning of 27 January, the Four Winds dinghy was found by a witness bumping into the rocks in front of the rowing sheds at Marieville Esplanade. This was close to the area where the appellant had tied the dinghy up to a pole the day before. It was floating some hundreds of metres away from where the appellant said she had tied it up at the Royal Yacht Club. Its painter was inside the dinghy, which suggested that it had been put there by someone rather than simply coming undone from the ladder where the appellant said she had tied it. If it had become undone, it is likely that the painter would have been trailing in the water.

20 The witness and another man headed out in a boat and passed the Four Winds on its mooring. They noticed it was very low in the water.

21 When police boarded the Four Winds shortly after 7:00am on 27 January there were signs of a violent altercation. There was no sign of Mr Chappell and he has not been seen since. Police noticed blood on the steps to the wheelhouse and a knife on the floor. There was blood elsewhere including on a Dolphin torch in the wheelhouse. A DNA profile was obtained and it matched Mr Chappell's DNA profile.

22 When water was pumped out of the yacht, it was discovered that it had been sabotaged. One of the pipes to the toilet had been cut and a disused seacock under the flooring had been opened, in both instances allowing sea water to flow in. An automatic bilge pump and alarm system had been deactivated.

23 Police divers did not locate any trace of Mr Chappell in the water surrounding the yacht. The divers searched an area immediately around the Four Winds and to the south of it. In April 2009 sonar equipment was used to search the area. The river was up to 24 metres deep with a bottom of fine silt which made searching very difficult. Approximately 90 large items were detected with the sonar, some could be discounted, and about 15 items were dived on and checked. Mr Chappell's body was not found.

24 On the same day, 27 January, the Four Winds was towed to Constitution Dock where it was kept under police and video surveillance. The following day, 28 January, it was moved to CleanLift Marine at Goodwood and placed on a slip for inspection.

25 During the period from 28 January to 4 February, forensic scientists conducted an examination of the yacht. A screening test, luminol, which is used to test for the presence of blood, was applied and produced some positive results in various locations including on the deck of the yacht. On 30 January a swab was taken from a luminol positive area on the deck which revealed the presence of DNA of a female. At that time the DNA profile did not match the DNA of any individual on the State's DNA database. The chance of an unrelated randomly selected person also matching the profile was less than one in one hundred million. On 15 March 2010, the DNA profile was matched with the DNA profile of Meaghan Vass. She was 15 years old on the 26 January 2009.

26 Ms Vass gave evidence at the trial that she had never been on the Four Winds. She did not remember going to Constitution Dock or CleanLift Marine in Goodwood.

27 A forensic scientist, Carl Grosser, gave evidence at the trial that it was possible that a person's DNA profile could have been deposited by secondary transfer, such as if a person stepped into a bodily fluid and transferred it to the deck of the Four Winds on the sole of their shoe. He had never been involved in a case where that was known to be the cause, but said it was logically possible. As an explanation for the presence of Ms Vass's DNA, Mr Grosser's evidence of secondary transfer is highly contentious on this appeal.

28 The inflatable dinghy also tested positive to luminol in a number of areas. Some of these returned a positive result from a hemastix test, another screening test for blood but again, not a

conclusive test. These screening tests may react with agents other than blood to create false positive results. The State did not rely to any significant extent on the luminol reaction in the dinghy.

29 There was evidence that enabled the jury to readily conclude that the deceased was dead and had not staged his disappearance, that he had not met with an accident or taken his own life.

30 There was evidence of police enquiries that revealed no sign of him still being alive. His bank accounts and superannuation entitlements had not been accessed after 26 January 2009. Similarly, Medicare and the Pharmaceutical Benefits Scheme had not been accessed by him. He had not contacted any of his family members since and there have been no movements recorded in relation to his passport. There was no record of State or Federal police having had any involvement with him since his disappearance.

31 There was evidence that the deceased was not depressed or suicidal. He was employed as a physicist at the Royal Hobart Hospital and regarded his work as important. The evidence that the yacht had been scuttled, and that Mr Chappell had disappeared without a trace suggested that he did not commit suicide.

32 There was evidence that the deceased had met with violence. The evidence that the Four Winds was sabotaged, as well as the evidence of blood on the yacht and the torch supported the proposition that there had not been an accident.

33 Based on the evidence the jury was able to readily be satisfied beyond reasonable doubt that Mr Chappell was killed on the Four Winds on 26 January or early on 27 January 2009, his body was disposed of in the River Derwent and an attempt was made to sink the yacht. That finding is uncontroversial on this appeal. The controversial issue is not whether Mr Chappell was murdered but whether the appellant was responsible.

The State's case

34 The State's case was that the only reasonable explanation that could be drawn from the evidence was that the appellant was the person responsible for Mr Chappell's murder. The circumstantial case was described by this Court in the first appeal as involving a great amount of evidence and "made up of an accumulation of detail", Crawford CJ at [161], [164] per Porter J at [250]. At the risk of over-simplifying the circumstantial case, the essential aspects of it fall into the following categories:

- evidence of the sabotage of the yacht that pointed to the saboteur as someone who had an intimate knowledge of the Four Winds.

- evidence that the dinghy from the Four Winds had been used and abandoned in the proximity of the Four Winds during the night Mr Chappell was killed, after the appellant had used the dinghy the day before to leave the Four Winds and had tied it up securely at the nearby yacht club.

- the movements of the appellant on Australia Day and the night of Australia Day, which placed the appellant in the vicinity of the Four Winds with opportunity to access it, during the period the deceased was killed.

- evidence that can be categorised as motive, principally that the appellant regarded the relationship with Mr Chappell as over and that there was considerable tension between them.

- lies told by the appellant to police and others that were capable of revealing that the appellant told the lies because of a consciousness of her guilt.

- conversations with a Mr Triffett approximately 12 years before in which the appellant spoke of killing Mr Chappell when he was on board a yacht, sabotaging the yacht and disposing of his body.

The defence case

35 The appellant gave evidence at the trial and denied returning to the yacht during the afternoon or night of 26 January. She denied killing Mr Chappell and denied involvement in or knowledge of the circumstances of the disappearance of Mr Chappell. In both of her police interviews and in her evidence she gave answers to the effect that she was innocent of the crime with which she was charged.

36 The evidence of motive was disputed, the defence case was that there were no difficulties with her relationship with the deceased and she did not regard it as at an end. The defence was that any statements to police or in her evidence found to be untrue were not lies told out of a consciousness of guilt. The conversations with Mr Triffett were disputed.

37 The defence case was that the jury could not be satisfied of her guilt beyond reasonable doubt. There was a reasonable hypothesis, consistent with her innocence, that another person or persons were responsible for his death.

38 The defence relied heavily upon the finding of Ms Meaghan Vass's DNA on the deck of the Four Winds and the identification of a grey dinghy tied up to the Four Winds during the late afternoon of 26 January 2009 that was inconsistent with the dinghy from the Four Winds. The defence contended that there was a reasonable hypothesis that was open on the evidence that Ms Vass had been onboard the Four Winds, and that she and/or her associates were responsible for Mr Chappell's disappearance.

39 As will be seen, for the purpose of this appeal, the appellant relies on evidence, said to be fresh and compelling, from a forensic scientist, Mr Maxwell Jones regarding the rarity of secondary transfer having occurred by someone stepping into a biological substance containing DNA and transferring it to another location on the sole of their shoe, and the circumstances required for such a transfer to have occurred. This evidence is said to undermine the plausibility of the proposition advanced by the Crown at the trial that the presence of Ms Vass's DNA could be explained by secondary transfer of her DNA on the sole of someone's shoe.

The application for leave

40 Section 402A(2) provides that before this Court may hear an appeal by a convicted person on the basis that they have fresh and compelling evidence, the person has to have been granted leave to appeal under this section. The application for leave to bring an appeal may be heard by a single judge or this Court. Subsection (3) provides: "A convicted person may apply to a single judge for leave to lodge a second or subsequent appeal against the conviction on the ground that there is fresh and compelling evidence."

41 While a single judge may hear an application for leave, the appeal itself can be heard only by the Court of Criminal Appeal.

42 Section 402A(5) provides:

> "(5) On hearing the application of a convicted person for leave to appeal, the single judge or Court –
>
> (a) must grant leave to appeal if satisfied that –
>
> (i) the convicted person has a reasonable case to present to the Court in support of the ground of the appeal; and
>
> (ii) it is in the interests of justice for the leave to be granted; or
>
> (b) must refuse to grant leave to appeal if not so satisfied."

43 The appellant brought an application for leave to appeal her conviction on the ground that she had fresh and compelling evidence. Her application for leave was heard by Brett J and leave was granted on 21 March 2019: *Neill-Fraser v Tasmania* [2019] TASSC 10.

44 The evidence on the leave application included evidence of a forensic scientist, Mr Maxwell Jones, which is central to the appellant's case on the appeal and which I will summarise later in these reasons.

45 There was other relatively extensive evidence presented on the leave application which is now not relied upon by the parties. A significant number of witnesses were called by the appellant and two for the respondent. It included evidence by eye witnesses with respect to matters such as sightings of dinghies and individuals in the area at the material time, a detective who gave evidence at the trial regarding his investigations, forensic evidence of an expert, Dr Mark Reynolds, with regard to the luminol testing of the dinghy by Ms McHoul and evidence given at the trial of a winching reconstruction, evidence by Mr Colin McLaren, a retired police officer who is now an author, investigative journalist and documentary film consultant. He gave evidence of a telephone conversation with Ms Vass on 16 January 2017 and, a statutory declaration purported to have been made by Ms Vass, signed on 27 April 2017.

46 Ms Vass gave evidence on the leave application, admitting she had made the statutory declaration but denying it was true. The court was informed that a journalist's interview with Ms Vass had been aired on the 60 Minutes program. The interview was not part of the evidence but an affidavit was tendered which purported to have been sworn by Ms Vass on 25 February 2019. It included detailed admissions of Ms Vass's involvement in events onboard the Four Winds on the relevant night. In particular, Ms Vass stated that she was present on the yacht with two named male companions. She witnessed at least one of them assault Mr Chappell. She recalled seeing a lot of blood. The affidavit provided that she could not recall leaving the yacht or what happened after the assault.

47 Brett J noted in his reasons granting leave that the test for the grant of leave is satisfaction that the convicted person has a reasonable case to present to the Court of Criminal Appeal, that there is fresh and compelling evidence, and that it is in the interests of justice for leave to be granted. His Honour held that on an application for leave, he was not concerned with the question of whether, after taking into account the asserted fresh and compelling evidence, there has been a substantial miscarriage of justice.

48 His Honour made a number of observations regarding the evidence of Mr Jones but ultimately did not need to decide whether that evidence may qualify as fresh and compelling: [36], [55]. His Honour resolved the application on the basis of the out of court representations of Ms Vass which he concluded gave rise to a reasonable case to present to this Court in support of the ground of appeal.

49 As will be seen, at the hearing of the appeal before this Court, Ms Vass gave evidence and subsequently, her so-called fresh and compelling evidence was abandoned by the appellant. It was the position of the appellant expressed by her counsel during the hearing of the appeal that this Court should disregard her evidence given at the hearing of the leave application, and all of her out of court representations led at the hearing of the leave application, and her evidence given at the hearing of the appeal.

50 It is an interesting feature of the new statutory scheme for second or subsequent appeals in Tasmania that leave to appeal may be granted based on evidence that is ultimately not pursued at the hearing of the appeal. In this respect, the new procedure in Tasmania and its two stage process with a single judge having power to grant permission to appeal, can operate in a way that is generous to appellants. The filter of the leave provision does not necessarily apply to the evidence that is ultimately advanced on appeal. Whether, if not for Ms Vass's evidence, the appellant would have been granted leave to appeal is unknown and is irrelevant to our consideration.

This appeal hearing

51 After leave was granted, a notice of appeal was lodged on 2 August 2019. The notice of appeal in its original terms set out the grounds as follows:

"The Appellant appeals pursuant to s 402A of the Code on the ground that:

Ground 1: Fresh and compelling evidence establishes that there has been a substantial miscarriage of justice.

Particulars:

There is fresh and compelling evidence that:

1.1 Meaghan Vass has boarded the Four Winds, and the deceased was attacked while she was on board.

1.2 Evidence led by the prosecution at trial in relation to:

1.2.1: the results of, and inferences that could be drawn from, DNA testing;

1.2.2: the results of, and inferences that could be drawn from, Luminol testing;

1.2.3: a winching reconstruction on the Four Winds; was misleading.

1.3 The dinghy seen near the Four Winds around the time the deceased was attacked was not the Four Winds' tender."

52 At the commencement of the hearing of the appeal the appellant abandoned reliance on particular 1.2.3, that "a winching reconstruction of the Four Winds was misleading" and also particular 1.3, that "the dinghy seen near the Four Winds around the time the deceased was attacked was not the Four Winds' tender". In relation to particular 1.2.2, "the results of, and inferences that could be drawn from Luminol testing", it was indicated that the appellant did not seek to pursue the aspect of the luminol testing relating to the dinghy.

53 During the appeal the appellant called Ms Meaghan Vass to give evidence. She gave an account of events of the night of Australia Day in 2009, that she and three men boarded a yacht at its mooring and that there was an argument with a man who was on board and he was subjected to violence. She saw a lot of blood, panicked and vomited on the deck. During cross-examination, Ms Vass dramatically recanted her evidence and stated that her account was not correct. Before cross-examination concluded, the appellant's counsel withdrew reliance on particular 1.1, that "there is fresh and compelling evidence that Meaghan Vass had boarded the Four Winds, and the deceased was attacked while she was on board." It was conceded that "the evidence of Ms Vass cannot support the notion of fresh and compelling evidence leading to the miscarriage of justice." It was said by senior counsel for the appellant that Ms Vass could be excused from further evidence because "there was not much point in any of it." It was further conceded by the appellant that "reliance upon Ms Vass having been abandoned midway through her cross-examination without any re-examination is not of any relevance to this court's task."

54 The ground of appeal as it stands for determination by this Court is:

"Fresh and compelling evidence establishes that there has been a substantial miscarriage of justice

Particulars

There is fresh and compelling evidence that:

1.2: Evidence led by the prosecution at trial in relation to:

1.2.1: the results of, and inferences that could be drawn from, DNA testing;

1.2.2: the results of, and inferences that could be drawn from, Luminol testing; was misleading."

55 The luminol testing at 1.2.2 is described by the appellant as limited to "the luminol inflorescence which appeared on the starboard side of the deck, from which a swab was taken and a full DNA profile of Meaghan Vass was identified".

56 The evidence relied upon as fresh and compelling evidence is the evidence of Maxwell Jones, given at the hearing of the leave application before Brett J, two reports by Mr Jones and an exhibit, an electropherogram. This evidence is to be considered in the context of all of the evidence at the trial. This requires consideration of the transcript of the evidence at the trial and also exhibits tendered on the trial, and the view of the scene that was undertaken by the jury on the first day of the trial.

The statutory test

57 The test for whether the appeal should be upheld is set out in s 402A(6):

"The Court may uphold the second or subsequent appeal of a convicted person if satisfied that –

(a) there is fresh and compelling evidence; and

(b) after taking into account the fresh and compelling evidence, there has been a substantial miscarriage of justice."

58 Section 402A (1) provides assistance in relation to key words and phrases:

"(1) In this section –

convicted person means a person who, before a court of trial, has been –

(a) convicted of a serious crime; or

(b) acquitted of a serious crime on the ground of insanity –

whether that conviction or acquittal occurred before or after the commencement of this section;

fresh and compelling evidence has the meaning given by subsection (10) ;

serious crime means a crime punishable upon indictment listed in Appendix D"

59 The appellant is a "convicted person", the crime of murder is listed in Appendix D. Subsection (10)(a) provides the meaning of "fresh evidence":

"Evidence relating to the serious crime of which a convicted person was convicted –

(a) is fresh evidence if –

(i) it was not adduced at the trial of the convicted person; and

(ii) it could not, even with the exercise of reasonable diligence, have been adduced at that trial; and

…"

60 Subsection (10(b) of s 402A informs the meaning of "compelling evidence":

"Evidence relating to the serious crime of which a convicted person was convicted –

…

(b) is compelling evidence if –

(i) it is reliable; and

(ii) it is substantial; and

(iii) in the context of the issues in dispute at the trial of the convicted person, it is highly probative of the case for the convicted person."

61 The statutory test under the Tasmanian Code substantially replicates the South Australian statutory model. Section 353A of the *Criminal Law Consolidation Act* 1935 (SA) (CLC Act) was enacted in 2013, it was later repealed and a new provision in identical terms was enacted as s 159 of the *Criminal Procedure Act* 1921 (SA). Section 353A of the CLC Act provided:

"(1) The Full Court may hear a second or subsequent appeal against conviction by a person convicted on information if the Court is satisfied that there is fresh and compelling evidence that should, in the interests of justice, be considered on an appeal.

(2) A convicted person may only appeal under this section with the permission of the Full Court.

(3) The Full Court may allow an appeal under this section if it thinks that there was a substantial miscarriage of justice.

…

(6) For the purpose of subsection (1), evidence relating to an offence is –

(a) ***fresh*** if –

(i) it was not adduced at the trial of the offence; and

(ii) it could not, even with the exercise of reasonable diligence, have been adduced at the trial; and

(b) ***compelling*** if –

(i) it is reliable; and

(ii) it is substantial; and

(iii) it is highly probative in the context of the issues in dispute at the trial of the offence."

62 The South Australian provision is similar to the Tasmanian section in terms of providing for a permission or leave stage and a substantive appeal stage but the questions are discrete for each stage. The Full Court of South Australia may grant permission for a second or subsequent appeal against conviction by a person if satisfied that there is fresh and compelling evidence that should, in the interests of justice, be considered on an appeal. The questions of whether evidence is "fresh" and "compelling" arise at the leave stage. It can be seen that the definitions of both "fresh" and "compelling" are to the same effect as the Tasmanian definitions. If permission to appeal is granted, the test on the substantive

appeal is whether there has been a "substantial miscarriage of justice". See the discussion in *R v Bromley* [2018] SASCFC 41 at [374].

63 Under the Tasmanian provision, the questions which arise, either for the judge or the Court on hearing an application for leave to appeal, are whether the convicted person has a reasonable case to present to the Court in support of the ground of the appeal and, whether it is in the interests of justice for the leave to be granted: s 402(5)(a) and (b). If the judge or Court is so satisfied, leave to appeal must be granted. Then, at the substantive appeal stage, pursuant to s 402A(6), the Court may uphold the appeal if satisfied there is fresh and compelling evidence and, after taking into account the fresh and compelling evidence, there has been a substantial miscarriage of justice. The legal principles governing applications for leave in Tasmania were considered by Brett J in *Neill-Fraser* [2019] TASSC 10 when hearing the application for leave to appeal in this case, and his Honour addressed the considerations that arose at that stage.

64 The jurisdictions have in common the need for the courts to be satisfied that there is fresh and compelling evidence and, having taken that evidence into account, that there has been a substantial miscarriage of justice.

65 In *Van Beelen v The Queen* [2017] HCA 48, 262 CLR 565 the intention of s 353A was identified by the High Court as follows:

> "[27] Section 353A manifests an intention that finality yield in the face of fresh and compelling evidence which, when taken with the evidence at the trial, satisfies the Full Court that there has been a substantial miscarriage of justice. If, following an unsuccessful s 353A appeal, further fresh and compelling evidence is discovered, the evident intention is that the Full Court have jurisdiction to remedy any substantial miscarriage of justice. The right to approach the Full Court directly conferred by s 353A in such a case is to be contrasted with the mechanism of executive referral in the case of a petition of mercy. The concern that a convicted person may bring successive, meritless applications under s 353A is addressed by the requirement to obtain the Full Court's permission to appeal."

66 The Second Reading Speech with respect to the amending bill in Tasmania, the Criminal Code Amendment (Second or Subsequent Appeal for Fresh and Compelling Evidence) Bill 2015, explains that the South Australian provisions "have formed the basis of this bill", Premier, House of Assembly 22 September 2015, p 48. The Second Reading Speech noted that the terms "fresh" and "compelling" are defined in the new provisions and the "definitions mirror current case law", p 49. Presumably, this is a reference to leading South Australian decisions such as *R v Keogh (No 2)* [2014] SASFC 136, 121 SASR 307.

67 If Parliament uses terms in a statute that have an established meaning, effect should be given to that meaning: *Re Alcan* (1994) 181 CLR 96. The Court in *Alcan* stated that there is a relevant principle of statutory construction that should be applied when Parliament re-enacts words that are almost identical to those considered in a particular decision. It was said at 106:

> "There is abundant authority for the proposition that where the Parliament repeats words which have been judicially construed, it is taken to have intended the words to bear the meaning already 'judicially attributed to [them]' (39), although the validity of hat proposition has been questioned (40). But the presumption is considerably strengthened in the present case by the legislative history of the Act."

68 In the case of s 402A, the presumption is strengthened by the Second Reading Speech and the legislative history of the section in following the statutory text in South Australia.

69 Accordingly, guidance is provided by South Australian decisions that have considered the meaning of "fresh" and "compelling" evidence and the concept of a "substantial miscarriage of justice". These cases are principally *R v Keogh (No 2)* (above) and *R v Drummond (No 2)* [2015] SASCFC 82.

The meaning of fresh evidence

70 The starting point for a consideration of the meaning of fresh evidence is s 402A(10)(a) which provides that evidence is fresh evidence if it was not adduced at the trial of the accused person and it could not, even with the exercise of reasonable diligence, have been adduced at the trial.

71 The Court in the South Australian case of *Keogh (No 2)* considered the definition of "fresh" and the statutory requirements that the evidence was not adduced at the trial and "it could not, even with the exercise of reasonable diligence, have been adduced at the trial" in s 353A(6)(a) of the CLC Act. At [102] the Court said as to these requirements:

> "… The question of whether evidence was adduced at trial for the purpose of s 353A(6)(a)(i) may be determined by having regard to the transcript of evidence at trial. The requirement in s 353A(6)(a)(ii), that the evidence could not, even with the exercise of reasonable diligence, have been adduced at trial, requires an objective assessment of what the applicant could reasonably be expected to have done in all of the circumstances leading up to and including the trial."

See also *MJJ v The Queen* [2021] SASCFC 36 at [94].

72 The Court in *Keogh (No 2)* noted that the concept of fresh evidence is well known to the common law and that the common law definition of fresh evidence in the context of a first appeal (common form appeal) is not dissimilar, in a practical sense, to the definition provided in the equivalent South Australian provision, s 353A(6)(a). The Court referred to the judgment of Barwick CJ in *Ratten v The Queen* (1974) 131 CLR 510 at 516-517 which treated fresh evidence in that context as evidence which was not actually available to the appellant at the time of the trial, or which could not then have been available to the appellant by the exercise on his part of reasonable diligence in the preparation of his case. Thus, as stated by the Court at [99], "Ordinarily, an appellant will not have acted with reasonable diligence if they could reasonably be expected to have become aware of the evidence and adduced it at trial."

73 The Court at [100] noted that when considering the question of fresh evidence at common law, there are two areas of flexibility where latitude might be extended to an appellant. First, the courts will have regard to the circumstances of the accused when deciding whether the evidence could have been adduced with reasonable diligence. There is a second area of flexibility in that a court may receive evidence that is not strictly fresh if the evidence establishes that there has been a miscarriage of justice. At common law the overriding consideration before a Court of Criminal Appeal is whether there has been a miscarriage of justice.

74 The Court in *Keogh (No 2)* contrasted fresh evidence at common law with the terms of s 353A of the South Australian legislation, concluding that the second area of flexibility available at common law is not available. It was said in relation to appeals under s 353A that, "Only evidence that comes within the framework of the statutory definition of fresh can satisfy that element or component part of the jurisdictional fact that must be established before a second appeal can be heard".

75 At the hearing of this appeal, counsel for the appellant highlighted a quote from the judgment of Barwick CJ in *Ratten* at 517-518, that appears in *Keogh (No 2)* at [99], and in particular the need for "great latitude" to be extended to an accused:

> "… It will not become an unfair trial because the accused of his own volition has not called evidence which was available to him at the time of his trial, or of which, bearing in mind his circumstances as an accused, he could reasonably have been expected to

> have become aware and which he could have been able to produce at the trial. Great latitude must of course be extended to an accused in determining what evidence by reasonable diligence in his own interest he could have had available at his trial, and it will probably be only in an exceptional case that evidence which was not actually available to him will be denied the quality of fresh evidence. But he must bear the consequences of his decision as to the calling and treatment of evidence at the trial."

76 It can be seen that as a consequence of the Court's reasoning in *Keogh (No 2)*, there is latitude that may be extended to an appellant in that the statutory requirement with respect to reasonable diligence involves having regard to the circumstances of the accused. However, as noted, because of the terms of the South Australian provision, there can be no latitude with respect to evidence that is not strictly "fresh" and does not satisfy the jurisdictional requirement of "fresh". This point about the need to satisfy the strict application of the statutory definition is also emphasised in *Helps v The Queen (No 3)* [2021] SASCFC 10 at [197]. This point applies with equal force in Tasmania to the statutory requirement of "fresh" as one of three essential requirements for upholding an appeal.

77 The decision of *R v Drummond (No 2)* (above) followed the approach taken in *Keogh (No 2)*. In *Drummond (No 2)*, the charge was kidnapping and identification was in issue. The evidence of the complainant was that there was a physical tussle. There was no evidence of a DNA result matching the complainant or the defendant on their upper clothing. A forensic scientist, Ms Mitchell, gave evidence that DNA was not always found after contact had occurred. She said that Forensic Science South Australia studies had shown that only 10 per cent of samples provided any useful information or usable DNA. This evidence was relied upon by the prosecution for the purpose of explaining why the absence of the complainant's DNA on the defendant's clothing did not exculpate the defendant. On a second appeal, relying on fresh evidence it was shown that the statistic of 10 per cent was wrong and misleading (not deliberately) and a 90 per cent figure was not unreasonable as a general guide to the effectiveness of clothing yielding contact DNA.

78 The Court was required to consider whether the evidence was fresh and compelling and applied the meaning of "fresh" that was expressed in *Keogh (No 2)*. The application of this approach yielded different outcomes. The majority view was that the evidence was both fresh and compelling while Gray J concluded the evidence was neither. In relation to the issue of whether the evidence was "fresh", Gray J was of the view that reasonable diligence would have resulted in all or, at the very least, substantially all of the evidence before the court on appeal being available to tender at trial. It was noted that cross-examination had fundamentally undermined the weight of Ms Mitchell's evidence. Gray J added that it may be inferred that this is the reason why steps were not taken at the trial and counsel did not call for the studies.

79 In one of the two majority judgments Peek J highlighted the great trust that jurors have in prosecution counsel and forensic science experts. This passage at [108] was relied upon in the appellant's submissions:

> "It must be remembered that jurors have great trust in prosecution counsel employed by the Office of the Director of Public Prosecutions and have great trust in the experts from the FSSA that are called to give evidence. I have no doubt that the jurors in the present case would have gained the firm impression that they were being told that they could confidently apply such evidence to the case before them, and that they could do so on the basis that the statistics referred to by Ms Mitchell were indeed logically applicable to the present case."

80 Peek J at [170] cited *Keogh (No 2)* and noted the common law principle referred to by Barwick CJ in *Ratten*, being the need for great latitude in assessing reasonable diligence, applies to a second appeal under s 353A(1) and (2). Peek J referred to authorities in the context of common form appeals standing for the propositions that, first, there is an obligation on the prosecution in a criminal trial to disclose all relevant evidence to the accused and second, there is no obligation on an accused person to seek out information which the prosecution is obliged to produce. His Honour held at [174] that these

authorities are relevant to the question of whether the evidence is fresh pursuant to s 353A of the CLC Act:

> "…. when assessing whether defence counsel used reasonable diligence, one must take into account that counsel is entitled to assume that the prosecution will disclose to the defence relevant evidence and material and, *a fortiori*, that the prosecution will not lead false or misleading evidence as part of its case. Further, when making an assessment of whether there was reasonable diligence, the court will extend to an accused great latitude."

81 Peek J at [175] agreed with the comments of Blue J regarding the obligations of expert witnesses.

82 Blue J also highlighted the passage from Barwick CJ and the need for great latitude as applicable to the statutory scheme for second appeals. At [311] his Honour highlighted the duties of an expert witness in proceedings, the duties of disclosure on the prosecution in criminal proceedings and the conditions of admissibility of expert opinion evidence:

> "As noted above, the prosecution has an affirmative duty to make disclosure to the defence of all evidence that it intends to lead against the applicant at trial, material that would assist the defence case and in the case of scientific evidence all material matters that affect, positively or negatively, the scientific case relied on by the prosecution."

He identified six aspects of the circumstances of that case bearing on whether the evidence could with reasonable diligence, have been adduced at trial.

83 It is trite, but worth pausing to observe, that each case turns on own facts. As Peek J stated, *Drummond (No 2)* was highly unusual in that it involved the giving of evidence by a prosecution expert witness that subsequently had been demonstrated to be incorrect.

84 In relation to the content of the duty of disclosure on the prosecution in criminal proceedings, the duty is to disclose all material relevant to an accused's defence; it is a duty owed to the Court, not the accused. It is ongoing and includes, where appropriate, an obligation to make enquires, and is imposed upon the Crown in its broadest sense. It may extend to material known to investigating police but not known to the prosecutor: *Mallard v The Queen* [2005] HCA 68, 224 CLR 124; *Roberts v The Queen* [2020] VSCA 277 at [127]; *Roberts v The Queen* [2020] VSCA 58, 60 VR 431 [55]-[64]; *Visser v Director of Public Prosecutions* [2020] VSCA 327 at [39].

85 In *Helps v The Queen (No 3)* (above) the court gave attention to the question of whether evidence was "fresh" in circumstances where trial counsel had been incompetent in not seeking the evidence which could have been obtained. The plurality considered that generally the actions and inactions of legal representatives are to be attributed to an appellant, although there may be circumstances where that is not appropriate: [202]–[206]. Ordinarily, potential evidence will not be "fresh" within the meaning of the section if it was known by and available to a defendant's lawyers at trial and they made a forensic decision not to adduce it: *MJJ v The Queen* at [160].

The meaning of compelling evidence

86 Section 402A(10)(b) defines compelling evidence:

> "(10) Evidence relating to the serious crime of which a convicted person was convicted –
>
> …
>
> (b) is compelling evidence if –

> (i) it is reliable; and
>
> (ii) it is substantial; and
>
> (iii) in the context of the issues in dispute at the trial of the convicted person, it is highly probative of the case for the convicted person."

87 The High Court decision of *Van Beelen* (above) considered the criteria in the definition of compelling evidence in s 353A of the CLC Act, set out above. The South Australian provision is in the same terms as the Tasmanian legislation other than the aspect of s 353A(6)(b)(iii) which provides: "it is highly probative in the context of the issues in dispute at the trial of the offence." The Tasmanian provision is expressed in terms of, "it is highly probative of the case for the convicted person". *Van Beelen v The Queen* concerned fresh evidence of an expert which markedly extended the period of time during which some person, other than the appellant, had the opportunity to commit the crime. It was common ground that the evidence was fresh and reliable. The Full Court of the Supreme Court of South Australia had been divided on whether the evidence was "substantial" and whether it was "highly probative" in the context of the issues in dispute at the trial. The High Court held the fresh evidence was of real significance on the issue of the time of death, and possessed the requisite high probative value given that time of death was an issue in dispute at the trial. However, the appeal was unsuccessful because the consideration of the fresh evidence did not disclose that there was a substantial miscarriage of justice.

88 The judgment of the Court considered the terms "reliable" and "substantial" and "highly probative" at [28]:

> "Nothing in the scheme of the CLCA or the extrinsic material [34] provides support for a construction of the words 'reliable', 'substantial' and 'highly probative' in other than their ordinary meaning. Understood in this way, each of the three limbs of sub-s (6)(b) has work to do, although commonly there will be overlap in the satisfaction of each. The criterion of reliability requires the evidence to be credible and provide a trustworthy basis for fact finding [35]. The criterion of substantiality requires that the evidence is of real significance or importance with respect to the matter it is tendered to prove. Plainly enough, evidence may be reliable but it may not be relevantly 'substantial'. Evidence that meets the criteria of reliability and substantiality will often meet the third criterion of being highly probative in the context of the issues in dispute at the trial, but this will not always be so. The focus of the third criterion is on the conduct of the trial. What is encompassed by the expression 'the issues in dispute at the trial' will depend upon the circumstances of the case."

Subject to the difference in wording with respect to the third criterion of highly probative, these comments have application to the Tasmanian legislation.

89 In the above quote, footnote 35 refers to *Keogh (No 2)* at [105] and *Drummond (No 2)* per Blue J at [325]. There is some further assistance to be found regarding the meaning of "substantial" in *Keogh (No 2)* at [106]. The Court said that "substantial" as used in the Act was a qualitative and not a quantitative notion. Evidence will be substantial, that is, of substance, if it merits being accorded weight as part of the consideration of the issue to which it relates.

90 The Court in *Keogh (No 2)* considered the term "highly probative" at [107]-[109]. It was observed at [109], that "highly probative" and alternative qualifiers such as "probative" or "significant probative value" call for judgments to be made which will blend into one another, and there can be no precision to any definition. The Court's consideration of the term led to the conclusion at [109]:

> "We are content to observe that evidence will be highly probative within the meaning of s 353A(6)(b)(iii) if it has a real or material bearing on the determination of a fact in issue which, in turn, may rationally affect the ultimate result in a case."

91 In *DPP v TAL* [2019] QCA 279 the Queensland Court of Appeal considered a provision allowing an acquitted person to be retried, which employs similar language to the Tasmanian provision but requiring that the evidence is "highly probative of the case against the acquitted person." The Court at [27] highlighted that the provision requires probative value to be considered "in the context of the issues in dispute". It was noted that this requires an appreciation of the significance of the issue towards which the fresh evidence is directed. The evidence must be highly probative of the case against an accused because of the relationship of that issue to the case for guilt.

92 That is worth noting for our purposes too. The probative value of the evidence is not considered in a vacuum but in the context of the issues in dispute, and the evidence must be highly probative of the case for the accused.

Substantial miscarriage of justice

93 The final requirement of s 402A(6) is that, after taking into account the fresh and compelling evidence, there has been a "substantial miscarriage of justice". In *Van Beelen* the High Court at [22]-[23] and [75], endorsed the test in *Mickelberg v The Queen* (1989) 167 CLR 259. The *Mickelberg* test is whether there is a "significant possibility" that the jury, acting reasonably, would have acquitted the appellant had the fresh evidence been before the jury at the trial. *Van Beelan* was concerned with fresh evidence regarding the reliability of expert evidence given at the trial. The issue before the High Court was whether the appellant had established on the balance of probability that in light of fresh expert evidence taken with the evidence adduced at the trial, there was a significant possibility that a jury, acting reasonably would have acquitted. There is no argument in terms of the court's task in having regard to the evidence at the trial, that the court ought to proceed on the whole of the record of the trial and make its own independent assessment of the evidence, making allowance for the "natural limitations" that exist for an appellate court in proceeding on the record: *Weiss v The Queen* (2005) 224 CLR 300 at [41].

94 In the case of *R v Bromley* (above) at [401] and [402], the Full Court in its judgment noted two matters regarding the application of the *Mickelberg* test and the High Court's consideration of the test in *Van Beelan* at [22]-[23], [32] and [75]. The first is that the *Mickelberg* test looks backwards to the trial and asks whether there is a significant possibility that the jury in that trial, acting reasonably, would have acquitted the appellant had the fresh evidence been before it. The evidence is to be viewed in combination with the evidence given at trial: *Mickelberg* at 301, *Rodi v Western Australia* [2018] HCA 44, 360 ALR 54 at [28]. The second matter is that one must proceed upon the presupposition or presumption that "the accused has had a fair trial according to law on the available evidence".

95 There is a particular category of appeal that attracts a different test. A substantial miscarriage of justice may be established by demonstration of a material error or serious irregularity in the trial process. This type of case was considered in *Roberts v The Queen* (above). The Court was concerned with new legislation similar to the South Australian legislation allowing a second or subsequent appeal and a discrete two stage process involving permission and the substantive appeal. Section 326D of *Criminal Procedure Act* 2009 (Vic) provides that the Court must allow an appeal in certain cases if it is satisfied that there has been "a substantial miscarriage of justice." In *Roberts* the appellant's case was that non-disclosure of relevant evidence deprived him of a fair trial. The Court at [30] accepted that the *Van Beelan (Mickleberg)* test applied for the purpose of establishing a substantial miscarriage of justice and that it states the test governing fresh evidence adduced on a second appeal following conviction in the first instance at a *fair* trial. It was emphasised that *Van Beelan* did not raise any issue as to the fairness of the trial in the first instance [31]. The decision in *Van Beelan* was not directed to an issue of material error or irregularity in the trial process.

96 It was held that in a case involving a material error or irregularity in the trial process the test articulated in *Baini v The Queen* [2012] HCA 59, 246 CLR 469 applied. In *Baini*, the High Court held that a substantial miscarriage of justice may be demonstrated by a serious departure from the prescribed

processes for trial, or by an error or irregularity in, or in relation to, a trial in circumstances where the Court of Appeal cannot be satisfied that the error or irregularity did not make a difference to the outcome of the trial: *Baini* 479 [26] French CJ, Hayne, Crennan, Kiefel and Bell JJ. In cases where evidence has been wrongly admitted or wrongly been excluded, "the Court of Appeal could not fail to be satisfied that there has been a substantial miscarriage of justice unless it determines that it was not *open* to the jury to entertain a doubt as to guilt. Otherwise, there has been a substantial miscarriage of justice because the result of the trial *may* have been different (because the state of the evidence before the jury would have been different) had the error not been made": 481 [33].

97 In this case the appellant does not suggest a serious departure from the prescribed processes for trial or a material procedural irregularity and, in fact, it was conceded by her counsel that the *Mickelberg* test was the correct test to be applied. There were issues raised at the hearing of the appeal about disclosure of material but only as context for the application of the test of fresh evidence, and whether the appellant acted with reasonable diligence. The appellant does not assert that there was any procedural irregularity that resulted in an unfair trial.

98 Accordingly, in considering this appeal, this Court must take a backwards view, and consider the fresh evidence in the context of the evidence at trial.

Onus of proof

99 The onus is upon the appellant to satisfy the Court on the balance of probability that the statutory conditions for upholding the appeal have been satisfied. The Court must be positively persuaded of the statutory requirements: *Van Beelan v The Queen* at [32]; *R v Keogh (No 2)* (above) at [80], [86], [102], [118].

Summary

100 I have discussed at length relevant cases and principles that have application to s 402A of the Code. The following key principles are distilled from that discussion:

- Section 402A, like its South Australian counterpart, manifests an intention that the finality of the criminal process yield in the face of fresh and compelling evidence which, taken with the evidence at trial, satisfies an appellate court that there has been a substantial miscarriage of justice: *Van Beelan* (above), 576 [27].

- The statutory requirement of "fresh" evidence and, in particular, whether the evidence could not, even with the exercise of reasonable diligence, have been adduced at the trial requires "an objective assessment of what the applicant could reasonably be expected to have done in all of the circumstances leading up to and including the trial": *R v Keogh (No 2)* (above) at 102.

- In determining the question of whether the evidence is "fresh", latitude is extended to an appellant by having regard to the circumstances of the accused when deciding whether the evidence could have been adduced with reasonable diligence: *Ratten v The Queen* per Barwick CJ at 517-518; *Keogh (No 2)* at [102].

- In assessing whether the defence exercised reasonable diligence, the Court allows for the fact that defence counsel are entitled to assume that the prosecution will disclose relevant evidence and material in accordance with the duties of disclosure on the prosecution in criminal proceedings, and that the prosecution will not lead false or misleading evidence as part of its case: *R v Drummond (No 2)* per Peek J at [174], Blue J at [311].

- The Court has no flexibility to take into account evidence that is not "fresh" within the meaning of s 402A(10)(a). Ultimately, the statutory requirements must be met: *Keogh (No 2)* at [101]; *Helps v The Queen (No 3)* (above) at [197].

- In terms of the requirement that the evidence be compelling, the words "reliable", "substantial" and "highly probative" are to be taken to have their ordinary meaning. Each has work to do, although commonly there will be overlap in the satisfaction of each: *Van Beelen* at [28].

- To be "reliable" the evidence must be credible and provide a trustworthy basis for fact finding: *Van Beelan v The Queen* at [28].

- To be "substantial" the evidence must be of real significance or importance with respect to the matter it is tendered to prove: *Van Beelan* at [28]. "Substantial" is qualitative and not a quantitative notion. Evidence will be substantial, that is, of substance, if it merits being accorded weight as part of the consideration of the issue to which it relates: *Keogh (No 2)* at [106].

- The probative value of the evidence must be assessed "in the context of the issues in dispute at the trial". The term "highly probative" calls for a judgment to be made. Evidence will be highly probative in that context if it is of real or material bearing with respect to the accused's case: *Keogh (No 2)* at [109].

- To be a substantial miscarriage of justice, there must be a "significant possibility" that the jury, acting reasonably, would have acquitted the appellant had the fresh evidence been before the jury at the trial: *Mickelberg v The Queen* (above), approved in *Van Beelan* at [22]-[23] and [75].

- In determining whether there has been a substantial miscarriage of justice, the fresh and compelling evidence is to be viewed in combination with the evidence given at trial (*Mickleberg* at 301, *Rodi v Western Australia* (above). The court must proceed on the assumption that "the accused has had a fair trial according to law on the available evidence": *Van Beelan* at [23]; *R v Bromley* (above).

- There is a different test in cases involving a material error or serious irregularity in the trial process and raising an issue as to the fairness of the trial. A substantial miscarriage of justice will occur where the Court of Appeal cannot be satisfied that the error or irregularity did not make a difference to the outcome of the trial: *Baini* at 479 [26] French CJ, Hayne, Crennan, Kiefel and Bell JJ.

The trial

The forensic examination

101 Forensic Scientist Deborah McHoul was called as a witness at the trial and gave evidence of her examination of the Four Winds and the dinghy and search for biological material. Ms McHoul has a Bachelor of Science Degree and a Master of Science Degree in Forensic Science. She has been employed as a forensic scientist since April 1991.

102 Between 28 January and 4 February 2009 Ms McHoul attended the vessel Four Winds on several occasions to examine it for the presence of blood. At that time it was tied to a jetty within the CleanLift premises at 6 Negara Crescent. As mentioned, she used luminol, a screening test for blood. While it is very sensitive, it is not specific to blood and can produce false positives. Once an area is sprayed with this chemical it luminesces if blood is present. The strength and nature of a reaction may indicate whether it is a true positive or false positive reaction. The other screening test used by Ms McHoul was the hemastix test (HS) which is a plastic test strip impregnated with chemicals, and when applied it produces a colour change for the presence of blood.

103 Ms McHoul observed red/brown apparent transfer staining on steps which led into the wheelhouse and red/brown drops and stains in various areas: on a wooden panel which was at the entrance way to the saloon and to the right of the wheel, and the panel on the opposite side of the entrance way, the starboard panel inside the saloon, a seat back cushion, the bulkhead above this area of seating and the paintwork behind the cushion. Some of the stains were tested with the hemastix test with a positive result for the presence of blood. There were other numerous interior areas which reacted positively to luminol testing. She observed the saloon was in disarray with cushions upturned and piled to the sides, some of the floor appeared to have been unscrewed and some of the carpet squares appeared to be missing. A large bracket, possibly for a fire extinguisher, was empty.

104 Ms McHoul's report details the results of her luminol testing of the exterior of the yacht. She reported numerous luminol positive areas present on both outside walkways on the deck described as possible drops and general stains. There were also luminol positive areas on the cabin roof, the cockpit seat and cockpit floor, and a number of locations inside the cockpit, a rope coiled on the starboard cockpit seat and in a seating area adjacent to the winch. In total, there were eight areas on the deck walkways and three in the cockpit that gave a positive reaction to luminol spray. These areas were swabbed and were either negative to the hemastix screening test or weakly positive. In the cockpit there was one luminol positive area surrounding a red/brown stain which provided a DNA profile and a strong match with the DNA profile of Robert Chappell. Only two of the areas on the deck provided a DNA profile. One of those provided a mixed DNA profile and Robert Chappell was not excluded as a contributor to that profile.

105 The other luminol positive area on the deck providing a DNA profile was described as "area 11" and was on the starboard walkway. This area was swabbed and it produced a DNA profile of an unknown person, described in the forensic report as Person E. Later, the DNA profile was matched with the DNA profile of Meaghan Vass. The luminol positive area was about 9.45 metres from the bow on the starboard walkway. It was about 250 millimetres from the rail and near the "gate" providing access to the deck if boarding the vessel. The area that reacted to luminol was approximately 210 by 260 millimetres.

106 Ms McHoul's observations and examination of the Four Winds were set out in a report of 12 June 2009. A second report, dated 1 July 2009, sets out in a tabular form a description of the items examined, including swabs that were taken from areas on the Four Winds, a description of the source of the items, a description of any samples taken from, or swabs of, an item, the results of the biological examination of items, and the results of the DNA profiling undertaken by Carl Grosser.

107 The report refers to the swab from area 11 as item 20 and describes it in the following terms:

"Luminol positive area 11

(possible drops). Negative with HS Screening test for blood."

108 The source is described as:

"starboard walkway, 'Four Winds', 6 Negara Cres, Goodwood".

109 Ms McHoul explained the reference to "possible" drops. She said that it can be very difficult to tell whether you have a stain that is in the form of a drop or whether you have a drop from the spray bottle of luminol.

110 Ms McHoul gave evidence clarifying that as the swab of area 11 was luminol positive it was certainly a possibility that the substance swabbed was blood, but that cannot be assumed because of the problem with false positives. As shown in the report, the HS screening test of the area was negative for blood. In cross-examination, she referred to that and added that because luminol is so sensitive, it is possible that there was a very tiny amount of blood mixed in with some other body fluid. It is also

possible that the "luminol positive result had nothing to do with what then gave that DNA result and they just happened to be adjacent to or on top of each other".

111 In cross-examination, Ms McHoul accepted that DNA processes cannot tell the age of a sample of blood. Ms McHoul stated, "… It is my understanding that if you get a result you can't say how old the sample was". Defence counsel at the trial, Mr Gunson SC asked whether it was "impossible to say how old it is, unless it's obviously wet and still dripping". Ms McHoul responded "From the DNA result alone, yes, I think that's true". Another forensic scientist called at the trial, Mr Carl Grosser, gave evidence to similar effect, "we can't actually time a DNA profile or put a specific time on when DNA was deposited on an item, we can only detect its presence and then analyse that."

DNA evidence: Carl Grosser

112 Mr Carl Grosser has a degree in science with a major in genetics. At the time of the trial he had been employed as a forensic scientist by Forensic Science Service Tasmania since 2002. A large part of his work was DNA profiling. Mr Grosser gave evidence about the DNA profiling he undertook in relation to item 20. The results of the DNA profiling are set out the forensic report dated 1 July 2009. The information provided with respect to item 20, the swab of the "DNA profile type" and whether the profile is a match or not excluded, is described as: "Full DNA profile (female)" and "Does not match any individual currently on the Tasmanian DNA database (Person E) (1 in 100 million)."

113 At the time of the profiling, the profile did not match the DNA profile of an individual on the database. Later, a reference sample from Meaghan Vass was put on the database and it was found to match the profile from item 20. As noted in the report, the chance of a person unrelated to Ms Vass matching the profile is less than one in one hundred million. As the learned trial judge informed the jury in his summing up, it was fair to conclude that the DNA found on the deck was the DNA of Meaghan Vass, especially since she gave evidence that she did not have a twin sister.

114 Once Mr Grosser had given this evidence regarding this DNA result and the match with Ms Vass, counsel for the State at the trial, the then Director of Public Prosecutions, Mr Ellis SC, commenced asking Mr Grosser a question tackling the issue that on the one hand, there was evidence from Ms Vass to the effect that she had never been on board the Four Winds and could not recall being near it, and on the other hand, a swab had been taken from the Four Winds apparently matching her DNA. Mr Gunson objected to the question on the basis that it was "not the subject of any proof at all". The trial judge allowed the question, indicating that if time was needed to plan cross-examination, counsel could ask for that time. Mr Ellis then asked how it was possible that a person's DNA may be on a surface when the person had not been there. Evidence in relation to the possibility of secondary transfer of DNA material then emerged.

115 Mr Grosser gave evidence that it was "entirely possible" that a person's DNA profile might be found in a swab taken from a surface where they had not been. He elaborated that DNA is in bodily fluids such as blood and saliva. He stated:

> "… there is a potential for that to be transferred in some way, so if for example I was to bleed onto a tissue, somebody could pick that tissue up and spot it against a wall and then there would be a blood stain on a wall that I'd never seen that potentially carried my DNA."

116 He agreed that potentially the mechanism for transfer to occur onto a walkway could be on the bottom of someone's shoe. He said, "you could step in something and transfer DNA that way, that's sort of logically what goes through my head, but again it's speculation. I can't say categorically that's what's happening in this case." Mr Grosser described that potential mechanism as a possibility. He further said:

> "… Potentially anything that would be carrying a lot of DNA from that individual could have been transferred onto that [walkway]."

117 At the end of examination in chief, despite the trial judge's invitation to take time to plan cross-examination, defence counsel moved straight into cross-examination. One of Mr Gunson's first questions concluded with the proposition that given there was "no evidence of Miss Vass being anywhere near the yacht at any stage", and then he suggested, "the likelihood of her DNA being accidentally transferred onto the yacht is near impossible?" Mr Grosser responded:

> "... I – I can't make any assessment about the possibility of transfer without having some knowledge of where it may have come from, what kind of scenario we're talking about, so this feels a little bit speculative to me in that we've detected this DNA profile and all we can say is that it was present in the sample that we tested and that's the result we got. I really can't say with any degree of certainty that given a certain scenario it's impossible that it could have got there any other way than by her being present on the boat, so I'm not really sure – "

118 It was then suggested that the strongest likelihood is that Ms Vass's DNA got onto the boat by her presence on the boat. Mr Grosser responded:

> "No, I can't agree. I think basically what we've got is some suggestion that there's possibly a large amount of DNA that may have originated from Miss Vass present on the boat and as to how that got there I really can't say that any one particular scenario is vastly more likely than another scenario."

119 Mr Gunson then put the question another way, "The suggestion that it was accidentally transported there is less likely than the obvious answer, which is she was there?" Mr Grosser responded:

> "I don't know that I can realistically assess those two likelihoods, I – you know, if she's testified and has some particular proof that there's no way she could've been there then I would have to say that it's more likely that there's transfer onto the boat. If she had no way to say that she hasn't been anywhere near it and no proof that she hadn't been anywhere near it then I would say potentially that that may be a more likely scenario. But without any indication as to how likely it was, that she could have had access to the boat, I can't say.

120 Mr Gunson then asked whether the likelihood of it accidentally being deposited is far less than it being deposited through her presence? Mr Grosser responded:

> "I really can't answer that because it does depend on whether her presence is possible or not. If we knew for instance that she was overseas skiing in Canada at the time then we would know that there was no way she could have had access to that boat and then transfer is by far the most likely scenario. If, however, we know that she was in Hobart and potentially around the area then each of those scenarios seems like a likely possibility to me and I can't give you any indication of the relative strengths of those possibilities."

121 Mr Gunson then asked a broader question about Mr Grosser's experience:

> "How many occasions have you dealt with transfer of DNA in the sort of circumstances we're talking about, how many times have you come across it in your career?……Transfer is one of those things that's potentially quite difficult to identify so I could have inadvertently come across transfer of DNA evidence numerous times without knowing it it's not until you see…".

122 Some ground was made when his Honour posed the question:

> "HIS HONOUR: Have you ever knowingly come across transference in the course of your work where someone's DNA has been transferred to a place where that person hasn't been?

> WITNESS: I'm – I'm not certain that I could categorically say that I haven't, but I'd say that if I have it would be very rare."

123 Cross-examination continued and Mr Grosser said that without going back through his cases, he believed he had not identified transfer. He explained that the problem with being able to identify transfer is that it requires additional knowledge but "typically when we're doing our DNA profiling we're not privy to any of this additional information". He said that while, quite frequently, defence lawyers suggest transfer as an explanation, "Normally I'm in a position where I say that I can't make any inference either way as to how that could have occurred. I'd agree that both possibilities are possibilities."

124 He said he did not believe he had come across DNA that has been known categorically to have been carried from one place to another through spittle or something on the ground that has been transferred by walking. When asked about whether he had seen transfer "on a shoe", he replied "I don't believe I've seen any of that."

125 Before leaving Mr Grosser's evidence, I note that during cross-examination Mr Grosser gave evidence of general relevance that on the assumption Ms Vass had been on board the boat she could have left her DNA behind in a bodily substance, "potentially blood, saliva, sometimes even contact, you can have DNA in your sweat and if you touch something you could leave DNA behind that way."

Mr Grosser's email to Detective Sinnitt

126 Later in the trial, Detective Senior Constable Shane Sinnitt gave evidence with respect to aspects of the police investigation and, in particular, enquiries he made concerning Meaghan Vass which I will return to. He referred to a folder of information which he had with him while he gave evidence but which was not tendered as an exhibit on the trial. Mr Gunson sought the opportunity to read the contents of the folder. It included an email exchange with Mr Grosser. This exchange had not previously been disclosed and Mr Gunson had not seen the emails at the time he cross-examined Mr Grosser. The email exchange included the following from Mr Grosser to Detective Sinnitt on 18 March 2010:

> "This was an area (the black outline in the photos) that was positive with luminol, which suggests the presence of blood. However our testing of the swab taken from this area was negative for the blood screening test, suggesting that we cannot confirm the presence of blood. **Given the strong DNA profile that we obtained from this swab I'd suggest that this is indicative of the presence of a relatively large amount of DNA which is more likely to come from body fluids (blood, saliva etc) than a simple contact/touching event.**
>
> So, basically we cannot say with any certainty where the DNA may have come from. The positive luminol result suggests that the source may have been blood, and the fact that this was an external surface means that there may have been washing or weathering events that have prevented us from being able to definitively identify the presence of blood. More complex scenarios, such as the luminol result coming from an older event (eg an old stain) which has been overlayed by a more recent event which is where the DNA came from (eg spitting onto the deck), cannot be ruled out. "

127 The disclosure of this email gave rise to an application by the defence to recall Mr Grosser. As I will come to shortly, this application and an application to recall Meaghan Vass were refused by the learned trial judge.

Meaghan Vass

128 Meaghan Vass was called at the trial. At the time she gave evidence she was 16 years of age. In January 2009 she was 15. The police had not been able to obtain a statement from her. She gave evidence first in the absence of the jury on a *Basha* inquiry which enabled defence counsel to hear her

account and to cross-examine her in the absence of the jury. This procedure is often adopted by trial judges in cases where defence counsel have not had an opportunity to cross-examine a witness in preliminary proceedings.

129 In the absence of the jury Ms Vass gave the following evidence. Ms Vass was shown a photograph of the Four Winds and was asked whether she had ever been aboard the yacht depicted in the photograph. She replied, "no". She was asked by Mr Ellis whether in January and February 2009 she remembered if she went to the wharf area and she said, "no". She was asked whether she remembered going to the Constitution Dock area and she said in response, "no". Ms Vass was asked if it was the case that she did not remember if she went there or she remembered that she did not go there. She replied "I don't remember." She was asked if she had been to an area of Goodwood near Negara Crescent where there is an industrial estate and some yachts and she replied, she "did not remember, no". Mr Gunson asked in cross-examination where she was living in January 2009 and she replied she was "pretty sure" she was living at a named women's shelter in Montrose. She added that she could not really remember. She confirmed that she had never been on board the yacht in the photograph. The question was asked, "And you have no memory of being in the wharf area around Constitution Dock and seeing that yacht there?", and Ms Vass replied "No". She agreed with a question posed in terms that it was "highly unlikely that you were down around Constitution Dock on or about the 27th or 28th of January 2009, would you accept that?" She had no memory of going to a slip-yard in Goodwood in Negara Crescent called CleanLift Marine. When asked "you've never been there in your life?" she replied "No".

130 Ms Vass then gave evidence in the presence of the jury to similar effect. She was shown the same photograph of the Four Winds and asked if she had ever been aboard it and she said "no". Mr Ellis asked whether at the end of January 2009 or the very beginning of February 2009 she remembered if she went to the Constitution Dock area in Hobart and she replied "I do not remember, no". When asked "You don't remember being there?" she replied "no". She was asked whether at that same time she remembered going to an area in Goodwood, Negara Crescent where "there's some yachts on slips and an industrial estate" and she replied "No, I do not remember". When asked "So you don't remember if you went there either" she replied "No".

131 Ms Vass was asked in cross-examination whether she had any memory of going to Constitution Dock in late January, around 27 January 2009 and she said "no". She agreed she had never been to CleanLift Marine at Negara Crescent at Goodwood. She was asked "Never been there in your life?" and she replied "No". She was then asked "And most definitely weren't there in late January early February 2009?" She replied "No".

132 In cross-examination she gave evidence that she did not have a twin sister. She confirmed she had never been on board the Four Winds yacht. She agreed she refused to be interviewed by the police with respect to this case. Indeed, she told the police that she would not be interviewed. She was asked if there was a reason why she refused to be interviewed, and she replied "only because of the fact that this just intimidates me, I've never had to do or go through anything like this before and that was the only reason."

133 She was asked where she was living on 26 January 2009 and she said "Probably – I'm pretty sure" it was Stainforth Court in Lenah Valley. She was asked a question referring to her evidence on the *Basha* inquiry, describing it as earlier evidence that she was living at the women's shelter in Montrose, and she said, "I can't really remember". She was pressed on this point that that had been her earlier evidence, and she responded "Yes. I've been homeless since I was thirteen". Mr Gunson continued, "I'll ask you again, where did you live on the 26 January 2009" and this time she replied, "… Women's Shelter in Montrose". It can be seen from the questioning that the two different addresses were highlighted without mentioning the uncertainty she had expressed regarding where she was living.

Then, when asked, why did you tell us a minute ago you lived at Stainforth Court, she replied "Because I'm getting very confused and I have been homeless since I was thirteen, so it's very hard for me."

Detective Sinnitt

134 The jury heard from Detective Shane Sinnitt regarding various aspects of the investigation and lines of inquiry. As soon as he became aware in March 2010 that DNA from the deck of the Four Winds apparently matched the DNA of Meaghan Vass he made various enquiries. He made enquiries about any possible connection she had had with Mr Chappell or the Four Winds including "telephone checks, police intelligence systems, and fingerprint checks". He did not find any information establishing a connection. He checked surveillance footage of the Four Winds at Constitution Dock and did not see anyone board the vessel.

135 Detective Sinnitt gave evidence that between the time the vessel was found sinking on its mooring on the morning of 27 January to the time that the DNA sample was taken from the deck on 30 January (which he had been told was 1:40am), at least 21 people had been on board not including FSST personnel. He gave evidence that CleanLift Marine at Negara Crescent was fenced and gated but he did not know if it was locked at night. His enquiries had revealed that it had been broken into on several occasions at around "this time".

136 In cross-examination it was revealed that he made enquires and his "information systems" revealed that at the relevant time Ms Vass was a resident at a women's shelter in New Town. She was supposed to be staying at that shelter on the evening of 26 January but she did not stay there and had requested to stay at an address at Mt Nelson. Partway through cross-examination, Mr Gunson requested to view the Detective's file regarding Meaghan Vass and enquiries he had made. He cross-examined Detective Sinnitt about matters regarding Ms Vass's whereabouts on 26 January.

137 In response to these questions, Detective Sinnitt stated that during the course of his enquiries (commencing in March 2010) he went to the address at Mt Nelson, a block of units at Onslow Place, but was unable to find the particular unit number he had been given. He then went to Stainforth Court on the Brooker Highway and Ms Vass was there and he spoke with her. He made arrangements for her to come to police headquarters on two occasions and for her mother to be present for one of those, but Ms Vass did not attend. At some stage she informed him that she refused to be interviewed about the Four Winds and the presence of her DNA.

138 In light of this new information disclosed about Ms Vass's whereabouts on the night of 26 January, Mr Gunson applied to have Ms Vass recalled. That application was made at the same time as the application was made to recall Mr Grosser, and both applications were refused.

139 Detective Sinnitt gave some evidence in re-examination that was given without objection. He said when he spoke with Ms Vass at Stainforth Court she indicated to him "that she believed that she may have been hanging around the Goodwood area at the time of Mr Chappell's disappearance." Obviously, this is hearsay and I doubt it was admissible as an exception to the hearsay rule. There are paths that could have been taken to have it admitted as an exception to the rule. If Ms Vass had been asked about it during her evidence and had not admitted making that statement it might have been led from Detective Sinnitt as a prior inconsistent statement, but that was path was not taken. I ignore this evidence for the purpose of considering the State's case.

Application to recall Mr Grosser and Ms Vass

140 As mentioned, Mr Gunson sought to recall Meaghan Vass, and at the same time, also sought to recall Mr Grosser in light of the contents of the folder the Detective produced and, in particular, his email exchange with Mr Grosser. In the absence of the jury, Mr Gunson read out the email of 18 March 2010 which included the sentence highlighted at [126] above. At one stage during his submissions

regarding recalling Ms Vass he stated, "I'm going to be submitting to the jury that they can draw the inference that given the level of DNA on the deck that that girl was on that boat at some stage." These applications were opposed by Mr Ellis. In responding to both applications, he submitted:

> "MR ELLIS SC: Yes, your Honour. Both applications seem bound up in my learned friend's particularly, with respect, narrow view of possibilities and probabilities and the role that he thinks that evidence from witnesses can play in illuminating those possibilities."

He dealt specifically with Mr Grosser in the following terms:

> "Now the same will be with Mr Grosser. My learned friend has had evidence from him and others that it was a relatively large patch of stain which contained a strong reaction to DNA which suggests the presence in some way of blood somewhere in that stain, that's all that can be said, and he was badgered up hill and down dale about that all with a view to having him talk about the possibilities and probabilities – well possibilities really of how it got there. Those possibilities are limited by the witness' imagination, that's all. And so if Mr Grosser is not a particularly imaginative or a person – or a person who can think in the logical step such as the one that didn't occur to him, such as that someone steps in something from Ms Vass, gets in the car and virtually immediately goes on board – goes on board the Four Winds that would explain it, there may be others - other people better than me at teasing out these possibilities, and so none of these things are witness questions, in my submission …"

141 The trial judge ruled against Mr Gunson with respect to both applications. He noted that there had been ample opportunity to cross-examine Mr Grosser and that what he said in his email was unsurprising and did not raise any sufficiently new or different matters that would warrant his recall. He reasoned that where Ms Vass was on the night of 26 January seemed to be peripheral when her version of events was apparently unshakeably that she did not go onto the Four Winds, she did not go to the slipyard at Goodwood and she did not go to Constitution Dock at about the time the boat was there. His Honour stated that the prospect of Meaghan Vass giving significant evidence was so slight as not to warrant the time that would be taken to recall her.

142 The trial judge's refusal to allow Meaghan Vass to be recalled for further cross-examination was a ground of appeal in the appellant's first appeal against conviction, and the Court's rejection of that ground was the subject of the appellant's unsuccessful special leave application to the High Court.

Closing addresses

143 The Crown's contention at trial was that the circumstantial evidence established that it was not reasonably possible that someone else, a complete stranger, killed Mr Chappell and disposed of his body. It was contended that the evidence demonstrated that the person had intimate knowledge of the vessel and that the evidence proved beyond reasonable doubt that the person responsible was the appellant.

144 In Mr Ellis's closing address he noted that typical of the way the defence case had been conducted was the raising of "red herrings" and false trails. He referred to Mr Gunson's opening address and a suggestion made by him that Mr Chappell may not be dead, as a red herring, he referred to matters said by the appellant in her police interviews and evidence, as red herrings.

145 He referred to the "two big red herrings" that were raised by the defence, the so-called other dinghy that was at the Four Winds in the afternoon and the young girl, Meaghan Vass:

> "… we've had Meaghan Vass, a sixteen year old homeless girl, bullied and chased around by Mr Gunson all because some of her DNA was found in the one spot on Four Winds, one spot, one spot only, on the top of the deck – a sixteen year old girl. And the idea was to making you think that she could or was – to make a reasonable doubt in your minds that she was connected to this killing – but that gained her what? 'Where

> were you living on the night of the 26th?' 'Don't know' – two different stories, oh, homeless girl, two different stories. Treated ferociously, treated ferociously, while all the time it seems that she may have been in the Goodwood area, maybe she had something to do with an entry there, maybe not – probably not, I suggest,…".

146 He went on to contend that this was "such a red herring" because:

> "… the DNA could have been transferred from someone onto Four Winds, and the number of people who were there and where they came from, it's – it was a refinement of that red herring to say, 'Were you down at Constitution Dock then?' as if she had necessarily stepped onboard, or even if someone had necessarily acquired some trace of her DNA, some strong sign of her DNA on their footwear before getting on the yacht. They could have got in – they could have acquired that anyway in Hobart, I suggest, anywhere she might have been, and we don't know where she's been, nor can she be expected to remember where she was on the 26th of January. But it could have been put there at any time before the DNA swab was taken by anyone who had acquired some trace on their footwear at any place and then maybe got in the car, driven down and got out and onto the boat and transferred it. All those things are logically possible, all things go to explain this finding, which of course has been disclosed to Ms Neill-Fraser, it's been thoroughly investigated, which was always on the DNA chart as an unknown person until she got into some sort of trouble with the law and her DNA became on the database and it was matched."

147 Mr Ellis went on to ask: "Where did the DNA match leave us? Where did that red herring take us?" and then continued:

> "Why was that girl pursued? Why was she bullied and argued with so fiercely? Was it because it was wanted for you to seriously entertain a reasonable doubt that she's responsible for this killing? That she, a complete stranger to it all, a sixteen year old homeless girl, has gone down to Marieville Esplanade untied, as it happens, the very dinghy, the very dinghy, which belongs to Four Winds, even though it isn't marked as such, there's no Four Winds dinghy, taken that very dinghy to Four Winds by coincidence, committed an atrocious crime for no reason, taken the body out somewhere in order to cover up that crime and come back. Well that's a long bow but when you're desperate, when you're desperate, anything will do when you're conducting your case on the basis that, well we'll raise anything that comes along and the jury are going to have to have a reasonable doubt about that because, you know, there's her DNA after all, what – CSI, DNA, she's all the same, whatever the theory was, but it was a theory, I suggest, a theory of how to pursue this case which was one and the same with how Ms Neill-Fraser had conducted herself with the police. To suggest false trails of investigation to point away from her anytime you can. Meaghan Vass, a red herring, a red herring, should not have been, I suggest, pursued in this case but when you're addressed next you'll probably hear more of."

148 Mr Gunson in his closing address contended that the Crown had not proved the accused's guilt beyond reasonable doubt, and that other reasonable hypotheses were open on the evidence and had not been excluded. He drew attention to two aspects of the evidence: the presence of a grey dinghy alongside the Four Winds seen by a witness, Mr Conde, at 3:55pm during the afternoon of 26 January and Ms Vass's DNA found on the deck of the Four Winds "with no rational explanation" as to how it got there. The defence contention was that the only reasonable hypothesis was that Ms Vass was on the Four Winds. Mr Gunson contended that it was a plausible and reasonable hypothesis that she, along with others, went there in the grey dinghy or by some other means, and she and/or her associates were responsible for Mr Chappell's disappearance. It was argued that it was hardly likely that she would have admitted any involvement in such a serious matter when questioned by police let alone in this court. He noted that she could not account for where she was on 26 January 2009.

149 Mr Gunson referred to the way that Mr Ellis "belittled" the DNA evidence relating to Meaghan Vass as "pure and absolute fantasy." Mr Gunson went on:

> "… He [Mr Ellis] would have you accept that somehow, magically, perhaps by the DNA pixies, this DNA arrived on the deck of Four Winds, or was perhaps trampled there in circumstances which he couldn't really explain. He started to suggest that perhaps it had been put there out at Goodwood, conveniently ignoring Ms Vass's evidence she'd never been there and then I thought backed away from that one, and I think at the end of the day it was a situation, 'well, we really don't know how it got there'. But it is pure fantasy to suggest that it was somehow trampled on board."

Mr Gunson suggested that Mr Ellis was dismissing Meaghan Vass's DNA evidence as a "red herring" because he knew full well that these issues had irretrievably damaged the State's case. He contended if it did not suit Mr Ellis' case it was immediately labelled a red herring and that that approach was singularly unhelpful to the jury.

150 Mr Gunson dealt specifically with Meaghan Vass's DNA in the following terms:

> "Well compound the problems for the Director. You'd have Meaghan Vass's DNA being found on the deck of the Four Winds with no rational explanation as to how it got there. We would say to you this, the only reasonable hypothesis is that at some stage Meaghan Vass was on the Four Winds. It is equally a plausible and reasonable hypothesis that she, along with others, went there in the grey dinghy or by some other means, and she and/or her friends are responsible – or associates, I suppose, as to Mr Chappell's disappearance. It was hardly likely she would admit any involvement in such a serious matter when questioned by the police let alone in this court but what we do know is this. She can't account for where she was on the night of the 26th January 2009. She can give and did not give any explanation about that at all. I'll come back to that a little later."

Later, he returned to "Meaghan Vass and her involvement":

> "Well, what do we know about her DNA and where it was on Four Winds? Ms McHoul, the forensic scientist, said it was found in area, I think, 11, which was nine and a half metres approximately from the bow of Four Winds, which puts it on the starboard side of the boat right near the entry point – on that side, and that was confirmed by Constable Sinnitt in cross-examination. It is obvious from the scientific evidence that there was a significant amount of DNA. It was enough to show up in the luminol test, and to be extracted from the deck for the purpose of DNA testing. What it was, the experts could not say, they couldn't say to you, what part of the body it came from, whether it was from her skin, whether it was sweat, whether it was expectorant, you know for instance, she'd spat on the deck, or what it was – or whether in fact it was a bodily fluid that contained a very minute portion of blood – we don't know. But Meaghan Vass left DNA on that deck. We say to you that the efforts by the DPP to try and suggest that her DNA got there by transference is not credible. That was a desperation ploy, absolute desperation, and you might remember when the Forensic Scientist was giving evidence, he was very uncomfortable, in my submission, about what he was being asked to do, trying to explore the – that was Mr Grosser – he talked about, 'you know, well I would only exclude it, for instance, by some other means if she was in Canada and I knew that, or something like that.' So we get the, 'oh well, it could have got on her because she was maybe at Constitution Dock'. Well, it wasn't bad. Remember the boat was under video surveillance all night. So if you go on board the boat on the 27th when it was at Constitution Dock, she said she was nowhere near there. She said she'd been nowhere near the Clean-Lift Marina at Negara Crescent, and whilst Mr Ellis this morning tried to suggest that maybe, notwithstanding her denials that she got on the boat there, he seemed to fade away and say, 'well, it probably didn't really matter'.
>
> Now where was the boat before it was at Constitution Dock and before it was at Negara Crescent Woodwork[Goodwood] Clean-Lift? It was on its mooring at Marieville Esplanade. It follows logically if her DNA was on board that boat, if and – it was, there's no doubt about that. If it was there right near the entry, it follows logically that she was on board and you cannot exclude that as a rational hypothesis."

Summing-up

151 During the learned trial judge's summing-up to the jury, he summarised the defence position that the jury could not rule out the possibility that someone else was responsible and that the accused was innocent and that the evidence fell a long way short of excluding the reasonable possibility that someone else killed Mr Chappell. He referred to the critical issues from the perspective of the defence case as the existence of a grey dinghy seen by Mr Conde and the finding of Meaghan Vass's DNA on the vessel. With respect to Meaghan Vass, his Honour noted the defence contention that the only reasonable hypothesis was that Ms Vass and/or associates of hers were responsible for Mr Chappell's disappearance. Further, his Honour referred to the defence contention that Ms Vass was on the Four Winds, that that was how her DNA got there, and that "it's not plausible that it was transferred there on someone's shoe."

152 His Honour reviewed the evidence of Meaghan Vass, Detective Sinnitt's investigations and the evidence regarding the swab of area 11 which matched Meaghan Vass's DNA profile. He also reviewed the evidence of Mr Grosser that that DNA profile did not necessarily mean that she was there and that it was possible for someone's DNA to be transferred from place to place. He read from Mr Grosser's evidence that transfer of DNA was possible. He read from the evidence Mr Grosser gave about the finding of DNA on a walkway:

> "'It's a possibility. Logically on a walkway you're going to get a lot of people passing over that particular area and potentially the mechanism for that sort of transfer to occur could be on the bottom of someone's shoe or something like that. You could step in something and transfer DNA that way, that's sort of logically what goes through my head, but again it's speculation, I can't say categorically that that's what's happening in this case. '"

153 His Honour then went on to say to the jury:

> "Well I'd suggest you think about that. There is evidence that apart – I think it was Detective Sinnitt had counted up the number of people other than forensic scientists who'd been on board the boat – the yacht from the time it was found sinking to the time the swab was taken and he'd counted up twenty one people and these included people getting on board with pumps, policemen, firemen and marine – people in the marine – from marine businesses getting on board with pumps, family members, people at Constitution Dock, people at Goodwood. Now if Meaghan Vass was homeless in the northern suburbs one of the possibilities that I'd suggest you ought to be considering is whether she'd spat – it's not a delicate subject, but had urinated or something like that somewhere where a policeman had trodden and then that officer had walked onto the deck or got into the car and driven to the boat and walked onto the deck, is it possible that that's the mechanism by which her DNA got there and that she wasn't there. Another possibility is that although she said she wasn't there really on the night of the 26th January or sometime thereafter – sorry, on the night of the 26th January or sometimes thereafter she was on that boat, and given – if you accept that she didn't get on at Constitution Dock then you'd need to consider whether it's plausible that she got aboard while it was at its mooring or is it plausible that she got aboard while it was at Goodwood.
>
> Well Mr Grosser was cross-examined about the possibilities of transference and about the relative chances of the DNA coming directly from the girl or the DNA coming indirectly from her and being transferred there, perhaps on someone's shoe. All that he really said was in substance that he couldn't evaluate the possibilities, he couldn't say whether one possibility was more likely than the other. He certainly didn't say that transference - without the girl having got on the boat that transference was not plausible. For example, he said:
>
> > 'I can't make any assessment about the possibility of transfer without having some knowledge of where it might have come from, what kind of scenario we're talking about.'

And he said:

> 'I think basically what we've got is some suggestion that there's possibility a large amount of DNA that may have originated from Ms Vass present on the boat and as to how that got there I really can't say that any one particular scenario is vastly more likely than another scenario.'

Well he wasn't asked what he considered – how large a quantity he would consider to be a large amount of DNA. Sometimes scientists have different ideas about what's a large amount, especially when the forensic examination of surfaces for DNA sometimes involves minute amounts of DNA being analysed and matched. But – well the evidence is there commencing at 694, if you think you need to you can read it for yourselves from the transcript, but the furthest Mr Grosser went was to say that he wasn't able to say whether transference was more likely or less likely than Meaghan Vass having been present on the boat."

154 The trial judge emphasised in his summing-up that it was for the jury to decide what evidence was important and that it was their duty to reach their own independent conclusion about the facts.

The evidence of Maxwell Jones

155 Mr Maxwell Jones is the author of two reports which are relied upon as "fresh evidence" together with the evidence he gave on the leave application and a scientific report tendered on the leave application, produced by Forensic Science Service Tasmania, described as an "electropherogram". Maxwell Jones is employed as a forensic scientist with Victoria Police in Melbourne and has been so employed with Victoria Police for over 31 years. He has a Bachelor of Science degree.

Mr Jones's reports

156 Mr Jones's first report, described as an "interim report", is dated 4 April 2014. For the purpose of this report, Mr Jones had been provided with some background information including information regarding item 20, the description of it and its source provided in the report from FSST, and the results of the DNA profiling. In that interim report Mr Jones set out his answers to questions that had been posed to him. He had been asked about the nature of the sample and he noted in his reply that the DNA profile had been described by Mr Grosser as a "strong DNA profile". This was a reference to Mr Grosser's description in his email to Detective Sinnitt above at [126]. He stated that if that was so, then he would agree with Mr Grosser that such a result is "indicative of the presence of a relatively large amount of DNA, which is more likely to come from body fluids (blood, saliva etc) than a simple contact/touching event." Mr Jones added that to confirm this, however, he would need to view the DNA electropherogram and the DNA concentration result relating to the sample in question.

157 A question was posed about the likelihood that the DNA sample found on the deck of the yacht came in on the bottom of someone's shoe. He replied:

> "In my opinion, a response to this question rests heavily on the amount of DNA detected in the sample and the strength of the DNA profiling result (ie allele peak heights). If Mr Carl GROSSER's assertion of a 'relatively large amount of DNA, which is more likely to come from body fluids … than a simple contact/touching event' is indeed true, then the range of possibilities could be narrowed in my view. If the sole of a shoe or a section of rope were to be an intermediary transfer surface (ie via secondary or tertiary transfer mechanism), then I am of the view that such a surface would had to have come into contact with a significant quantity of a biological fluid a short time prior to the transference to the deck of the yacht. This time could feasibly be lengthened, for example, if the biological material previously transferred to the sole of a shoe had remained in a dry state for a period of time before being re-wet when the shoe made contact with a wet area of the deck; thus facilitating more efficient transfer of biological material to the deck."

158 Mr Jones noted that that information suggested that the area on the walkway from which the sample had been taken had been exposed to considerable foot traffic leading up to the sampling date, 30 January 2009. He went on to conclude:

> "… given the number of surfaces that could potentially have facilitated the transfer of a biological substance to the deck of the yacht, and that a number of these (namely the soles of Police personnel) could potentially have had access to separate criminal related investigations around the same time, the possibility of a secondary transfer event via a shoe could not be ruled out in my opinion."

159 In his concluding summary he identified three main possibilities for a "strong DNA profile", as asserted by Mr Grosser: primary transfer of biological substance placed directly onto the deck of the yacht, a human biological substance was placed onto the deck via an unknown transferring surface upon which a "relatively large amount/high concentration" of the biological substance was adhering or, contamination. He stated that on the basis of the documentation provided, he had no reason to suspect that a contamination event was responsible for the DNA profile produced from item 20. He considered the possibility of secondary transfer as an explanation for the DNA profile, and said as follows:

> "I don't believe this can be entirely ruled out. There is documented information suggesting ample opportunity for this to occur given that at least 21 people had gained access to the yacht, including Police. In my experience, DNA profiles produced this way are typically low level. This is not consistent with Carl GROSSER'S findings. I can only conclude that if secondary transfer were to have been the mechanism of transfer in this case, the intermediary surface would have retained a significant amount of the biological substance after contacting a primary source."

160 In his second report dated 11 July 2014, Mr Jones noted that he had been provided with further information, and that he had received the DNA profile result tables. He had requested from FSST the DNA electropherogram for item 20 being the swab of the luminol positive area on the walkway and he had been provided with it.

161 A DNA electropherogram is a graph of a DNA profile. The peaks on the graph show the DNA present at each of the DNA sites or locations. The DNA profiling system that had been used by Mr Grosser shows 10 DNA locations. Mr Jones described what the electropherogram showed:

> "The *DNA electropherogram* relating to sample 20; 'swab – liminal positive area – starboard walkway…' showed an unambiguous single source *Profiler Plus*® DNA profile representative of a female individual. There was no indication that any component (allele) within this DNA profile had dropped out (see; *dropout*) nor was there any significant indication of *stochastic* variation. The reported DNA profile was produced from a ten fold dilution of the DNA extracted from sample 20 resulting in allele peak heights having well in excess of 1,000 *relative florescence units* (rfu) for lower molecular weight loci (ie 1680 rfu for allele 10 at D5S818) and in excess of 300 rfu for higher molecular weight loci (ie D18S51 and D7S820)."

162 Mr Jones went on to state that he regarded the results of the allele peak heights as strongly inconsistent with a "touch DNA scenario". The electropherogram showed no significant "stochastic" variation, that is, variation in the peak heights at each of the DNA sites or "drop out", where some of the peaks are missing which you would see with partially degraded samples. He went on to state:

> "Therefore, I am in agreement with the Tasmania scientist's (Carl GROSSER) assertion that the biological substance in sample 20 is indicative of 'a relatively large amount of DNA, which is more likely to have come from body fluids (blood, saliva, etc) than a simple skin contact/touching event."

163 Mr Jones considered that the DNA profile had none of the features of a skin contact/touching event either directly or indirectly involving human skin cells. He said such events would typically result

in incomplete profiles, producing an electropherogram having relatively low peak heights and likely to exhibit stochastic variation, and often resulting in DNA profiles showing multiple contributors.

164 According to Mr Jones's report, in the event of secondary transfer as the causal mechanism, the transferring surface would most probably have retained the same or a greater quantity or concentration of the biological substance in question immediately prior to contacting the starboard deck of Four Winds. He noted that studies have shown that variables such as the nature of the surface on which the substance is deposited, the level of moisture and the degree of friction between the intervening surfaces can all have a significant impact on the quantity of the substance transferred and subsequently sampled. An absorbent receiving surface, the presence of moisture and a level of physical movement (friction) serve to maximise the possibility of transferring a biological substance from one surface to a receiving surface. Contrary to this, if the biological substance adhering to the transferring surface was in a completely dry state, the level of transfer would be significantly reduced.

165 In a passage relied on by the appellant Mr Jones noted:

> "If the tread of the shoe retaining a moist biological substance was to be acknowledged as the likely means of the transference, I believe it is reasonable to anticipate that at least one other similar stain resulting in the same DNA profile (or part thereof) would have been expected to have been deposited on the deck of 'Four Winds' as the person moved about the yacht. No such stain appeared to have been detected by Forensic Scientist's from the FSST based on the six pages of DNA profile tables headed 'DNA PROFILING COURT REPORT'. Therefore, there is no evidence to support the hypothesis that the DNA detected in sample 20 was the result of a *secondary transfer* event caused through foot traffic on the deck of 'Four Winds'."

166 He concluded by noting that it was not possible to derive an accurate time frame for the deposition of the biological substance or fluid in question onto the starboard deck of Four Winds. He referred to studies that have demonstrated that the quantity of DNA recovered from exposed outdoor surfaces can diminish by half over a period of two weeks and become negligible after six weeks. Mr Jones stated that he envisaged that the quantity of the initial amount of biological matter would have some impact on these time frames. The more severe the environmental conditions, the more rapid the degradation. Physical and chemical antagonists such as foot traffic and cleaning are also factors. He said it was difficult to envisage a potentially more adverse range of everyday conditions than if the exposed surface of the starboard deck of Four Winds was "moored at sea".

Mr Jones's oral evidence

167 In his evidence, Mr Jones discussed and expanded upon matters dealt with in his reports regarding the DNA profile. He said that the peak heights were what would be considered to be good strong heights. The height of the peak gives a very clear indication of the amount of DNA present in a sample. There was little stochastic variation or "drop out". He noted the one in 10 dilution of a DNA extract and that only half the sample taken was used for DNA profiling, as well as the impact of luminol in diluting, and extraction inefficiencies. He said that these factors reinforce that there was a strong source of DNA, not a touch scenario involving DNA from skin cells. Mr Jones gave evidence that he was very confident in excluding the possible explanation of touch or skin contact. The profile indicated a biological substance which retains a lot of DNA, a bodily fluid such as blood, saliva or semen.

168 Mr Jones was asked about what was meant by the expression "secondary transfer". He explained that secondary transfer is a possible mechanism by which a biological material would be deposited. Secondary transfer means there is an intervening surface between a direct transfer of biological material.

169 He was asked about this case and the likelihood or reasonable possibility of the deposit of DNA being the product of someone having picked up something on their shoe and walked onto the Four

Winds. Mr Jones stated it was difficult to answer the question with any accuracy or detail. He said there is going to be "significant loss" involved in terms of the transfer to the shoe, and walking would have quite a major effect on degrading or removing the material. He added that he would expect there to be a significantly large amount of biological material on the shoe to begin with to at least even detect a minor amount of material on the deck of the Four Winds, if there was some walking around prior to that. He said he had contemplated various "extraordinary sort of situations" that might arise to try and explain that. He gave one example. He offered the scenario in which someone stepped in blood, it dried and then the wearer of the shoe walked on to Four Winds and stepped in some water. Potentially with the rewetting and movement there could be some transfer of biological material. He added, "So it would take some quite specific circumstances to occur." He gave another example of someone stepping in chewing gum before stepping onto the deck of the Four Winds with moisture present. Mr Jones said that in that instance though, if there was some DNA, it is very hard to imagine it would result in a strong DNA profile like the one produced here.

170 Mr Jones was asked in examination in chief by the appellant's counsel about the fact that there were no other findings of the same DNA profile elsewhere on the deck of the Four Winds. He gave evidence that the significance of that depends on whether the biological material was blood or other bodily fluids. He could not say for certain that the luminol test in detecting the presence of blood, actually related to the DNA detected. It may have been that the luminol reacted to something else and by chance the DNA detected was also deposited in the same area. Mr Jones said in his evidence that if the DNA profile related to blood that had been deposited by the sole of a shoe it is very likely that you would have seen the profile in other places on the deck because a luminol test is very sensitive. He explained that it may have been another substance on the deck such as saliva in which case luminol would not have reacted to it. If the DNA detected was from saliva it could have been elsewhere on the deck of the Four Winds, but not sampled because there is no screening test to detect saliva.

171 The following two questions and answers are worth setting out in full:

> "By way of concluding, the – given the significant quantity of DNA, given the findings on that electropherogram, what's your opinion as to the relative likelihood of the primary deposit as against secondary transfer?……Well, again I suppose I could narrow that down. It's a very difficult question to answer again, but if I knew nothing about this case and I was just a normal case worker and I obtained a profile like that in general case work, the simplest answer would be, well, it would indicate some sort of substance from primary transfer, something like a small bloodstain, or a small amount of saliva, perhaps saliva on a cigarette butt or chewing gum, that sort of thing. Secondary transfer wouldn't be something which would come to mind initially because it's not typical of secondary transfer DNA profiles.
>
> ... You've received this electropherogram, you understand the science of DNA, your expectation based on your knowledge of the science of DNA and what you have observed is – correct me if I mis-summarise, is that you would expect this to be a primary deposit of some sort of biological fluid. Is that a fair summary?……I don't think it's fair to say I would expect it to be. I said without knowing anything, if I saw the profile, I would – it's the sort of profile you would obtain from a primary deposit, or if it was a – if I was to contemplate a secondary transfer scenario, I would be contemplating the transfer of a significant amount of biological substance, of biological fluid of some type. I couldn't rule that possibility out also, but it's certainly not the touch scenario. I'd certainly rule that out quite confidently. It's a mechanism – if it was secondary transfer, it's I suppose the mechanism which I try to – to – think of a way that that could have happened in this context is p- there's not many that I can think of – and the profile itself is – is typical of what you expect from a sample taken of a primary deposit of biological material."

172 In cross–examination Mr Jones was asked about whether the electropherogram confirmed what Mr Grosser had said that there was a lot of DNA, and he did not take issue with that. There was questioning that focussed on his opinion that the DNA profile indicated very little sign of degradation.

The respondent's counsel put a hypothetical scenario regarding the Four Winds that was relevant to the timing of the deposit of Ms Vass's DNA profile. Mr Jones was asked to assume that the Four Winds was moored and found sinking on 27 January, it was transported to Constitution Dock where numerous people were moving on the deck, and then on 28 January it was taken to CleanLift Marine where the sample was taken by Ms McHoul on 30 January. Mr Jones was then asked whether in his opinion the significant amount of DNA and the fact it had not degraded meant that it was much more likely that the DNA had been deposited there shortly before Ms McHoul took the swab on 30 January. During Mr Jones's evidence on this topic he agreed that sunlight degrades biological material quite rapidly. In providing his opinion, Mr Jones said that in terms of survival of biological material you would be talking days and you would expect quite significant degradation after seven days. However, he said it would be difficult to say whether it would be one, two, three or four days. Whether biological material would survive in 3-4 days is a "grey area" given the quality of the DNA profile. He went on to say that it was very difficult to be definitive but he was tending to a shorter time and "I can't say that that's two days or three days, but the longer you go on, say up to the four days, the more original biological material that must have been there on the deck in the first place."

173 In the context of the environmental conditions in this case and the extent of the foot traffic, he gave evidence that DNA would not survive well for too long under those conditions, a matter of days, one or two days. "Potentially a little longer, but it depends on how much starting material you have." When pressed, he said "I would be favouring shorter, in terms of one or two days, but I wouldn't exclude the possibility of a little bit longer." Later in re-examination, he indicated that if the deck of the Four Winds was a textured surface that could facilitate the longevity of biological material on a surface.

174 Mr Jones gave evidence bearing on his opinion that if the causal mechanism was secondary transfer he would expect that the DNA profile may have been found elsewhere on the deck. It was put to him that regardless of how it got there, whether it was direct or secondary transfer, you would expect it to be found elsewhere given that people were walking on the deck. Mr Jones agreed, saying that was a reasonable possibility to propose. He expressed the opinion that if there was moisture and foot traffic, transferring some of that moist material to another area would be quite likely. That expectation, though, depends on whether it was blood, noting that if it was not blood, if it was something else, it may never have been sampled in the first place because there was no screening test to detect it. He did not disagree with Ms McHoul's evidence that it was not possible to determine whether there were drops of blood or whether that was caused by the luminol.

175 He was asked in cross-examination about secondary transfer and whether he could rule out the possibility that that sample got there via a secondary transfer, and he gave the following evidence:

> "A: I can't entirely rule that possibility out. Although I will stipulate that it would require a specific set of circumstances that – perhaps ideal conditions for that transfer to occur to that extent to produce such a good DNA profile from this sample.
>
> Q: And would you agree that studies have shown in non – non-porous surfaces like a shoe, up to 95 per cent of DNA can be transferred?
>
> A: Yes. Non-porous surfaces are better at losing their – their biological material or transferring it. That's correct yes, I …
>
> Q: And – and especially when a deposit on a hard surface like a deck?
>
> A: Yes I imagine the deck – if a deck had some sort of texture to it, a – perhaps a non-skid which you'd expect on a - on a boat, well that – some abrasive surface, that may assist in this transfer. So friction is a - is an element here, so the friction, moisture are two very important factors to consider.

> Q: Now, you can't rule out that it got – a possibility is it got there by someone walking onto the vessel? You might think it's unlikely, but you can't rule it out as a possibility?
>
> A: Well that's right, I can't rule it out as a possibility, but as I say it's a – you'd have to postulate a particular circumstance whereby that would've occurred to – to that extent.
>
> Q: And you also can't rule out that it got transferred there from some other unknown way can you?
>
> A: That's right, I mean there's other potentially other things that I can't think of which may have caused that. I mean obviously unusual things do happen, and – so I can't exclude a – a very rare occurrence occurring.
>
> Q: And you can't comment on what's more likely, whether Ms Vass is telling the truth or whether this is a direct positive, can you, that she's been on the boat. You can't say what's more likely, can you?
>
> A: I can't sort of evaluative either in terms of one's more likely than the other, that's right and there's so many unknown factors."

176 Later, Mr Jones added that while it is known that secondary transfer does occur, it would be rare to obtain such a good profile. He was asked, "You don't disagree with Mr Grosser's evidence at trial that it was rare?" He replied, "I don't disagree". He went on and said that as "forensic scientists, we don't know the circumstances often behind transference of material" but this profile does not typify secondary transfer, adding, "but there may be some particular set of circumstances that may occur to account for it."

177 In cross-examination, a number of aspects of Mr Grosser's evidence which spoke of or accepted the possibility of secondary transfer were put to Mr Jones. Mr Jones did not disagree with the possibility of secondary transfer from a shoe onto an area where people are walking. He elaborated on that:

> "So look, there's that consideration if somebody just prior – immediately prior – to stepping on, if there was a jetty next to the boat there and they stood on something there where there was a large amount of material, a visible amount. It was perhaps moist as well, then took one or two steps then placed that foot onto the deck and there was moisture and some friction involved. Well, if that were to occur I don't think I could totally rule out a transference to produce such a profile but it would take a close, specific set of those sort of circumstances."

178 Later during cross-examination, Mr Jones stated it would take a "specific set of conditions for that transfer to occur to result in such a good DNA profile". He agreed that it was possible that there was "some unusual event which we cannot account for" that could have resulted in the transfer of a large amount of material. In addition to blood, it may be that a large amount of saliva had dried and somehow remained on a shoe, then become wet once on the boat, which would have assisted in the transfer of the material.

179 Counsel for the appellant then put Mr Grosser's answer at [119] above to Mr Jones regarding the likelihood of secondary transfer versus Ms Vass's presence on the yacht, and that likelihood of presence would depend on access to the boat. Mr Jones replied "I don't disagree. It's about opportunity and whether the boat was accessible …".

180 Mr Jones gave evidence about the general availability of forensic scientists across Australia and that forensic scientists in any jurisdiction can be asked to assist the defence with respect to a case in another jurisdiction. If Mr Jones had had access to the electropherogram and Ms McHoul's notes and reports in August 2010 he believed he would have provided the same evidence then.

Accord with the trial evidence

181 The appellant relies on the entirety of Mr Jones's oral evidence on the leave application, the electropherogram and his reports for the purpose of the appeal. However it is not suggested that all of this evidence is "fresh and compelling" and indeed, as can be seen from the above outline of Mr Jones's evidence, it conforms to a significant extent with the scientific evidence that was presented to the jury at the trial. Self-evidently, if evidence was before the jury at the trial, it could not qualify as "fresh" evidence.

182 A comparison of Mr Grosser's evidence on the trial with Mr Jones's reports and his oral evidence on the leave application evidence shows there are important matters upon which they agree. Relevantly for this appeal, they are in agreement that secondary transfer is a "possible" explanation for the DNA sample. As the appellant's counsel said in submissions before this Court, both experts "use the language of possibility".

183 The evidence of Mr Jones regarding the rarity of secondary transfer as an explanation for the presence of the DNA, see [175] and [176], is consistent with the evidence given by Mr Grosser on the trial. In cross-examination, Mr Grosser gave evidence that if he had seen a case of secondary transfer it would be very rare, and he had not come across a case where it had been shown that DNA had been carried on the sole of a shoe and transferred to another location, see above [122] and [124]. Other aspects of Mr Jones's evidence that were before the jury will be discussed in the course of these reasons.

Aspects of Maxwell Jones's evidence relied on as "fresh and compelling"

184 I have considered the appellant's oral and written submissions on the appeal to seek to identify with some precision the evidence of Mr Jones said by the appellant to be "fresh and compelling". Of course, identifying these aspects does not suggest that they are then to be considered in a vacuum. It is necessary for the purposes of this appeal to have regard to all of Mr Jones's evidence. The parts of the evidence said to be fresh and compelling evidence do not stand in isolation and must be read in context. Indeed, the appellant relies upon all of the evidence of Mr Jones. Her submissions on a number of topics refer to the "sum effect" of his evidence.

185 The appellant has highlighted the following aspects of Mr Jones's July report as evidence that is fresh and compelling:

- "If the tread of a shoe retaining a moist biological substance was to be acknowledged as the likely means of transference, I believe it is reasonable to anticipate that at least one other similar stain resulting in the same DNA profile (or part thereof) would have expected to have been deposited on the deck of 'Four Winds' as the person moved about the yacht. No such stain appears to have been detected by Forensic Scientists from the FSST based on the six pages of the DNA profile tables headed 'DNA PROFILING COURT REPORT'. Therefore, there is no evidence to support the hypothesis that the DNA detected in sample 20 was the result of a *secondary transfer* event caused through foot traffic on the deck of Four Winds."

- The electropherogram reveals that the biological substance in item 20 was indicative of a relatively large amount of DNA, and there was no indication that any component (allele) within the DNA profile had dropped out, and there was no significant indication of stochastic variation.

- The quantity of biological material in the sample/swab was "strongly inconsistent" with a touch DNA scenario and is more likely to have come from body fluids (blood, saliva etc) than a simple skin contact/touching event.

- The quantity of DNA recovered from exposed outdoor surfacers could diminish by half over a period of two weeks and become negligible after six weeks. It is difficult to envisage a potentially more adverse range of everyday conditions.

- It was difficult to conceive of a mechanism of secondary transfer that could be responsible for the deposit of this DNA profile. However he could not rule out the possibility. It would involve the transfer of a significant amount of biological fluid. There are extraordinary situations that might make secondary transfer a plausible explanation.

186 There were other matters highlighted which arose from Mr Jones's evidence:

- He could not rule out the possibility of secondary transfer as having produced the DNA profile, but it would be unusual, a "very rare occurrence" and the **occurrence would require a very specific set of circumstances.**

- The example provided by Mr Jones of the specific set of circumstances and "close connection" that it would take to produce the DNA profile by secondary transfer of DNA on the sole of someone's shoe: if there was a jetty next to the boat and before stepping on to the boat the person stepped into a large amount of bodily fluid, that was perhaps moist as well, then took one or two steps before stepping on to the deck with moisture and friction.

- The DNA profile in this case is the sort of profile you would expect from a primary deposit.

187 The evidence of Mr Jones that the DNA profile is the sort of profile you would obtain from a primary deposit needs to be read in context: see above at [171]. It is an expectation based on the nature of the DNA profile. It is uncontentious, and Mr Jones's evidence makes clear, that the nature of the DNA profile leaves open the possibility that it was a deposit by secondary transfer.

188 It should be noted that the reference by Mr Jones in his report and oral evidence to the lack of other samples from the deck of the Four Winds matching Meaghan Vass's profile draws on evidence that was before the jury. The examination of the yacht and the testing of areas on the deck with luminol and the result of swabs taken from those areas can be found in the evidence of Ms McHoul. Mr Jones's statement in his report "there is no evidence to support the hypothesis that the DNA detected in sample 20 was the result of a secondary transfer event caused through foot traffic on the deck of Four Winds", is a comment on the evidence that was before the jury, rather than additional evidence.

189 As will be seen, principally, the evidence relied upon by the appellant as "fresh and compelling" evidence is the evidence regarding the nature of the DNA profile, that there was a relatively large amount of DNA as revealed by the DNA profile, (shown in the electropherogram); to produce that DNA profile by secondary transfer via the sole of a shoe would require a specific set of circumstances; and the example provided by Mr Jones of the particular circumstances required to produce such a DNA profile by secondary transfer.

The submissions on fresh evidence

190 The appellant relied on the obligations of the prosecution in a criminal trial as set out in the cases such as *Drummond (No 2)*. It was submitted on her behalf that defence counsel at the trial was entitled to rely on the impartiality and objectivity of the independent expert witness, and to assume that all relevant material bearing upon the weight of that opinion had been disclosed. It was submitted that here, an objective assessment of what the appellant could reasonably be expected to have done in all the circumstances required consideration of the failure by the prosecution to disclose certain evidence.

191 It was highlighted that the electropherogram had not been disclosed to the appellant, until after the trial and after the appeals, when in 2014 FSST sent it to Victoria Police Forensic Services

Department. It was submitted that DNA analysis is a complex scientific area and in 2009 it could not reasonably have been expected of defence counsel to appreciate the significance of the electropherogram for this case or the desirability of the need to have sought that information in advance of the trial.

192 The appellant also relied upon the fact that Mr Grosser's opinion regarding secondary transfer was not disclosed in advance of the trial and only emerged during his evidence. It is contended that defence counsel could not with reasonable diligence have obtained evidence to deal with what Mr Grosser said with no advance notice of that opinion and when counsel was enmeshed towards the end of a very complicated trial with a very large circumstantial case that would have taken up all of counsel's attention and diligence. In particular, the opinion and observations in Mr Jones's reports in 2014 could not, with reasonable diligence on the part of the appellant or her legal advisers, have been available as evidence at or prior to the trial.

193 The respondent submitted that the evidence is not fresh. It is contended that there is no material difference between the evidence of Mr Jones and the evidence of Mr Grosser. It was said that in fact a significant part of Mr Jones's evidence was more favourable to the Crown than Mr Grosser's evidence in that Mr Jones considered that the most likely scenario was the DNA had only been there one or two days before it was collected, which means it was likely that it was deposited after the night of the murder.

194 It was noted for the respondent that there had been no evidence presented on the appeal about what steps were taken in relation to the scientific evidence, who was consulted and why the defence made the decisions that were made during the course of the trial. It was submitted that the appellant has not shown that they could not, with reasonable diligence, have obtained such scientific evidence. The respondent contended that, accordingly, there was no evidence that would enable a finding that the evidence of Mr Jones could not, with the exercise of reasonable diligence, have been adduced at trial. It was also submitted that Mr Jones's evidence established that he could have provided the same evidence in 2010 if he had been approached. His evidence on the leave application was relied upon to the effect that his opinions could have been given at trial by numerous expert witnesses who routinely provide advice, reports and evidence to accused people. The respondent highlighted that the onus is on the appellant and, given the lack of information before this Court about the steps taken by the defence at trial and the reasons for decisions made at trial, it is feasible that at, or before the trial, her counsel spoke to a scientist but chose not to call the evidence.

195 The respondent's submissions highlighted that the electropherogram was available to the appellant prior to the trial and that defence counsel can, and do, request documents from FSST. It was submitted that the significance of the electropherogram was that it showed a relatively large amount of DNA. On this point, the respondent relied upon the fact that the email from Mr Grosser to Detective Sinnitt referred to a large amount of DNA, and that the email was disclosed during the trial to defence counsel. It was also contended by the respondent that there was evidence before the jury to the same effect.

Could the evidence with reasonable diligence have been adduced at trial?

196 This is not a case where the evidence said to be fresh and compelling is new scientific knowledge or information that came into existence after the trial. The electropherogram was part of the FSST records and in existence before the trial, and the opinions of Mr Jones relied upon would have been provided at the time of the trial if they had been sought. Clearly, the evidence "*could*" have been adduced at trial. The question in this appeal concerns what the defence could reasonably be expected to have done in the circumstances and whether the appellant could not, "*even with the exercise of reasonable diligence"*, have adduced the evidence at trial.

197 The submissions for the appellant rely heavily on asserted failures of the State to disclose evidence to the defence which is said to have hampered proper preparation and, given the realities and

pressures of the trial, precluded the adducing of the evidence. In particular, the defence submits that the failure to disclose the electropherogram, the failure to disclose Mr Grosser's opinion regarding secondary transfer in advance of his evidence, and also the very late disclosure of information that there was a relatively large amount of DNA in the sample, are highly relevant when considering whether the defence, in not adducing the evidence, exercised reasonable diligence in the circumstances of the trial.

198 It can be seen that the electropherogram was not provided to the defence until it was sent to Mr Jones on 25 June 2014. Indeed, its existence was not disclosed to the defence until then. It appears that it was not referred to by Mr Grosser or any other witness in their evidence. Disclosure occurred well after the trial and, indeed, after the first appeal.

199 Before moving to consider the impact of the failure to disclose the electropherogram it is important to consider the significance of it. Electropherograms are produced by DNA profilers as part of the process of obtaining a profile. An electropherogram is a graphical representation of information regarding the DNA profile in question including whether it is a full profile, a partial profile, a mixed or single source profile. It provides a result at each of the DNA sites, and the quantity of DNA detected at each site. The electropherogram here showed good strong peak heights and no dropout and little stochastic variation. Typically, electropherograms are not provided to counsel or presented in the evidence, just as other primary working documents of the scientists would not be provided. Indeed, this is clearly acknowledged by the appellant in her written submissions*: "Usually these electropherograms do not form part of the materials supplied to the party requesting the analysis and do not form part of the report which will form the basis of the evidence to be led at a trial*."

200 As the graphical representation of information ie, the analysis of DNA, it is the information disclosed and the opinion derived from that analysis that has significance, rather than its form. In fact, as I understand the appellant's submissions, it is not suggested that the electropherogram per se necessarily should have been disclosed. Its relevance and significance was that it disclosed a good source of DNA and a relatively large quantity of DNA material. The relevance and significance of the electropherogram can be seen from the two reports of Mr Jones. He was able to reach a provisional opinion regarding secondary transfer based on Mr Grosser's opinion that there was a "relatively large amount of DNA, which is more likely to have come from bodily fluids" than a contact/touching event. Based on this, Mr Jones concluded "that if secondary transfer were to have been the mechanism of transfer in this case, the intermediary surface would have retained a significant amount of the biological substance after contacting a primary source." It is clear from the second report that Mr Jones regarded the electropherogram as providing further support for Mr Grosser's opinion. The electropherogram enabled Mr Jones to confirm his provisional opinion. It can be seen that the essential information was that DNA profile of Ms Vass disclosed a good source of DNA and a relatively large amount of DNA material.

201 It is noted that neither Mr Jones nor Mr Grosser defined what they meant by a "relatively large quantity" of DNA. It would seem to be a relative descriptor based upon the nature of the DNA profile and the features of it, such as the good strong peak heights, and factors such as the dilution process.

202 It is apparent that the electropherogram and other original reports and documents were available and would have been provided to defence counsel on request. They would have been provided before the trial commenced if inquiries had been made of FSST, seeking disclosure of the original reports and scientific results. The two forensic biology reports expressly invite defence counsel to request further information and clarification. The second forensic biology report of 1 July 2009 which provided the results of the biological examination and DNA profiling of the relevant items, including item 20, states at the end:

> "The full notes (including photographs) and details of the test methods and results of examinations and tests are available to defence counsel. If these are required, please direct a written request through the Office of the DPP. FSST provides an impartial

> service and defence counsel counsel are encouraged to contact the authors directly for clarification of any aspect of this report, without prejudice."

The first report of June 12 includes a paragraph in almost identical terms.

203 Both Ms McHoul and Mr Grosser gave evidence at pre-trial preliminary proceedings where they could have been asked for their notes and primary documents, and been cross-examined about their content.

204 Further, the defence could have obtained the opinion and observations of Mr Jones, or an opinion from another expert, before the trial commenced. If another forensic scientist had requested notes, reports, or the electropherogram regarding item 20, there is no suggestion that FSST would not have provided that information to the scientist.

205 Another material fact is that the information that had been disclosed in the form of the FSST report of a "full DNA profile", meaning a result at every site on the graph, is consistent with the more comprehensive information revealed by the electropherogram of good strong peak heights, no "drop off" and no significant stochastic variation. This is not a case where the information that was provided was misleading or inconsistent with the undisclosed information held by the prosecution. The undisclosed information can be characterised as particulars and details of what had already been provided to the defence.

206 In carrying out the task of considering all of the circumstances in order to assess whether defence counsel acted with reasonable diligence, it is important to consider the position of defence counsel, including the information they had to hand before the trial commenced. Before the trial, the two Forensic Science Service Tasmania reports had been provided to the defence: see [106] above. The July report revealed that item 20, the swab from luminol positive area 11, produced a "full DNA profile (female)". It had been disclosed that there was a DNA match with "Meaghan Vass" and there was no dispute regarding the presence of the DNA profile on the deck of the Four Winds and the match. It also should be remembered that before the trial, defence counsel did not have a statement or proof of evidence from Meaghan Vass and did not know what her evidence would be before she gave evidence in the absence of the jury.[1] Moreover, the defence had no notice that the State was going to raise secondary transfer as an explanation. Defence counsel were entitled to assume that if the State was going to lead evidence that secondary transfer was an explanation it would be "proofed" that is a proof of evidence supplied outlining the evidence to be led. That had not been done.

207 It is also important to bear in mind that information regarding the nature of the DNA profile was highly relevant to the defence and the hypothesis that Meaghan Vass and/or her associates were responsible for the death of Mr Chappell. As the appellant's counsel said on appeal, the presence of Ms Vass's DNA was one of the two pillars of the defence case. Questions such as how long the DNA might have been there, whether it was degraded, and how it could have got there were highly pertinent to the defence case. Before the trial, it would have been obvious that one of the possible explanations for the presence of Ms Vass's DNA profile on the deck of the Four Winds was secondary transfer. Defence counsel, Mr Gunson, was very experienced and would have been alert to secondary transfer as a possible explanation. It was an explanation that was of central concern to the defence case because it was completely at odds with the hypothesis advanced by the defence.

208 It is likely that an enquiry by defence counsel of FSST involving a basic probing or exploration of the nature of the DNA profile or, even just a general request for further information, would have revealed the information now said to be fresh: good strong peaks at every site, a relatively large amount of DNA present, and the sort of profile produced by good sources of DNA. A simple question directed

[1] There was no suggestion of a failure to comply with obligations of disclosure with respect to her evidence. As noted above her evidence was disclosed during the trial during a *Basha* inquiry.

to FSST, along the lines of, "what can you tell me about the quality of this profile" would likely have revealed this information.

209 The evidence of the DNA profile carried very real significance to the defence case. An obvious step in preparation of the case was to seek more information regarding the profile. I accept that it could not have reasonably been expected of defence counsel to appreciate the potential significance of the electropherogram and to request that that primary source be provided. However, a general enquiry of FSST for more information about the profile would very likely have revealed the key information represented by the electropherogram. That information was available before the trial from FSST with the exercise of reasonable diligence.

210 There may have been a tactical reason why this general probing and exploration of the DNA profile was not done. The evidence of the presence of the DNA profile matching Meaghan Vass was entirely helpful to the defence if presented in accordance with the brief information in the report. From the defence point of view, the less said at trial the better. The report did not address the potential causal mechanism and possibilities such as contamination or secondary transfer. Meaghan Vass's presence on the Four Winds was the obvious explanation and that was unassailed in the report. Another consideration may have been that the evidence could only be explored with FSST. No other agency had the information. The strategy may have been not to seek additional information from FSST in case it brought to the prosecution's attention evidence unfavourable to the defence. Another possible reason is that it may have been thought that resources were not warranted in exploring the evidence of the DNA profile and questions regarding it because the report as it stood was helpful to the defence and it did not raise possibilities that were unhelpful. Whatever the reason, there were risks about this approach as it would leave the defence unprepared in the event of additional evidence and also uninformed about potential information that may assist the defence.

211 These observations do not mean that the prosecution was absolved of its obligations in terms of disclosing evidence about the DNA profile, the relatively large quantity of DNA and also disclosing the opinion evidence of secondary transfer before leading that evidence from Mr Grosser. These obligations remain significant in terms of assessing the position of the defence at the trial and warrant careful consideration.

212 There was no disclosure of the opinion from Mr Grosser of secondary transfer as an explanation for the presence of the DNA. Mr Ellis was permitted to lead that evidence from Mr Grosser without having provided a statement or proof of evidence. The opinion was not foreshadowed and the defence had no warning of it. It is submitted that this bears on the question of whether the accused could, with reasonable diligence, have obtained and adduced the evidence given by Mr Jones. It was submitted that counsel for the appellant could not, with reasonable diligence, have obtained evidence to deal with what Mr Grosser said, given the lack of advance notice, and that counsel was "enmeshed in a very complicated trial dealing with a very large circumstantial case". It was argued that it is untenable to suggest that defence counsel should have sought a forensic expert during the trial to assess the evidence of Mr Grosser.

213 I accept that a relevant factor bearing on the question of reasonable diligence is the lack of disclosure of the opinion led from Mr Grosser regarding secondary transfer. This was relevant material and defence counsel were entitled to rely on the prosecutor's duty of disclosure here.

214 Fairness dictates that a proof of evidence regarding this opinion should have been provided to the defence in reasonable time before he gave his evidence. It would have promoted an accurate understanding of Mr Grosser's opinion and assisted in identifying the limits of his opinion. The preparation of a proof may have led to the State disclosing other relevant evidence bearing on the same issue that had not been disclosed, such as the opinion advanced by Mr Grosser in his email to Detective Sinnitt that there was a relatively large amount of DNA in the sample.

215 However, highly relevant to the impact of this factor in assessing whether the defence exercised reasonable diligence is that there was a clear invitation by the trial judge to defence counsel that he may request time to prepare his cross-examination. That time would have allowed an opportunity to check the transcript of the evidence led by Mr Ellis, consult a forensic scientist and prepare cross-examination. Information from a forensic scientist regarding the variables affecting transfer of a biological substance from one surface to a receiving surface would have been readily available to the defence. As an aside, I observe this would have also allowed time to consider the limits of the evidence given by Mr Grosser, promoting accuracy in cross-examination. It can be seen from Mr Grosser's evidence at [115]-[116], that he was not suggesting that secondary transfer was "equally possible" as put by Mr Gunson in one of his early questions. He simply advanced the opinion that it was a possible explanation, but as to the nature of the scenario he made it clear that from his point of view that was "speculation". Indeed, he made it very clear that he could not speak to whether secondary transfer was more likely than direct deposit. It can be seen that the cross-examination took the scientist beyond the limits of his field into speculation. He was asked to speak to the relative prospects of competing scenarios to explain the presence of the DNA. This proved unhelpful to the defence resulting in answers that he could not say what scenario was more likely. This is a consequence of counsel's approach when time for consideration and enquiry was warranted and counsel were invited by the trial judge to take time.

216 The opportunity given by the learned trial judge to request time largely, if not completely, negated the unfairness in the State not disclosing the opinion in advance by providing a proof. It is not apparent why the defence did not take up the opportunity to prepare cross-examination. Perhaps there was a strategic advantage in defence counsel appearing to the jury to be unfazed by new evidence and being seen to proceed in a robust way. However, it was an important matter to the defence, time was warranted and, as the trial judge made clear, defence counsel was entitled to that time.

217 It was submitted at the hearing of the appeal that the opinion on secondary transfer was revealed towards the end of the trial. Given that the trial judge invited the defence to take time to prepare cross-examination, the stage of the trial loses significance. In any event, it was not towards the end of the trial: the trial commenced on 21 September 2009, Mr Grosser's evidence was given on 29 September and the Crown case did not close until 7 October. The complexity of the trial and, as a circumstantial case, the voluminous evidence, large number of witnesses and multiple factual issues are plain from the transcript and accepted. But again, secondary transfer was a critical issue for the defence and there was an invitation to take time.

218 The other matter concerning disclosure is the failure to disclose before the trial and for the first part of the trial that there was a relatively large amount of DNA in the sample. The respondent submitted that the information concerning the good amount of DNA material was, in effect, disclosed during Mr Grosser's evidence, and he made reference to the volume of DNA from the swab, item 20. In his evidence-in-chief he said "Potentially anything that would be **carrying a lot of DNA from that individual** could have been transferred onto that (the deck)". Later, during cross-examination he said "I think basically what we've got is some suggestion that there's **possibly a large amount of DNA that may have originated from Miss Vass** present on the boat and as to how that got there I really can't say that any one particular scenario is vastly more likely than another scenario."

219 In my view, Mr Grosser's evidence obliquely referred to, but did not adequately disclose, the fact that there was a relatively large amount of DNA in the sample. He discussed the mechanism of secondary transfer generally and a suggestion of a *possibility* of a large amount of DNA in this case. It was pointed out by the respondent that Mr Gunson referred in his closing address to the volume of DNA material in item 20. Mr Gunson stated:

> "It is obvious from the scientific evidence that there was a significant amount of DNA. It was enough to show up in the luminol test, and to be extracted from the deck for the purpose of DNA testing."

There was no evidence from an expert of a "significant amount of DNA". Mr Gunson was pressing an inference drawn from the evidence of the testing and extraction. He had knowledge of the quantity of DNA as a consequence of the disclosure of Mr Grosser's email to Detective Sinnitt, but that email was not part of the evidence before the jury.

220 Having regard to the fact that the email was disclosed to counsel during the trial, the question is then, what opportunity was there for counsel to have adduced evidence with respect to the significance of the information it revealed?

221 It will be remembered that the email was disclosed during the evidence of Detective Sinnitt, after Mr Grosser gave evidence. The disclosure of the email led to an application by defence counsel for Mr Grosser to be recalled. The application was opposed and refused. It can be inferred that defence counsel appreciated the significance of the contents of the email and regarded the large amount of DNA as significant, or else he would not have made the application. As soon as the email was disclosed, defence counsel could have made enquiries of an expert about the implications of the information disclosed such as the strong DNA profile and the relatively large amount of DNA and indeed, could have referred to those implications in making the application. At that time, counsel could have sought the opinion of another scientist or considered speaking with Mr Grosser about its potential significance for secondary transfer as a possible explanation.

222 I pause to refer to an argument advanced by the respondent on appeal. It was argued that, absent any affidavit evidence on behalf of the appellant, it is entirely feasible that enquiries were made by the defence in preparation for the trial regarding matters such as the amount of DNA and the implications of that, but a decision was made for strategic reasons not to adduce the evidence. The reasons may have been that aspects of the evidence would be unhelpful to the defence (such as the time frame given by Mr Jones as to when it was likely that the DNA sample was deposited) or so that the appellant did not lose her right of last address, s 371(c)-(d) of the Code.

223 It can be assumed that there would have been obvious difficulties for the appellant in presenting evidence on this appeal regarding these matters because senior counsel died in 2018. This would have been especially difficult in the case of evidence with respect to a negative state of affairs that is, enquiries that were not made. In any event, inferences can be drawn from the course of the proceedings and the stance taken by senior counsel during the trial. We know that a proof was not provided to the defence regarding secondary transfer, the evidence of secondary transfer was led without advance notice, and that defence counsel treated the email from Mr Grosser to Detective Sinnitt as having significance. If he had had knowledge of the strength of the DNA profile, it can be expected that he would have cross-examined Mr Grosser about it, which he did not do.

224 However, it is significant that there is no evidence suggesting that once Mr Grosser's email was disclosed there was anything preventing a forensic scientist from being consulted, briefed and, indeed, called as a witness for the defence. It seems there was that opportunity. The email was disclosed on 30 September 2010, the balance of the State's case was presented over the ensuing days and the State closed its case on 7 October 2010. The defence commenced its case on the same day with the accused electing to give but not adduce evidence. The appellant's evidence concluded on 12 October and closing addresses commenced on 13 October 2010. According to the information before this Court, it appears that after disclosure of Mr Grosser's email there was time for the contents of it to be explored and evidence to be adduced.

225 Evidence said to be fresh evidence is the opinion evidence of Mr Jones of the very specific circumstances that would be required to produce the DNA profile obtained from item 20 via secondary transfer. The specific nature of the circumstances was not advanced in the evidence at the trial. Unlike the evidence of the quantity of DNA, the evidence of the type of specific scenarios that could lead to a secondary transfer by the sole of a person's shoe was not evidence that the State held and was remiss in

disclosing or was tardy in disclosing. The evidence that the defence says it would want to have adduced is the evidence that Mr Jones gave on the leave application.

226 This evidence of the precise set of circumstances is based on the evidence of the strong DNA profile indicative of the presence of a relatively large quantity of DNA present in the sample advanced in the context of the hypothetical scenario that someone could have walked onto a bodily fluid and then transported it on the sole of their shoe onto the deck of the Four Winds. The question which needs to be examined is whether this evidence was, or could have been, available to the appellant by the exercise of reasonable diligence in the preparation or conduct of the case.

227 The following matters are relevant to this question:

- Mr Grosser gave evidence on the trial that he could not say he had seen a case where secondary transfer on the sole of a shoe had occurred.

- Mr Grosser gave evidence that secondary transfer was a possibility. His evidence was confined to the general proposition that it was a potential causal mechanism. He did not give evidence of the variables that may impact on that occurring.

228 Clearly, there was a question, thrown into the spotlight by the evidence of Mr Grosser but unanswered by him, about what sort of scenarios may have led to the deposit of the DNA profile by secondary transfer via the sole of a shoe. There were related questions concerning the factors that would affect whether transfer was feasible. The question of the circumstances that could give rise to secondary transfer was squarely in defence counsel's sight. The question was particularly plain by the time of the application to recall Mr Grosser, by which time the defence had Mr Grosser's email stating a strong DNA profile was obtained, indicative of the presence of a relatively large amount of DNA more likely to have come from bodily fluids such as blood or saliva than a contact or touching event.

229 The application to recall Mr Grosser was made on 30 September 2010. The application was refused by the trial judge on the same day. As noted, the State closed its case on 7 October and on that day the appellant elected to give but not adduce evidence. There is no evidence to suggest that seven days was not time to make enquiries of a scientist and seek an opinion. If more time was needed, an application could have been made to the trial judge to pause the trial. However, there is nothing to suggest an enquiry was made or that the making of enquiries was considered.

230 The question of the sort of circumstances or scenario that might lead to the DNA profile by secondary transfer was a prominent question at the trial, highlighted during the course of Mr Grosser's evidence, but left unanswered. During the trial the defence could have made enquiries of a forensic scientist. If that had been done, the evidence given by Mr Jones could have been adduced.

231 In summary, it can be seen that the following circumstances have significance in determining whether the appellant's counsel exercised reasonable diligence in the circumstances and the question of whether the evidence given by Mr Jones could not, with reasonable diligence, have been adduced at trial:

- The primary reports of the scientists including the electropherogram and information involving the quantity of DNA found were not disclosed before the trial. These primary sources were readily available and would have been provided on request but it is accepted that counsel would not necessarily have appreciated the desirability of seeking these documents before the trial started.

- The DNA of Ms Vass was crucial to the defence case and, in the circumstances, it would have been diligent for counsel to have sought further information regarding it before the trial started. It is very likely that the relatively large quantity of DNA would then have been revealed. The quantity was

further detail or information concerning the profile that was consistent with, and supplementary to, the information disclosed to counsel before the trial that there was a full DNA profile.

- The unfairness arising from the failure of the prosecution to provide advance notice of Mr Grosser's opinion that the DNA profile could have been deposited by a secondary transfer was addressed by the trial judge in extending an opportunity to defence counsel to take time to prepare cross-examination. Moreover, this provided time to consult a forensic scientist regarding the factors bearing on this potential causal mechanism.

- The specific circumstances that could explain a secondary transfer on the sole of a shoe as a possible scenario were not identified in Mr Grosser's evidence. However, there was evidence before the jury that Mr Grosser had never known of a case where it had been established that this was the explanation. There was an obvious question of what sort of scenario could explain a secondary transfer of a DNA profile of the kind seen here. Other obvious questions were the reasons for why it might have been rarely seen, and factors that would affect whether secondary transfer on the sole of a shoe may occur. Again, there was opportunity and time during the trial to explore these matters and adduce evidence regarding them if it was thought to be warranted.

- The opinion of Mr Grosser regarding the relatively large amount of DNA said to arise from the strong DNA profile was disclosed to the defence during the trial when it was too late to cross-examine Mr Grosser about it. However, it has not been shown that there was not an opportunity after that, during the trial, to consult a forensic scientist and adduce evidence from a forensic scientist regarding the implications of this evidence.

232 This case calls for the granting of latitude to defence counsel, given the pressures of conducting the trial, the prosecution's duty of disclosure and the lack of notice regarding the evidence led from Mr Grosser on secondary transfer, and late disclosure of the information about the amount of DNA material in the DNA sample. However, even allowing great latitude, the evidence given by Mr Jones regarding the large amount of DNA in the sample, related matters concerning the strong DNA result, and his evidence regarding the possibility of secondary transfer by the sole of a shoe as confined to specific circumstances, could have been adduced at trial if reasonable diligence had been exercised. There may well have been valid reasons for not adducing the evidence, perhaps it was considered that the evidence was not worth taking this step, and losing the last right of address. While valid reasons may have existed, they do not now advance the appellant's case of establishing that the evidence is fresh.

233 I conclude that the appellant has not established that the evidence could not, with the exercise of reasonable diligence, have been adduced at trial. The evidence of Mr Jones fails to meet the threshold of "fresh" evidence.

Was the evidence compelling?

234 The next question is whether the evidence is compelling. Mr Jones's qualifications, credentials and experience are not in question. It is common ground that Mr Jones's evidence is reliable. There is no question that his evidence is credible and provides a trustworthy basis for fact-finding.

235 The contentious issues are whether the evidence is "substantial" and "highly probative". The evidence must be of real significance or importance with respect to the matter it is tendered to prove. Is it of substance? Is it deserving of weight as part of the consideration of the issue? The evidence will be highly probative if it is has a real or material bearing on the determination of a fact in issue which, in turn, may rationally affect the ultimate result in a case.

236 The appellant's submissions highlighted that one of the two pillars of the defence case relied on the fact that Meaghan Vass's DNA was found on the yacht, and that there was a reasonable hypothesis consistent with innocence that Meaghan Vass or her associates were on the yacht and responsible for

the death of Mr Chappell. This was said to have been demolished as an unreasonable hypothesis by Mr Ellis, the Director, in his closing address.

237 The appellant submitted that the Director dealt with the DNA evidence in a way that suggested that the presence of Ms Vass's DNA was a red herring and secondary transfer was the likely explanation and that there need not be any close or direct connection between the receipt of the DNA on the person's shoe and the ultimate deposit on the boat: the person could have picked up some "trace". It is submitted by the appellant that the evidence of Mr Jones and his reports demonstrate that the State's approach was untenable or, at least, has been impugned. Put another way, without the evidence of Mr Jones, the jury are unlikely to have appreciated the implausibility of the explanation advanced by the Director that the sample was deposited by secondary transfer. If the jury had been properly informed about the nature of Ms Vass's DNA sample, it is submitted that they would have been left with a reasonable hypothesis consistent with innocence.

238 It was submitted for the appellant that the effect of Mr Jones's evidence was to demonstrate the sort of circumstances required to produce the DNA profile by secondary transfer. The appellant's counsel submitted that Mr Jones's evidence identified: "*The concatenation of quite specific circumstances with a very close connection between the picking up of the DNA and its deposit on the deck of the Four Winds."* According to Mr Jones, while there is a possibility of transference that cannot be ruled out, it is the elaboration on the kind of circumstances that would be required that is relied upon as critical and which did not emerge at trial. It was submitted on behalf of the appellant that the "sting" in Mr Jones's evidence for the State is that he articulates what would be required for the transference to have led to the deposit of the DNA that was actually found on the Four Winds. This explanation is entirely inconsistent with the way the matter was put to the jury on this critical issue by the Director.

239 In his closing address, the Director described the DNA profile of Meaghan Vass on the deck of the Four Winds as a red herring. The Director's contention was that the DNA profile was explained by secondary transfer. The Director said that the following was logically possible, see above [146]:

- that Meaghan Vass's DNA could have been acquired anywhere in Hobart where she might have been;
- the DNA could have been put there (on the deck of the Four Winds) at any time before the DNA swab was taken by anyone who had acquired some "trace" on their footwear;
- (the person having acquired some trace on their footwear) at any place had then maybe got in a car, driven down, and got out and onto the boat and transferred it.

240 It can be seen from a consideration of Mr Grosser's evidence that the Director took some liberties with the evidence, or perhaps more precisely with the absence of evidence. I am not suggesting deliberately so. In fact, I am not suggesting that the closing address was inconsistent with Mr Grosser's evidence. Rather, the Director painted generalised scenarios which had not been explored in the evidence. There had been no evidence that picking up a "trace" of DNA on a person's shoe could be transferred to a surface regardless of the viability of DNA from "anywhere" Ms Vass had been, timeframes and environmental factors that may impact on the prospect of secondary transfer such as whether the biological material was dry or wet, the variables that would impact on the adhering of biological substance to a shoe, the effect of contact with other surfaces while walking or getting into a car, and the factors needed to transfer the DNA to another surface. Mr Grosser's evidence was that as a general proposition secondary transfer was possible as a potential explanation but did not delve into any of the variables. In essence, the Director's scenario strayed away from the evidence into conjecture.

241 The misleading quality of the generalised scenarios was that it presented circumstances as giving rise to secondary transfer which had not been canvassed in the evidence and which, if they had been, would have been heavily qualified. It was its broad sweep which made it seem that any number

of circumstances may feasibly give rise to secondary transfer when that had not been the subject of evidence.

242 An obvious but important point should be made that this lack of evidence for the generalised scenarios painted by the Director was apparent at the trial, and if the Director crossed the line in terms of a prosecutor's duty, and in light of the "great trust" that jurors have in prosecution counsel, any unfairness, if it arose, could have been cured at the time of the trial or could have been the subject of the first appeal. Counsel for the appellant could have asked the trial judge to remind the jury that there was no evidence that the range of circumstances painted by Mr Ellis could lead to secondary transfer, and further that all the jury had was evidence that it was possible that secondary transfer may occur by someone stepping in a biological substance and transferring it via the sole of their shoe. But, the first appeal did not assert any unfairness in the closing address.

243 There are other matters to bear in mind. It is important to bear in mind that Mr Ellis's closing address was not the evidence. The trial judge reminded the jury that their findings must be based on the evidence.

244 Another matter that is worth noting is the nature of the closing address for the defence. Mr Gunson capably countered and contradicted the scathing references to Meaghan Vass's DNA as a red herring, see above at [149]-[150]. In a similarly robust way to the Director, he described the suggestion that Meaghan Vass's DNA was "somehow trampled on board" as "pure fantasy". He described the efforts of the Director to try and suggest that her DNA got there by transference as a "desperation ploy".

245 It would have been obvious to the jury that both closing addresses contained an element of hyperbole and conjecture.

246 A further matter is the trial judge's summing up, in which he reminded the jury of the defence contention that secondary transfer was "not plausible": see [151] above. His Honour referred to the defence contention in terms that endorsed it as a valid or legitimate contention for the jury to consider. His Honour took the jury to the evidence. He summarised key aspects of Mr Grosser's evidence including that secondary transfer was a possible explanation and emphasised his evidence that he could not evaluate the relative chances of the DNA coming directly from Ms Vass or by secondary transfer.

247 It was submitted that the scenario advanced by the Director demolished the second pillar of the defence case. In assessing the impact of the scenario upon the jury, it is necessary to bear in mind the matters set out above, such as the strong counter to the Director's scenario in the defence closing, the trial judge's direction to the jury that closing addresses are not evidence and that the jury must base their findings on the evidence, and that it would have been evident to the jury that common to both addresses was a level of exaggeration and theatre.

248 If the evidence of Mr Jones regarding the kind of circumstances required to give rise to the DNA profile had been before the jury, the Director would almost certainly not have painted that scenario or, if he had, it would have been, in its generalised terms, in conflict with Mr Jones's evidence. The suggestion that there need not be any close or direct connection between the receipt of the DNA "trace" on the person's shoe and the ultimate deposit on the boat could not have been made. The jury would have had evidence too from Mr Jones of "the relatively large amount of DNA" which would have given context and added meaning to his opinion that there were specific circumstances required for a secondary transfer to explain the DNA profile in this case.

249 Before turning to whether the evidence of Mr Jones in this regard qualifies as substantial and highly probative, I will consider the other aspects of Mr Jones's evidence relied upon by the appellant.

250 The evidence of Mr Jones above at [175] and [176] regarding rarity of an occurrence of secondary transfer that could explain the DNA profile in this case was relied upon. Largely, this point

is dealt with when considering Mr Jones's evidence of the very specific circumstances that would be required to explain the DNA profile in this case and the example he gave of those circumstances. It is worth observing as a discrete point that rarity of secondary transfer via the sole of a shoe is a scientific perspective of the relative rarity of circumstances that would give rise to it. This relative concept describes the specific set of circumstances that would be required to produce this result. In some ways this perspective of relative rarity only takes the jury so far. The jury's task is one of fact finding in the case before them. The jury could be confronted with the sort of specific set of circumstances which could allow the occurrence of secondary transfer to occur.

251 A passage from Mr Jones's July report, set out at [165] above, is said to be compelling evidence. He expressed the opinion that it would be reasonable to expect another similar stain resulting in the same DNA profile on the deck of the Four Winds if it was transferred via the sole of a shoe. It was submitted that the effect of Mr Jones's opinion was that there was "no evidence" to support the hypothesis of secondary transfer advanced by the Director at trial.

252 There are a number of considerations here. First, the jury had the evidence that there was only one sample that yielded a match to the DNA profile of Meaghan Vass and they had evidence from Ms McHoul of the various areas of the deck that reacted to luminol and were swabbed. The so called "lack of evidence" was already before the jury. Second, Mr Jones's evidence regarding his expectation of finding the same DNA profile elsewhere on the deck assumed the biological substance was blood. This is because the areas where the deck was swabbed were because of luminol positive reactions. If it was not blood but another biological substance, it would not have reacted to luminol and the area would not have been swabbed. He agreed that the biological substance at area 11 may not have been blood, or there may have been blood present, but it was another biological substance which was the source of Ms Vass's DNA profile. Third, it appears from a consideration of the evidence that Mr Jones gave in cross-examination, referred to above at [174], that in fact, regardless of the causal mechanism, whether the DNA was deposited on the yacht by direct or secondary transfer, he would have expected that it would have been transferred to other locations on the deck, given it was a high traffic area. Mr Jones's expectation of seeing Ms Vass's DNA profile in other locations on the deck is not a telling factor in favour of direct deposit versus secondary transfer. Rather, his expectation would have been exactly the same whether it was secondary transfer or direct deposit. This aspect of Mr Jones's evidence relied upon by the appellant could not amount to compelling evidence.

253 Mr Jones's evidence that the DNA sample in this case was "strongly inconsistent" with a skin contact scenario rather than a good DNA source such as blood or spittle is evidence that was not before the jury and is now relied upon by the appellant. It is submitted for the appellant that the jury was not properly informed that the relevant sample contained a relatively large amount of high-quality DNA, consistent with it having being deposited directly from the donor's bodily fluids rather than by contact or secondary transfer.

254 The approach of the defence at the trial was to leave the gate open on Meaghan Vass's presence and the source of the DNA as a direct deposit; whether her DNA was left by skin cells, touch, or DNA from other sources such as blood was immaterial. The defence approach was to try to close the gate on secondary transfer. I accept that the jury were not informed about this evidence but aside from being illustrative of the large amount of DNA it would not have advanced the defence case.

255 The appellant submitted that the evidence of Mr Jones supports the proposition that "the more likely scenario relating to the depositing of the DNA was that Ms Vass had been on the Four Winds at a time proximate to the events in question." It was submitted at par 64 of the written submissions:

> "Evidence obtained on behalf of the appellant [Mr Jones's evidence] since the trial indicates that the DNA material matching Vass and found on the deck of the Four Winds … was more likely to have resulted from primary rather than secondary transfer."

Similarly, see 109 of the appellant's written submissions:

> "expert evidence that the DNA was most likely deposited directly and not by way of secondary transfer … could well have led to an acquittal. …".

256 This submission is an overreach.

257 The questions asked by the appellant's counsel during the evidence-in-chief of Mr Jones on the leave application certainly attempted to elicit an opinion regarding the relative likelihood of the causal mechanisms, but Mr Jones resisted any attempt to provide an opinion as to whether secondary transfer was less likely than a direct deposit. Likewise, Mr Grosser resisted questions of this kind. Mr Jones made his position clear in the two passages of evidence at [170] above, when he was asked in part: "… *you would expect this to be a primary deposit of some sort of biological fluid. Is that a fair summary?* He responded: *"I don't think it's fair to say I would expect it to be*." Mr Jones said a direct deposit was the simplest explanation, and the first explanation you would think of, but not that it was the only possible explanation. Mr Jones and Mr Grosser both made it clear that, as scientists, they could not speak to the likelihood of secondary transfer of DNA versus direct deposit of DNA.

258 Fundamentally, the questions asked of both scientists in this regard stray beyond the limits of science and into the areas of the chance and likelihood of two causal mechanisms as explanations for the DNA deposit. They have the difficulty that answers could only be posited on facts that are unknown to the scientist or, if "known" as a hypothetical, their likelihood turns on other facts that are unknown to the scientist.

259 I agree with the respondent in his written submissions at par 191 that the point was made by Mr Grosser that the possibilities of secondary transfer and direct deposit need to be assessed in the context of the other evidence. Mr Grosser pointed out in his evidence that the DNA profile could have been the result of Ms Vass's presence or secondary transfer, and which of the two explanations was most likely, depended on other information that he did not have, such as Ms Vass's opportunity to have access to the yacht at the material time or whether that had been excluded.

260 It can be seen from the transcript that this was emphasised by Mr Grosser. That point was well made to the jury.

261 Brett J made some observations of the evidence of Mr Grosser and Mr Jones at [35]: *"He and Mr Grosser are unified in the position that the surrounding circumstances are essential to determining the relative probability between primary and secondary transfer. Each correctly and appropriately conceded that those are matters outside his area of expertise. They are, in fact, a factual question for the jury."* I agree with those observations entirely. The circumstances dictate the most likely causal mechanism and these circumstances are questions for the jury.

262 I return now to the question of whether the evidence of Mr Jones with respect to the specific circumstances required for secondary transfer and the illustration he gave, is substantial and highly probative evidence. The argument is that the presence of Ms Vass was demolished as an unreasonable hypothesis by the Director in his closing. It is acknowledged that the closing made secondary transfer seem feasible in the generalised or broad sweep of circumstances that were not limited to the direct and close nexus that Mr Jones described. I have already made observations bearing on the impact of the closing address on the jury in the circumstances of the trial. It gave a false impression that secondary transfer via the sole of a shoe could have readily occurred when Mr Jones's evidence conveys the direct and close nexus required. However, it was not as destructive as submitted. The jury were reminded of the need to make their own assessment of the evidence. Moreover, the effect of the Director's address did not assail key aspects of the evidence: secondary transfer via a sole of a shoe was a possibility; secondary transfer and direct deposit were both possibilities; and, Mr Grosser could not say which one

was more likely, as that turned on other evidence that he did not have concerning Ms Vass's opportunity to have access to the yacht.

263 It was submitted for the appellant that the evidence of Mr Jones is particularly probative given the evidence of Ms Vass that she had not been to Goodwood. Thus, the close specific set of circumstances which Mr Jones said would be required to produce the DNA profile by secondary transfer, is not a plausible explanation given the evidence in this case. Along the same lines, it was submitted at par 61 of the written submissions: "The evidence at trial established that there was no opportunity for the DNA to have been directly deposited between the finding of the sinking Four Winds yacht on the morning of 27 January 2009 and the taking of the sample in the early morning of 30 January 2009." Further at par 108: "In the context of the issues in dispute at the trial, it is submitted that it is highly probative of the case for the appellant as it places Vass on the Four Winds yacht without any plausible or legitimate explanation as to how her DNA might otherwise have been deposited."

264 The effect of the submission is that if the causal mechanism is direct deposit rather than secondary transfer, direct deposit, being Ms Vass's presence on the deck of the Four Winds, must have been at the time or proximate to the time of the murder. Consequently, evidence that Mr Jones could have given that undermined the prospect of secondary transfer was highly probative of Ms Vass's presence on the yacht at the material time and highly probative of the hypothesis that Ms Vass and/or her associates were responsible for the murder of Mr Chappell. It is necessary to consider the evidence regarding the opportunity that Ms Vass had to obtain access to the yacht at a time after the murder.

265 The evidence was that the yacht was found sinking on 27 January 2009. It was towed to Constitution Dock where it was under surveillance. On 28 January 2009 it was moved to CleanLift Marine, Negara Crescent at Goodwood where it was kept. This is an industrial area. It is fenced and "gated". There was no evidence that the premises were secured or locked. The swab from area 11 and Ms Vass's DNA sample was collected on 30 January 2009. Detective Sinnitt gave evidence that was not objected to that he was informed that the DNA sample was taken from the deck of Four Winds at 1:40am on 30 January 2009. Ms Vass was asked in evidence whether she had been to an area in Goodwood, Negara Crescent where there are yachts on slips and an industrial estate and she replied "No, I do not remember".

266 The evidence of Sergeant Sinnitt at the trial was that his enquiries revealed that the premises were broken into on several occasions around this time. Further, the appellant gave evidence that she went to Negara Crescent when the yacht was handed back to her. She went on board and noticed that tools that had been on the yacht were missing.

267 In cross-examination, Mr Jones was asked about the environment of the Four Winds between 26 and 30 January 2009 and the lack of degradation in the sample. He expressed the opinion that degradation is dependent on a variety of factors but it was likely that the DNA was deposited one to two days before the swab was collected, potentially a bit longer. This supports the proposition that the DNA was deposited on the yacht when it was at CleanLift Marine at Goodwood. In considering whether the evidence of Mr Jones is compelling, it should be looked at as a whole on the assumption that all of it would be before the jury. The defence cannot cherry pick only the favourable parts of his evidence and ask the Court to ignore the parts that are unfavourable to the defence case.

268 It is not correct that the evidence establishes that there was no opportunity for Ms Vass's DNA to have been directly deposited between the finding of the sinking Four Winds yacht on the morning of 27 January 2009 and the taking of the sample in the early morning of 30 January 2009. That could have occurred when the yacht was at the CleanLift premises in Goodwood. The jury may have rejected Ms Vass's evidence that she had not been to the premises. It is not the case that the evidence presents a choice between presence at the time of the murder or secondary transfer, and undermining secondary

transfer strengthens a reasonable hypothesis of presence at the time of the murder. It may be that Ms Vass was present on the deck of the Four Winds, but after the murder, and before the swab was collected.

269 There is evidence that would support the potential of secondary transfer as a causal mechanism. The yacht was tied at Constitution Dock on 27 January 2009 until it was moved on 28 January to CleanLift. Detective Sinnitt's evidence was that at least 21 people including police and scientific personnel walked on and off the yacht in the time it had been found sinking and the time the relevant swab was taken. It will be remembered that the relevant swab, item 20, was taken from the deck near the access gate. There was evidence suggesting, given the circumstances in which the yacht was found, that there would have been moisture on the deck. Constable Purcell gave evidence that, when he went aboard the yacht at Goodwood on 29 January 2009, there was still water on the floor of the yacht. If there was moisture on the deck, and the deck was textured, these were factors identified by Mr Jones that would enhance the transfer of DNA from the sole of a shoe.

Conclusion on compelling

270 The evidence of Mr Jones would have helped the defence. It would have enabled the jury to understand the specific set of circumstances required to cause secondary transfer of Ms Vass's DNA, and the close and direct nexus required for picking up of the biological substance on the intermediary surface, the sole of a shoe, and depositing it on the deck of the Four Winds. It would have precluded the generalised scenario put by the Director in his closing address. He could not have spoken about picking up a trace of DNA as part of that scenario, and if a biological substance was picked up on the sole of shoe, the jury would have been informed that various factors such as walking would result in either loss of the DNA, or diminish the chances of a full profile. This is not to suggest that Mr Ellis's scenario had a legitimacy at the time of the trial, which it would not now have as a result of Mr Jones's evidence. As I have said, the scenario he painted in the closing address was not supported by the evidence and strayed into conjecture. As conjecture it could have been corrected at the time of the trial. Defence counsel did not request that.

271 However, even if the evidence of Mr Jones had been adduced, the possibility of secondary transfer would still have been there on the evidence. It is not a case where the confined set of circumstances described by Mr Jones are excluded by the evidence on the trial. The precise and close scenario advanced by Mr Jones is feasible on the evidence. Also, the evidence of Mr Jones if given at trial would not have shown that a more likely explanation for Ms Vass's DNA on the deck of the Four Winds was her presence on board rather than secondary transfer. That was beyond the limits of Mr Jones's expertise and turns on facts outside his knowledge. Even if the jury regarded presence as a more realistic or feasible explanation, that does not necessarily point to Ms Vass's presence on the yacht at a time proximate to Mr Chappell's murder. There is the possibility that Ms Vass was present on the deck of the Four Winds at a time after the time of the murder and unrelated to it. The help that Mr Jones's evidence would have provided the defence case is diminished by the possibility, according to the evidence, that she was present on the Four Winds at a later time. Indeed, Mr Jones's opinion about the likely time of the DNA deposit supports that possibility.

272 In assessing whether Mr Jones's evidence is compelling, it should be considered by this Court on the basis that all of it would have been before the jury. Part of it was unhelpful to the defence. Mr Jones's opinion that the likelihood that the DNA was deposited on the yacht one to two days before the taking of the swab, undermines the reasonable hypothesis advanced by the defence. Arguably, the damage done to the defence case from this aspect of Mr Jones's evidence would have outweighed the value gained from other aspects of his evidence. Putting that unhelpful aspect of his evidence to one side, Mr Jones's evidence does not approach the threshold required of being substantial and highly probative. It is not of real significance or importance to the issue of whether Ms Vass was present on the yacht at a time proximate to the murder. The evidence is not highly probative with respect to the question of the hypothesis advanced by the defence that someone other than the appellant was

responsible for the death of Mr Chappell, it does not have a material bearing on the determination of that hypothesis and it does not rationally affect the question of the appellant's guilt.

Substantial miscarriage of justice

273 The conclusions I have reached that the evidence is neither fresh nor compelling mean that the appeal must fail. Nonetheless, I will consider the third statutory criterion of whether there has been a substantial miscarriage of justice. I will have regard to the evidence of Mr Jones, putting to one side my conclusion that the evidence is not fresh and compelling, and assess whether there has been a substantial miscarriage of justice. Is there a significant possibility that the jury, acting reasonably would have acquitted the appellant had the additional evidence been before the jury at the trial?

274 The appellant submitted that the evidence of Mr Jones would have destroyed the ability of the prosecutor to do what he did at trial in pulling away one of the two pillars of the defence case. Further, it inexorably follows that with the replacement of that pillar the verdict might very well have been different. It is contended for the appellant that the defence hypothesis that somebody else was on the boat on the afternoon or evening of 26 January was supported by the evidence of Paul Conde with respect to a dinghy that was beside the Four Winds late on the afternoon of 26 January. The appellant relied on Mr Conde's negative identification evidence of the dinghy, in that he described a dinghy which was not the Four Winds' dinghy. It was submitted that there is a significant possibility that if the jury had heard the evidence of Mr Jones, the prosecutor could not have eliminated the defence hypothesis as he did, and the jury would have been left with a reasonable doubt.

275 The respondent contended that it was not necessary for the jury to decide whether or not Ms Vass got onto the Four Winds. The jury could have looked at all the evidence that supported the proposition that the appellant committed the murder and concluded that they were satisfied of that proposition beyond reasonable doubt. Further, it was contended for the respondent that the jury could have concluded that they did not need to decide how the DNA of Ms Vass got on the yacht, just that they were satisfied that it did not get on the yacht at the time of the murder. The jury could have assessed the likelihood of Ms Vass being the perpetrator based on evidence other than the DNA evidence. The respondent submitted that there was overwhelming evidence supporting the conclusion that the appellant was responsible for the murder. It was submitted that this Court could not be satisfied that there is a significant possibility, that she would have been acquitted if Mr Jones's evidence had been before the jury.

276 The evidence at the trial needs to be considered in order to undertake the task of considering whether there is a significant possibility that in light of the evidence of Mr Jones the appellant would have been acquitted. As explained, the correct approach is to take a backwards view, considering the evidence as it was at the trial together with the evidence of Mr Jones.

A backwards view of the trial evidence

277 The circumstantial case against the appellant falls into a number of broad categories. There was evidence of the sabotage of the yacht that pointed to the saboteur as someone who had an intimate knowledge of the Four Winds. There was evidence that the dinghy from the Four Winds had been used and abandoned in the proximity of the Four Winds during the night Mr Chappell was killed, after the appellant had used the dinghy the day before to leave the Four Winds and had tied it up securely at the nearby yacht club. There was evidence of the movements of the appellant on Australia Day and the night of Australia Day which placed her in the vicinity of the Four Winds. There was evidence that can be categorised as motive, and is more particularly described as evidence that she regarded the relationship as over and that there was considerable tension between the appellant and the deceased. There was evidence of lies she told to police and others. There was evidence of conversations between the appellant and Mr Triffett approximately 12 years before in which she spoke of killing Mr Chappell when he was on board a yacht, sabotaging the yacht and disposing of his body. These aspects of the

evidence are summarised here. A comprehensive account of the evidence at the trial can be found in the judgment of Crawford CJ [2012] TASCCA 3.

278 There were a number of acts of sabotage discovered by police after they boarded the sinking yacht on the morning of 27 January. One of the pipes to the forward toilet had been cut, allowing seawater to flow in. This was a pipe that brought seawater to the toilet, not the pipe that went from the toilet. Further, a redundant seacock partly concealed behind pipes under the flooring in the forward part of the yacht had been opened allowing seawater to flow in. In her statutory declaration of 28 January 2009, the appellant informed police that she noticed that somebody had got out and used a winch handle, which was usually kept in a rear port locker. The yacht was equipped with a bilge pump and alarm system. When operational, the pump would start automatically if there was an intake of water and an alarm would sound. The bilge pump and alarm had been deactivated.

279 The evidence of sabotage is compelling evidence implicating a person who had intimate knowledge of the yacht. There was evidence that the appellant had this intimate knowledge. The plumbing concerning the forward toilet and how it all worked was explained to the appellant by a plumber, Mr Klass Ruiter. He pulled up the floor in the forward area, and showed the appellant the pipes. The location of the cut pipe and the seacock had been explained to the appellant by a mechanical fitter, Mr Nathan Krokowiak, who had explained to the appellant matters regarding gate valves and seacocks which open to the outside of the vessel. There was a book on board the yacht which contained a plumbing diagram, and the evidence before the jury included a photograph of the appellant taken on the trip from Queensland with the book open at the diagram.

280 There was evidence of the appellant's movements on the afternoon and night of 26 January. It will be remembered that during the morning at about 8:30am or 9:00am she and the deceased went to the Four Winds on its mooring. Later in the morning, she left the Four Winds in the dinghy to keep a lunch appointment with Ms Sanchez at the Royal Yacht Club. The deceased remained on the yacht. She said she tied the tender up to poles at the Marieville Esplanade beach. After lunch she returned to Allison Street with Ms Sanchez. She returned to the Four Winds in the afternoon, leaving Ms Sanchez at about 1:30pm. Christopher Liaubon assisted the appellant at Short Beach to free the outboard motor of the dinghy that was stuck in the sand above the waterline. He saw the appellant in the dinghy making her way out, away from the shore. The appellant's evidence was that she headed out to the Four Winds. Jane Powell gave evidence of seeing a woman in a light grey inflatable dinghy making her way out to a yacht on a mooring at about that time. The appellant gave evidence that it was her practice to tie the dinghy to the side of the yacht.

281 The evidence of the appellant was that during the afternoon the deceased worked in the engine room and on the anchor winch motor. He was in and out of the engine room and had an electrical switchboard open. She said he wanted to spend the night on the yacht to keep going. She left her mobile telephone with him and left in the dinghy. She thought she had been on the yacht for an hour at the most. The Crown asserted that it was improbable she would have left the deceased overnight without a dinghy if he had been alive. He would have run her to the shore and then returned in the dinghy. The appellant's account was that it was safer for her to take the dinghy because the deceased had a problem with unsteadiness on his feet. There was evidence from Timothy Chappell that his observations of his father on Boxing Day were that he seemed quite capable of boarding the dinghy and getting off the vessel and into the dinghy.

282 There was evidence given by Paul Conde that he saw a rubber dinghy tied to the portside of the Four Winds at about 3:55pm. I shall return to the evidence of Paul Conde in more detail. His description of the dinghy is said by the appellant to be a "negative" identification of the dinghy, in that it was inconsistent with the dinghy from the Four Winds.

283 Evidence was given by Peter Lorraine that at about 5:00pm he was on the Derwent Lane jetty, to the north of Marieville Esplanade, and watched a moored two-masted yacht with an elderly man pottering about on it. That jetty would have provided a good view of the position of the Four Winds

and the yacht Mr Lorraine described matched the Four Winds. He estimated the yacht was 80 metres away when in fact the location of the Four Winds according to a map that was in evidence would suggest it was approximately 280 metres from the Derwent Lane jetty. Mr Lorraine described a very small dinghy was tied close to the back of the yacht. He acknowledged he was concentrating on the yacht and the elderly man on board, not the dinghy.

284 The appellant said that after leaving the Four Winds she tied the dinghy to a ladder at the Royal Yacht Club with three knots. She believed she had tied it up adequately and it had never come undone before.

285 During the evening of 26 January 2009, the appellant made two telephone calls on the landline at Allison Street. The first was at 9:17pm. After those calls she received a phone call from Richard King at 10:05pm which lasted approximately 29 minutes.

286 The next telephone call to or from the Allison Street landline was at 3:08am on 27 January when a *10# call was made from it. The function of such a call is to retrieve the number of the last unanswered telephone call to a landline service.

287 There was evidence from John Hughes that between 11:30pm and midnight on 26 January he was parked at the end of rowing sheds at Marieville Esplanade when he saw and heard an inflatable dinghy with an outboard on the back coming from the direction of the Royal Yacht Club heading northeast towards the Eastern Shore of the Derwent. He said there was only one person in it who had the outline of a female, but he could not be definite.

288 At about 5:40am on the morning of 27 January the Four Winds dinghy was found bumping into the rocks in front of the rowing sheds at Marieville Esplanade. It was floating some hundreds of metres away from where the appellant said she left it the previous day. However, it was near the beach where the appellant and the deceased often launched it. Its painter was inside the dinghy, which suggests that it had been put there by someone rather than simply coming undone from the ladder where the appellant said she had tied it. If it had become undone, it is likely that the painter would have been trailing in the water.

289 At 7:04am an unanswered telephone call was made from the landline at Allison Street to the appellant's mobile telephone. No further call was made by the appellant to that telephone and she did not raise the alarm. Police telephoned her on the landline at Allison Street at 7:11am and she went to Marieville Esplanade in her car where she spoke with a police officer. She said that she believed the boat may have been boarded in the two or three days prior to Mr Chappell being on the boat and she believed that the Four Winds may have been previously used to smuggle drugs.

290 Police officers observed she had some strapping around her wrist and a Band-Aid on her left thumb covering a one to two centimetre cut. The evidence was she did not have an injury or strapping on her wrist the day before.

291 She told Constable Etherington that her fingerprints may be on the torch on the Four Winds. A Dolphin torch found on the Four Winds was spattered with blood, indicating that it was close to wet blood that was subject to some force. It matched the DNA profile of Robert Chappell and the chance of a second person unrelated to Robert Chappell, also matching this DNA profile is less than one in one hundred million.

292 That morning a red jacket was found on a brick wall outside 2 Margaret Street by the occupant. 2 Margaret Street is close to the corner of Marieville Esplanade and Margaret Street. The location of the jacket was about 120 metres from where the appellant said she had left the dinghy tied up on 26 January. The occupant had not seen it there when he arrived home the previous evening at about 6pm. A police officer took possession of it and it was shown to the appellant who said that it did not belong to her and she had never seen it before. A swab taken from the inside surfaces of the jacket was found to contain a DNA profile that matched her DNA profile and the chance of some other unrelated person

also matching it was less than one in one hundred million. In a police interview on 5 May 2009 she conceded the red jacket was hers and said that she had no idea how it came to be on the wall where it was found. This evidence places the appellant at Marieville Esplanade sometime after 6:00pm.

293 The Crown identified lies told to police or in her evidence said to have a bearing in assessing her overall credibility and the trustworthiness and reliability of accounts she had given. For example, she gave false accounts about the yacht being unlawfully entered in Queensland and in Tasmania, the Crown maintained these false accounts were said to give support to the notion of the yacht being involved in drug smuggling and to deflect police attention away from herself.

294 For the purpose of this summary, I focus on the lies identified by the trial judge and relied upon by the Crown as demonstrating a consciousness of guilt and which the jury could, if so satisfied, have used as evidence of the appellant's guilt. These were lies told about a trip to Bunnings on the afternoon of 26 January and a lie told about whether she stayed home that night after returning from Bunnings. After being confronted with certain evidence, the appellant later told police that during the night of 26 January she returned to Marieville Esplanade and the foreshore in the vicinity of the yacht.

295 The appellant had made a statutory declaration on 28 January in which she said that on the afternoon of 26 January, after tying up the dinghy at the Royal Yacht Club, she went to Bunnings for a long time and just browsed. It was starting to get dark when she arrived home. She remained at home until phoned by police in the morning. When interviewed by police on 4 March 2009 she maintained that she drove to Bunnings from the Yacht Club and that she did not return to Marieville Esplanade during the night of 26 January or the morning of 27 January.

296 On 5 March 2009 a police officer showed a photograph to her two daughters taken by a camera at the corner of Sandy Bay Road and King Street, Sandy Bay, at 12:15am on 27 January 2009 which showed a grey station wagon similar to the appellant's vehicle travelling on Sandy Bay Road. In the days that followed the appellant told Ms Sanchez and an ABC journalist that after the phone call from Richard King she had driven to Sandy Bay to check that everything was okay and looked across at the boat but did not see anything and drove home. Later, she told Ms Sanchez that she had left her car at Marieville Esplanade and walked back home to West Hobart for the exercise.

297 In another police interview on 5 May 2009 the appellant said that she had been mistaken about going to Bunnings and had mixed up the day with another day a few days earlier. She told the police that after tying up the dinghy at the Royal Yacht Club she walked back to Allison Street leaving her car at Marieville Esplanade or in that area. (The distance between Allison Street in West Hobart and Marieville Esplanade in Sandy Bay is approximately 2½ to 3 kilometres. The appellant insisted to police that it would take only 15 minutes to walk this distance but also insisted that it takes 20 minutes to get to the Royal Hobart Hospital, which is closer to Allison Street than Marieville Esplanade.) After the telephone call from Mr King she felt unnerved and she decided to collect the car and drive it home, so that it would be available to her to drive to the yacht if the deceased called her. She walked back to her car, and having arrived at the car, she realised she had the wrong keys and had to walk back to Allison Street to collect the car keys and then walk back to her car. She drove along to the rowing sheds and walked down to the beach but could not see the boat, in fact, she could not see a thing because it was pitch black. She saw a fire going and homeless people there. She then drove home. Her explanation for lying initially is that she had not wanted to reveal her concern about the telephone call from Mr King because it related to Timothy Chappell's sister Claire and she had not wanted him to know that she was worried about the information she had received. Regardless, the State's contention is that the appellant's account in its final form, of three walking trips on the night of 26 January between Marieville Esplanade and Allison Street, is bizarre and was told out of an awareness of her guilt.

298 Another category of evidence is that of motive. There was evidence that the appellant had said to others that her relationship with the deceased was over, and there were evident tensions in the period in December 2008 and January 2009. During the sailing from Southport, Queensland to Hobart, arriving 23 December, the appellant said to one of the crew, Mr Stevenson, that her relationship with the

deceased was strained, it was over and it had been for some time. She said that she would like to borrow $100,000 from her mother to buy out the deceased's interest in the yacht. The deceased met them following their arrival and Mr Stevenson described the appellant as ignoring him, not acknowledging how he was. He had not noticed any signs of affection between them while they were in his company on the boat. The deceased's son Timothy Chappell was with them on the yacht on 26 December 2008 and described "quite a lot of tension between them". On 8 January 2009 the appellant told Jeffrey Rowe, a Queensland yacht broker, that she and the deceased had separated. She made a remark during a telephone call to a motor mechanic, Mr McKinnon, after Mr Chappell had disappeared that she and Mr Chappell had broken up and were not together anymore and that she had not told the police that. The appellant said in evidence that when she was last with the deceased on the yacht during the afternoon he was "snapping at (her) like a crocodile". In a conversation with detectives on 5 February 2009, she said that Bob was snappy with her because she got in his way. Later she told police in an interview that he was "giving her the usual harangue."

299 There was evidence of the deceased's dissatisfaction and frustration with mechanical and equipment problems with the yacht and associated expenses. The couple had spent more than they had originally planned. This was a cause of tension between the appellant and the deceased. On 25 January the appellant, the deceased and his sister, Ms Sanchez, spent a day cruising to Bruny Island and return on the yacht. The anchor winch failed when they were at Bruny Island and they were unable to lower the anchor after both the appellant and the deceased wrestled with it. In a police interview the appellant described the deceased as "very, very upset" and he had said, "I'm beginning to wonder about this boat, what else is going to go wrong with it."

300 It was agreed that as at 26 January 2009 Mr Chappell's net worth in financial terms was approximately $1,368,757. His will provided that all of his material possessions, which included his house, car and share in the Four Winds, would go to the appellant unencumbered and she would also receive 50 percent of the value of the estate. There was evidence of a conversation between the appellant and one of the deceased's daughters in 2004 that suggested that the appellant knew of the contents of the will.

301 Another piece of circumstantial evidence implicating the appellant was the evidence of Mr Phillip Triffett who gave evidence at the trial that the appellant had previously voiced a plan to kill Mr Chappell approximately 12 years prior to his disappearance. He and his partner had been friends with the appellant and the deceased some years before. In about 1996 or 1997 the appellant asked him to assist her, she wanted to take her brother Patrick out to sea and throw him overboard, because he was in her way with their mother's property. She said they would weigh him down with a toolbox and that Mr Triffett would then take the yacht closer to shore and sink it after she had gone ashore in the dinghy. She showed him how they could sink the yacht by the bilge pump. He gave evidence of a conversation not long after at the appellant's home when the appellant complained that Mr Chappell was mean with his money and "had to go". She said that she wanted the same sort of thing to happen as she had suggested before, except that she wanted Mr Chappell to be wrapped in chicken wire. These conversations were denied by the appellant.

302 The Four Winds was initially towed to Constitution Dock on 27 January. The appellant, her daughters and Tim Chappell went on board the yacht with police. The appellant pointed out a number of anomalies on the yacht, including a winch handle being in the winch in the mizzen mast. She removed the winch handle from the winch. She pointed out a rope that had been cut and incorrectly wound around the winch and marks on the woodwork. The appellant pointed out small and inconspicuous rub marks on the wooden surrounds for the main hatch. She pointed out that a fire extinguisher was missing from a bracket. She checked the switchboards, the fuses, and the main circuit breakers. She commented that the switches were out of order. She activated the bilge pump and the siren, which was quite loud. The evidence demonstrates the appellant's practical knowledge of the workings of the yacht.

303 The photographs of the Four Winds in evidence show ropes on deck that had been cut and were out of place. The evidence in relation to the winch handle, the ropes and the marks on the hatch support the proposition that a winch was used to remove the body of the deceased, who weighed 64 kilograms. It was contended by the State that the use of the winch was more consistent with one person being involved in the killing rather than several.

304 There was evidence relied upon by the State of an attempt to clean up the scene of the killing and it was contended that a stranger would not have done that. There was evidence that carpet squares near the electrical switchboard, where the deceased was working that afternoon, had been removed after first unscrewing the feet from stairs that were on top of the carpet.

305 It was contended that the yacht's tender was used to enable the perpetrator to board the yacht and kill the deceased. This was the tender which the appellant said she had left tied up to a ladder at the yacht club and yet was found the following morning floating near the rocks at the rowing sheds near Marieville Esplanade beach. The painter was inside the dinghy, suggesting the dinghy had been used during the night and abandoned. The use of the dinghy was relied on as strong evidence that it was not a stranger who boarded the yacht and killed the deceased. The improbability of a stranger selecting the Four Winds dinghy tied up at the yacht club and then boarding the Four Winds moored some 600 metres away was said to be extreme. It will be remembered that the Four Winds was moored in an area with other yachts, on one of the outer moorings.

306 The appellant relies upon the evidence that there was another dinghy that was seen alongside the Four Winds during the afternoon of 26 January. This negative identification is relied upon for the purpose of the appeal and at trial, and was described by the appellant's counsel during appeal submissions as the second pillar of the defence case.

Negative identification of the dinghy

307 The evidence was that the Four Winds dinghy was an inflatable dinghy, white with blue stripes. The dinghy was three and a half metres or eleven and a half feet.

308 Mr Paul Conde gave evidence that at 3:55pm on 26 January 2009 he was motoring back to the marina at the Royal Yacht Club and he saw the Four Winds, and rafted up alongside it was a large dark grey rubber dinghy. The dinghy was tied to the port side and was about mid-ships. He further described the colour of the dinghy as battleship grey. He estimated that it was about 12 feet. In re-examination he was shown two sets of photographs of the Four Winds dinghy and he said it was a different dinghy. He said the dinghy in one set of photographs looked about 8-9 foot and was smaller than the one he saw. The dinghy he saw was larger and had a "lee cloth" across the bow. The Four Winds dinghy does not have a lee cloth and he described the bow as seeming somewhat blunter. It is worth mentioning here that if Mr Lorraine's sighting of the yacht and the elderly man was a sighting of the deceased on the Four Winds, he was on deck at approximately 5:00pm.

309 The valid point was made by the State that the Four Winds dinghy is in fact approximately 12 feet, consistent with the length of the dinghy identified by Mr Conde. It can be inferred that in terms of size, the dinghy he observed was comparable to the Four Winds dinghy.

310 Two other witnesses also described a grey inflatable dinghy, providing some support for Mr Conde's description. One witness anonymously provided a statutory declaration that was part of the evidence on the trial. She estimated that her sighting was at around 5:00pm. After her sighting she motored to the Bellerive Yacht Club arriving at about 6:00pm. Another witness, Mr Clarke, was one of Mr Conde's passengers. He provided a statutory declaration in which he said a yacht moored off Marieville Esplande had a small grey coloured tender tied to the side of the boat. He thought the tender was "probably an inflatable dinghy but cannot be sure."

311 The State's contention was that Mr Conde was incorrect as to the colour of the dinghy and that the jury could be satisfied that he saw the Four Winds dinghy. Crown Counsel pointed out in his closing

address that the Four Winds dinghy seemed grey to another witness. An email from Mr Balding which went out to members of his club on 29 January described the dinghy he had seen as grey with blue trim with a small black outboard motor. Other witnesses perceived the Four Winds dinghy to be grey or light grey. Mr Liaubon described the Four Winds dinghy as a "white light grey Zodiac". Jane Powell described it as "a light grey inflatable dinghy with a black outboard". Mr Ellis's closing address suggested that the lighting at various times of day may impact on perceptions of colour as white or grey.

312 The other evidence that must be taken into account is the evidence of the swab taken from the deck of the Four Winds and Ms Vass's DNA profile. Also, Ms Vass's evidence of her denial of having boarded the Four Winds, and her evidence that she did not remember going to Constitution Dock or CleanLift premises at Goodwood, Negara Crescent. Detective Sinnitt's evidence was that CleanLift premises had been broken into on several occasions at around the relevant time. There was also evidence from the appellant that during the time the Four Winds was at the CleanLift premises, tools and rope went missing. There was evidence that established that it was not possible that Ms Vass boarded the Four Winds when it was at Constitution Dock. There was evidence that it was under police and video surveillance at that time. However, the evidence at the trial did not preclude the possibility of a secondary transfer occurring then.

Conclusion regarding the evidence of Mr Jones in the context of the evidence at trial: a substantial miscarriage of justice?

313 Mr Jones's evidence in the context of the evidence at trial does not bolster or give additional support to the hypothesis of a direct deposit of Meaghan Vass's DNA having occurred during the afternoon or the night of 26 January than it had at trial. Mr Jones's evidence is that her DNA could have been transferred on the sole of a person's shoe given the right circumstances. Acknowledging the combination of circumstances required for secondary transfer, as identified by Mr Jones, those circumstances remain a possibility on the evidence at the trial. Secondary transfer of her DNA could have occurred while the yacht was at Constitution Dock or at the CleanLift premises.

314 If the causal mechanism was a direct deposit, there is the explanation open on the evidence that Ms Vass may have accessed the yacht when it was at the slip-yard in Goodwood. The evidence of Mr Jones provides some added support, not before the jury at the trial, for the proposition that the deposit, whether the causal mechanism be direct deposit or secondary transfer via the sole of someone's shoe, occurred in the two days before the swab was collected on 30 January. The Four Winds was at Constitution Dock on 27 and part of 28 January before it was transported to the Goodwood premises on 28 January. The evidence of the surveillance of the yacht at Constitution Dock excluded Ms Vass's presence on the yacht at that location. If the explanation for Ms Vass's DNA is direct deposit then Mr Jones's evidence supports the proposition that that deposit occurred after the yacht had been transported to the Goodwood premises.

315 Mr Paul Conde's description of a grey dinghy is explicable as an honest mistake and adds little if any support for the hypothesis that someone other than the appellant visited Mr Chappell at 3:55pm and killed him. It seems inherently likely that Mr Conde was describing the Four Winds Dinghy. There is an obvious improbability that a stranger such as Ms Vass and/or others would pursue a criminal enterprise targeting a yacht in daylight hours, in full view, accounting for Mr Conde's sighting of a battleship grey dinghy at 3:55pm.

316 In assessing the proposition that Ms Vass boarded the vessel while it was moored out in the river, the jury would have regard to all the circumstances including the fact that she was a stranger to the deceased and with no history, connection or nexus to the yacht. The hypothesis advanced by the defence is that this yacht was a target for some criminal enterprise by Ms Vass as a stranger on her own or in company of others. Access to the vessel required the use of a dinghy and the Four Winds was moored further out than the other yachts moored in the area. The evidence that the saboteur was someone who was familiar with the yacht and made informed and knowledgeable efforts to sink the yacht, is strong countervailing evidence with respect to the defence hypothesis. The stark improbability

of the proposition that a stranger carried out the particular acts of sabotage is a matter the jury could take into account. The existence and location of the redundant seacock was obscure in the extreme. The use of the winch and ropes also suggested familiarity with the yacht and its fittings and also, suggests someone acting alone. The finding of the Four Winds dinghy the next morning suggests it was used and abandoned during the night. It was likely the dinghy was used to access the Four Winds during the relevant period, late afternoon or the night of 26 January, and if it was used to access the Four Winds and commit the murder, the selection and use of a dinghy which was the Four Winds dinghy is strong evidence that the perpetrator was not a stranger to the yacht. The cleaning up of the yacht and the removal of pieces of carpet is evidence that suggests the perpetrator was someone with a connection to the deceased rather than a stranger. These pieces of circumstantial evidence are contrary to the hypothesis that a stranger or strangers committed the murder in the course of a criminal enterprise. In other words, they are contrary to the hypothesis advanced by the defence that Ms Vass and/or others were the perpetrators. These pieces of evidence implicate the appellant, particularly the evidence of the knowing efforts to sabotage the yacht.

317 There is other evidence of the appellant's guilt: the appellant's presence at Marieville Esplanade during the night, the sighting of a person, who appeared to be female, in an inflatable dinghy at approximately midnight travelling from the direction where the appellant had secured the Four Winds dinghy towards the Four Winds, the use of the Four Winds dinghy after it had been tied up by the appellant at the Yacht Club and its abandonment near the location that the appellant had previously come ashore, the lies she told and maintained that she had stayed at home that night and about her trip to Bunnings, the injury to her hand, the evidence of motive and the plan expressed to Mr Triffett which resembled the crime committed on 26 January.

318 The jury need not have decided whether Ms Vass's DNA was the result of a direct deposit or secondary deposit in order to have found the appellant guilty. It was entirely open to the jury to be satisfied beyond reasonable doubt of the appellant's guilt and to regard the State's case that the appellant was the perpetrator as an overwhelming case. If the jury made a finding and reached a view about the most feasible causal mechanism for the deposit of Ms Vass's DNA, neither mechanism was inconsistent with the appellant's guilt.

Conclusion

319 For the reasons I have given, the evidence of Mr Jones is not fresh, it is not compelling and taking it into account together with the evidence given at the trial, there has not been a substantial miscarriage of justice. The appellant has not established that there is a significant possibility that a jury, acting reasonably, would have acquitted the appellant had the evidence of Mr Jones been before the jury at her trial. I would dismiss the appeal.

SUSAN BLYTH NEIL-FRASER v STATE OF TASMANIA

REASONS FOR JUDGMENT **COURT OF CRIMINAL APPEAL**
ESTCOURT J
30 November 2021

The appeal

320 On 21 March 2019 Brett J granted leave to the appellant to lodge a second appeal to the Court of Criminal Appeal against her conviction in 2009 for the crime of murder, on the ground that there was fresh and compelling evidence.

321 At a trial before Blow J (as he then was), the appellant was found guilty of the murder of her partner, Robert Adrian Chappell on or about 26 January 2009. She was sentenced to imprisonment for 26 years with effect from 20 August 2009, and it was ordered that she was not to be eligible for parole until she had served 18 years of that sentence. She appealed against both the conviction and sentence. The appellant's grounds of appeal asserted failures on the part of the learned trial judge in the conduct of the trial, but did not attack the correctness of the jury verdict.

322 On 6 March 2012 the Court of Criminal Appeal dismissed the appeal against conviction but allowed the appeal against sentence and sentenced the appellant to imprisonment for 23 years from 20 August 2009 and ordered that she not to be eligible for parole until she had served 13 years of the imprisonment.

323 By a notice of appeal dated 2 August 2019 the appellant appealed against her conviction pursuant to s 402A of the *Criminal Code* on the following grounds:

> "Ground 1: Fresh and compelling evidence establishes that there has been a substantial miscarriage of justice.
>
> Particulars:
>
> There is fresh and compelling evidence that:
>
> 1.1: Meaghan Vass had boarded the Four Winds, and Mr Chappell was attacked while she was on board.
>
> 1.2: Evidence led by the prosecution at trial in relation to:
>
> 1.2.1: the results of, and inferences that could be drawn from, DNA testing;
>
> 1.2.2: the results of, and inferences that could be drawn from, Luminol testing;
>
> 1.2.3: a winching reconstruction on the Four Winds;
>
> was misleading.
>
> 1.3: The dinghy seen near the Four Winds around the time Mr Chappell was attacked was not the Four Winds' tender."

The legislative framework

324 Section 402A of the Code provides as follows:

"**402A Second or subsequent appeal by convicted person on fresh and compelling evidence**

(1) In this section –

convicted person means a person who, before a court of trial, has been –

(a) convicted of a serious crime; or

(b) acquitted of a serious crime on the ground of insanity –

whether that conviction or acquittal occurred before or after the commencement of this section;

fresh and compelling evidence has the meaning given by subsection (10) ;

serious crime means a crime punishable upon indictment listed in Appendix D .

(2) The Court may hear a second or subsequent appeal by a convicted person if the person has been granted leave to appeal under this section.

(3) A convicted person may apply to a single judge for leave to lodge a second or subsequent appeal against the conviction on the ground that there is fresh and compelling evidence.

(4) At any time after receiving an application for leave to appeal under this section, the single judge may refer the matter to the Court for determination.

(5) On hearing the application of a convicted person for leave to appeal, the single judge or Court –

(a) must grant leave to appeal if satisfied that –

(i) the convicted person has a reasonable case to present to the Court in support of the ground of the appeal; and

(ii) it is in the interests of justice for the leave to be granted; or

(b) must refuse to grant leave to appeal if not so satisfied.

(6) The Court may uphold the second or subsequent appeal of a convicted person if satisfied that –

(a) there is fresh and compelling evidence; and

(b) after taking into account the fresh and compelling evidence, there has been a substantial miscarriage of justice.

(7) The Court may dismiss the second or subsequent appeal of a convicted person if not satisfied as specified in subsection (6).

(8) If the Court upholds the second or subsequent appeal of a convicted person, the Court may quash the conviction and either –

(a) direct that a judgement and verdict of acquittal be entered; or

(b) under section 404 , order that a new trial be held.

(9) If the Court orders under subsection (8)(b) that a new trial be held, the Court –

(a) may make such other orders as the Court thinks fit for the safe custody of the person who is to be retried or for admitting the person to bail; but

(b) may not make any other order directing the court that is to retry the person on the charge to convict or sentence the person.

(10) Evidence relating to the serious crime of which a convicted person was convicted –

(a) is fresh evidence if –

(i) it was not adduced at the trial of the convicted person; and

(ii) it could not, even with the exercise of reasonable diligence, have been adduced at that trial; and

(b) is compelling evidence if –

(i) it is reliable; and

(ii) it is substantial; and

(iii) in the context of the issues in dispute at the trial of the convicted person, it is highly probative of the case for the convicted person.

(11) Evidence that would be admissible on an appeal under this section is not precluded from being fresh and compelling evidence merely because it would have been inadmissible in the earlier trial of the convicted person for the serious crime of which he or she was convicted.

(12) Section 407 does not apply to an appeal, or an application for leave to appeal, under this section."

A brief factual background

325 Mr Chappell disappeared during the late afternoon or night of 26 January 2009. According to the applicant, she last saw Mr Chappell when she left him aboard their yacht, the *Four Winds*, which was moored off Marieville Esplanade, during the afternoon of 26 January. When police boarded the yacht the following morning, there was no trace of Mr Chappell. Despite an extensive search, he has never been found. At the time of the events she was aged 55 and he was 65. He was employed as a physicist at the Royal Hobart Hospital. From about 1992 they lived together at a house in Allison Street, West Hobart. In September 2008, they purchased the *Four Winds*, a 53 foot ketch. It was brought to Hobart from Queensland in December 2008.

326 From about 9am on 26 January 2009, Mr Chappell was on the yacht where it was moored off Marieville Esplanade in Sandy Bay, for the purpose of doing work on it. The appellant was with him on the yacht for a short time in the morning and returned to it at about 2pm, using the yacht's tender, an inflatable dinghy. Later in the afternoon she returned to the shore in the tender. He remained on the yacht. Mr Peter Lorraine gave evidence at the appellant's trial that at about 5pm he saw an elderly man working on the back of a yacht which was likely to have been the *Four Winds*. The description matched Mr Chappell. There was no evidence presented at the trial of any further sighting of Mr Chappell.

327 At about 5.40am on 27 January, a witness found the dinghy bobbing against rocks on the shore. The witness secured it and, with another man, he headed out in a boat. As they passed the *Four Winds* they noticed that it was very low in the water on its mooring. They boarded it. Shortly after, the police arrived as a result of a call. Mr Chappell was not on board. The boat had been sabotaged and was sinking. A pipe had been cut and a seacock opened allowing seawater to flow in. An automatic bilge pump and alarm had been deactivated. Evidence was given at trial which suggested that the yacht had been tampered with by a person familiar with it. Blood was found on the yacht, including on steps leading down to the cabin.

328 The Crown relied at trial on the likelihood that the person responsible for Mr Chappell's disappearance had used the yacht's dinghy to travel to the yacht on the night in question, and evidence which linked the appellant to the use of the dinghy that night. It was the Crown case that through violence the appellant killed Mr Chappell, winched his body onto the dinghy and, having weighed it down, disposed of it somewhere in the water. The Crown case depended entirely on circumstantial evidence, which included motive and opportunity on the part of the appellant, and a series of lies told by her to investigating police, principally in relation to her whereabouts and movements on the afternoon and night in question.

A summary of the circumstantial evidence

329 A summary of the circumstantial evidence and some of the Crown case based on it, was meticulously crafted by Crawford CJ and set out in his reasons for judgment in the Court of Criminal Appeal: *Neill-Fraser v Tasmania* [2012] TASCCA 2. That summary is gratefully adopted and what is set out in the paragraphs that follow in this section of my reasons are essentially his Honour's words, with contextual adaptions.

330 The appellant and Mr Chappell purchased and took possession of the *Four Winds* at Scarborough Marina in Queensland. The purchase price was $203,000. Work was required to be done on it. They organised for work on the engine prior to sailing from Queensland for Hobart. They expected it would cost $6,000 to $7,000, but there was evidence that it in fact cost close to $20,000. Once it was in Hobart it was discovered that the engine was damaged and in need of major work. In her evidence at her trial, the appellant accepted that by 28 December 2008 they had spent $243,422 on expenses connected with the boat, which included the purchase price. There was evidence suggesting that they had spent more than they had originally planned.

331 They hired two crew members for the journey from Queensland to Hobart. They were Peter Stevenson and David Casson. They commenced sailing on 7 December 2008. During the first part of the trip Mr Chappell suffered a nose bleed. When approaching Southport on the second day the engine failed and the coastguard was called to tow them in. Mr Chappell suffered another nose bleed which persisted. While at Southport he worked on the engine but continued to suffer nose bleeds and was admitted to hospital for treatment. It was arranged that the appellant and the two crew members would set sail and he would re-join the yacht in Sydney. However, the crew members were concerned that he might have further nose bleeds and he did not re-join them. Instead, he flew home to Hobart while the others brought the yacht there, arriving late on the evening of 23 December. A number of mechanical and equipment problems had marred the trip.

332 Evidence was given by Mr Stevenson that during the journey the appellant said that her relationship with Mr Chappell was strained, it was over and it had been for some time. She also said that she would like to borrow $100,000 from her mother to buy out Mr Chappell's interest in the yacht.

333 Mr Chappell went to Marieville Esplanade early in the morning of 24 December to meet with the appellant and the crew following their arrival. Mr Stevenson's evidence was that Mr Chappell "went to approach Sue and she really just stood back from him and ignored him, didn't sort of respond to his – to, you know, acknowledging that – how he was". He said that he had noticed no sign of affection between them when they were together on the boat.

334 Evidence was given by Mr Chappell's son, Timothy Chappell, that on 26 December 2008, and again two or three weeks later, he was on the *Four Winds* when the appellant and deceased were both present. He thought that "there was quite a lot of tension between them", and said that he "felt a bit uncomfortable on the boat because of the tension between them". He referred to sniping words and obvious friction between them. The source of it appeared to him to be that they had different expectations as to what they would do with the yacht.

335 Evidence was given by Jeffrey Rowe, a Queensland yacht broker who negotiated the sale of the *Four Winds* to the appellant and Mr Chappell. He said that in the course of a telephone conversation he had with the appellant on 8 January 2009, she told him that she and Mr Chappell had separated, and she commented "that she was just tired of having to do everything".

336 On 25 January 2009, the appellant, Mr Chappell and his sister, Caroline Sanchez, spent a day cruising to Bruny Island and return on the yacht. Ms Sanchez was staying with them on a visit from Sydney. They used the motor there and back. There was no evidence that they tried to sail. Importantly, evidence was given by Mr Stevenson that neither the appellant nor Mr Chappell were strong enough to carry out the physical work required on the yacht and, in particular, to operate winches that raised and lowered the sails.

337 When they were at Bruny Island the anchor winch failed and they were unable to lower the anchor. Ms Sanchez said that the appellant and Mr Chappell wrestled with it but decided they would have to get a spare part later on. The appellant's evidence was that Mr Chappell was grumpy about having to get into the chain locker when attempting to free the chain and that he was cross about the failure. They both worked on it, she said. In a police interview she said that Mr Chappell was "very, very upset" and he said, "Look I'm beginning to wonder about this boat, what else is going to go wrong with it?"

338 The appellant's evidence was that on 26 January at about 8.30am or 9am, she and Mr Chappell went to the *Four Winds* on its mooring. They used its dinghy to do so. She said that Mr Chappell was in and out of the engine room as he worked on it. He had an electrical switchboard open. Later in the morning, she left the yacht in the dinghy to keep a pre-arranged luncheon appointment with Ms Sanchez. She said that she tied the tender up to poles at the Marieville Esplanade beach (Short Beach). Mr Chappell remained on the yacht.

339 Evidence was given by Ms Barbara Zochling that early that morning she saw Mr Chappell walking along a path from the direction of the Royal Yacht Club on Marieville Esplanade towards Short Beach (off which the *Four Winds* was moored). She was not precise about the time of day, but, in the light of her evidence, it could have been between 8.30am and 9.30am. She said that a woman was walking behind Mr Chappell and talking in a raised voice. It was the Crown case that a strong inference could be drawn that the woman was the appellant. However, there was also evidence that Ms Zochling had recently seen a photograph of the appellant on news media and did not believe that she was the woman she had seen on 26 January 2009.

340 The appellant drove home to Allison Street, changed and returned to the Royal Yacht Club with Ms Sanchez for lunch. At the club, Ms Sanchez took some photographs of the appellant. They showed that she had no injuries or strapping on her wrist. After lunch they returned to Allison Street. Ms Sanchez said that the appellant changed again and left the house at about 1.30pm. Ms Sanchez left the house that afternoon to spend two days on Bruny Island.

341 At about 2pm, Mr Christopher Liaubon assisted the appellant at Short Beach to free the outboard motor of the dinghy that was stuck in the sand above the waterline, the tide being about three-quarters of the way out. The dinghy was tied to a pole. At about 2.30pm he saw the appellant in the dinghy making her way out from the beach. She was on her way to the *Four Winds*. Jane Powell also gave evidence of seeing a woman in an inflatable dinghy making her way out to a yacht on a mooring at about that time.

342 Evidence was given by Mr Paul Conde that he saw a rubber dinghy tied to the portside of the *Four Winds* at about 3.55pm. Evidence was also given by Mr Peter Lorraine that at about 5pm he watched from a nearby jetty a moored two-masted yacht with an elderly man pottering about on it. A dinghy was tied to it.

343 The appellant's evidence was that during the afternoon Mr Chappell worked in the engine room and on the anchor winch motor. She said that he had isolated an engine oil leak and wanted to spend the night on the yacht to keep going. He wanted to trace wiring and to have a look at things, she said. She left her mobile telephone with him and departed in the dinghy, she thought after she had been on the yacht for an hour at the most.

344 In her statutory declaration made two days later, she said that Mr Chappell was a bit snappy. On 5 February 2009, she told police officers that they had a row because she was working at a washing machine and was in the accused's way when he wanted tools, which she said were "my tools as well". When interviewed on 4 March 2009, she described Mr Chappell as "getting very snippety with me". In an interview on 5 May 2009, she said she was irritating him.

345 The appellant said to police that it was safer for her to leave Mr Chappell on the yacht without the dinghy because he was not adept at getting in and out of it on his own. However, his son, Timothy Chappell, gave evidence that Mr Chappell was quite capable in the dinghy. Ms Sanchez's evidence was that on 25 January 2009, Mr Chappell showed the appellant how to use a new outboard motor on the dinghy. Mr Chappell's daughter, Katherine Chappell, gave evidence that when she went out to the *Four Winds* on 26 December 2008, Mr Chappell operated the dinghy and the appellant criticised him concerning the way he was driving it into the waves. There was also evidence that Mr Chappell controlled the dinghy containing him, the appellant and two men who were going out to work on the *Four Winds* in early January 2009.

346 The appellant said that when she returned from the *Four Winds*, she tied the dinghy to a ladder at the Royal Yacht Club in her usual way with three knots. She believed she had tied it up adequately and said that it had never come undone before.

347 At 9.17pm on 26 January 2009, the appellant made a 14 minute telephone call to her daughter, Emma Mills, on the landline at Allison Street. At 9.31pm she telephoned her mother for about five minutes. At 10.05pm she received a telephone call on the landline from Mr Richard King. The call lasted approximately 29 minutes.

348 The next telephone call to or from the Allison Street landline was at 3.08am on 27 January, when a *10# call was made from it. The function of such a call is to retrieve the number of the last unanswered telephone call to a landline service.

349 Mr John Hughes gave evidence that between 11.30pm and midnight on 26 January, he was parked at the end of rowing sheds at Marieville Esplanade when he saw and heard an inflatable dinghy with an outboard on the back coming from the direction of the Royal Yacht Club, heading northeast towards the Eastern Shore of the Derwent. It was open to infer from that evidence that it was travelling roughly from where the appellant had said she left it at the Royal Yacht Club and roughly towards the *Four Winds*. Mr Hughes said that there was only one person in it who had the outline of a female, but he could not be definite. He was "almost 100 per cent definite" that there were no other persons in the area of the sheds.

350 As already mentioned, at about 5.40am on the morning of 27 January the dinghy was found floating, nudging up into rocks. It was some hundreds of metres and several small coves away from where the appellant said she left it the previous day. Its painter was inside the dinghy, which suggests that it had been put there by someone and that it had not simply come undone from the ladder where she said she had tied it. If it had become undone with the result that the dinghy drifted away, it is likely that the painter would have been trailing in the water.

351 At 7.04am, on 27 January 2009, an unanswered telephone call was made from the landline at Allison Street to the appellant's mobile telephone which was later found on the *Four Winds*. No further call was made by the appellant to that telephone and she raised no alarm. Having received reports of

the *Four Winds* sinking, police telephoned her on the landline at Allison Street at 7.11am. She headed directly to Marieville Esplanade in the car. Her evidence was that she had parked it overnight outside the house.

352 On the shore at Marieville Esplanade, before it was known that Mr Chappell was missing, she spoke with Constable Shane Etherington. She told him that Mr Chappell had been on the yacht making some repairs in relation to some panels that had apparently been loosened by unknown persons. She said that she believed the boat may have been boarded in the two or three days prior to Mr Chappell being on it. She explained that a similar yacht had been used to smuggle drugs into Australia from other countries and the drugs were stashed in similar panels, and she believed that was what may have happened to the *Four Winds*. She asked if the police had sniffer dogs which could go onto the yacht.

353 That morning, a red jacket was found on a brick wall outside 2 Margaret Street by the occupant. It was about 120 metres from where the appellant said she had left the dinghy tied up on 26 January. The occupant had not seen it there when he arrived home the previous evening at about 6pm. A police officer took possession of it and it was placed in the boot of a police car at Marieville Esplanade. It was shown to the appellant who said that it did not belong to her and she had never seen it before. However, a swab taken from the inner surfaces of the collar and cuffs of the jacket was found to contain a DNA profile that matched her DNA profile and the chances of some other unrelated person matching it was less than one in 100 million.

354 When the appellant was at Marieville Esplanade that morning, police officers observed that she had some strapping round her wrist and a Band-Aid on her left thumb. She said she had cut her thumb. At the request of Constable Stockdale she removed the Band-Aid and revealed a one to two centimetre cut. In the course of the conversation she said that her fingerprints might be on a torch on the *Four Winds*. A torch was indeed found on the *Four Winds*. It had human blood splattered on it and a DNA analysis of the blood matched the DNA profile of Mr Chappell.

355 When police boarded the *Four Winds* that morning they noticed blood on steps, a knife on the floor of the wheelhouse and the torch with blood on it, and no trace of Mr Chappell. The yacht was low in the water and sinking. The causes were located. A pipe to the forward toilet had been cut allowing seawater to flow in. It was also discovered that a seacock under the flooring in the forward part of the yacht had been opened, allowing seawater to flow in.

356 Evidence was given by Constable Lawler, who had experience in marine and rescue services and with water craft, that, in his opinion, the person responsible for cutting the pipe and opening the seacock had an intimate knowledge of the *Four Winds*. That was particularly the case with the seacock, which was under a carpet and panel, and which served no apparent purpose.

357 The operation of the plumbing aboard the *Four Winds*, including the location of the cut pipe and the seacock, had been explained to the appellant by a plumber, Mr Klaas Ruiter, when working on the yacht in Queensland. The yacht had a book that explained its electrical and general engineering. The book contained a diagram "of the plumbing and sullage tanks, black and grey water from the toilet and various other parts of the boat". Mr Casson gave evidence that on the way down from Queensland, he and Mr Stevenson explained to the appellant and Mr Chappell how the systems worked, and the appellant "seemed to be reasonably familiar with the plumbing side of things". A photograph in evidence showed her with the book open at the plumbing diagram. Evidence from Mr Nathan Krokowiak, a mechanical fitter who worked on the yacht on or about 15 January 2009, was that he explained to her about "gate valves, seacocks and things like that which are open to the outside of the vessel" whilst working on the area containing the seacock which was found on 27 January to have been opened.

358 Divers searched an area around the *Four Winds* and to the south of it. Because of poor visibility, it was impossible for the divers to find objects on the bottom. As a consequence, sonar equipment was

used in April 2009 to search roughly the same area. Ninety items of interest were located with the sonar. Only 25 of them were dived on. They were not the body of Mr Chappell.

359 The inflatable dinghy had many areas that were positive to luminol, a screening test for blood but not a conclusive one.

360 The Crown case was that it was open to conclude that the body of Mr Chappell was dumped into the Derwent River but not found because either it was outside the area searched or it was missed by the divers.

361 After water had been pumped from it, the *Four Winds* was towed to Constitution Dock on 27 January. At about 4.30pm, the appellant, her daughters and Timothy Chappell went on board. The appellant pointed out a number of anomalies on the yacht. She said that a green rope on the starboard side was in disarray and out of place. She pointed out that a winch handle was in the winch on the mizzen mast and said that it should not have been there. She said that a rope around the winch had been cut and also another rope in a pile on the deck. In the main saloon area she pointed out that a fire extinguisher was missing from a bracket. She also pointed out that an EPIRB was missing from a bracket mounted on the back of the wheelhouse.

362 Sergeant Conroy also gave evidence that the appellant drew attention to some rub marks on the wooden surrounds of the main hatch for entry into the yacht, which she said had not been there before. The Crown maintained that the marks were small and inconspicuous. There were fibres in the marks that appeared consistent with those from a rope.

363 The appellant pointed out to police in the main saloon that floorboards had been unscrewed and lifted up, and said that Mr Chappell would not have unscrewed them. However, there was evidence from Mr Stevenson and Mr Casson that during the yacht's journey from Queensland they had unscrewed and lifted the floorboards to access pipes and wiring, and although they replaced the boards they did not screw them down again.

364 It was also Sergeant Conroy's evidence that when speaking to the appellant on 28 January, at which time he obtained a statutory declaration from her, she referred to Mr Chappell throughout in the past tense, although at one time she apologised, saying that she and the family had come to the realisation that he was dead.

365 Next in his summary, Crawford CJ related some of the evidence that concerned the appellant's claim that she visited Bunnings Warehouse on the Brooker Highway on the afternoon of 26 January, after she last left Mr Chappell on the yacht. That evidence is as follows.

366 In the days following 27 January the appellant told Timothy Chappell that she had been to Bunnings the afternoon before that day.

367 On 28 January 2009 she made a statutory declaration in which she said that after tying up the dinghy at the Royal Yacht Club she went to Bunnings for a long time, although she did not buy anything, just browsed. It was starting to get dark when she arrived home. She mentioned the telephone calls she made and received, and said she got off the telephone at 10.30pm. That accorded with records. She said that she stayed alone at home that night and that the following morning she was notified the yacht was sinking. She made no mention of travelling to Marieville Esplanade after 10.30pm.

368 On 5 February 2009, she told Constable Marissa Milazzo and Detective Senior Constable Shane Sinnitt that after she left the *Four Winds* on 26 January she went straight out to Bunnings. She said she drove in, turned left and parked facing the building, arriving at roughly 4.40pm at the main entrance near the checkouts. She said there was always someone at the door and that she was wearing a cream

brimmed hat, beige shorts, joggers and sunglasses. She said she looked at timber and slip mats, turned right and looked at the paint section. She went up just about every aisle and left by the same entrance.

369 When interviewed by police on 4 March 2009, she continued to maintain that she drove to Bunnings from the Yacht Club. She said she remembered feeling guilty when doing so because she thought that if Mr Chappell telephoned her, he had her mobile and she was not at home. However, she was by then made aware that police had examined CCTV footage at Bunnings and could not find her on it, and she retreated to claiming that she was "pretty sure" she had gone there. She was told that Bunnings shut that day at 6.00pm, which made it unlikely that she could have been there for "hours" as she had previously claimed.

370 Later in that interview the appellant maintained that she did not leave her home on the night of 26 January after receiving the telephone call from Mr King.

371 On 5 March 2009, Detective Sergeant Conroy spoke to the appellant's two daughters about the investigation and showed them a photograph taken by a camera at the corner of Sandy Bay Road and King Street, Sandy Bay, at 12.15am on 27 January 2009, which showed a grey station wagon similar to the appellant's vehicle travelling on Sandy Bay Road. The appellant's daughters were in constant contact with her.

372 Ms Sanchez gave evidence that on either 8 or 10 March 2009, she had a telephone conversation with the appellant, in the course of which the appellant told her that on the night of 26 January she was disturbed or anxious about the content of the telephone call from Richard King and had driven down to Sandy Bay, looked across at the yacht, but it was in darkness, and then drove back. That was the first occasion upon which the appellant had admitted to returning to Marieville Esplanade that night.

373 On 13 March 2009, she was interviewed by an ABC journalist, Ms Felicity Ogilvie. She told Ms Ogilvie that after the telephone call from Mr King she drove down to the boat to check that everything was okay, did not see anything going on at the yacht and drove home. She added that she saw homeless people with fires while down there. Ms Ogilvie later provided that information to police. It was the first time they were aware that the appellant had returned to Marieville Esplanade on the night in question.

374 On 23 March 2009, Ms Sanchez had another telephone conversation with the appellant in which the appellant said that although she had driven down to Marieville Esplanade that night, she left the car there and walked back home to West Hobart for the exercise. It was the first time she said she had left the car at Marieville Esplanade.

375 Police interviewed her again on 5 May 2009. Asked about what she had done on the afternoon of 26 January after going out to the *Four Winds*, she said that she had been mistaken about going to Bunnings, claiming that she had mixed up the day with another day a few days earlier when she had left Mr Chappell on board the yacht and gone to the store.

376 During the same interview, she said she had been on the yacht on the afternoon of 26 January until later than she had previously indicated, and after tying the dinghy at the Royal Yacht Club, she walked back to Allison Street, West Hobart, leaving the car on Marieville Esplanade or around the corner in Margaret Street, she could not remember which. She said she did not remember whether it was daylight or dark. After the telephone call from Mr King, the content of which had unnerved her, she decided to collect the car and drive it home so that it would be available to her to drive to the yacht if Mr Chappell called her. She decided not to telephone him because having regard to the lateness of the hour, he might be asleep. So she walked to the car at or near Marieville Esplanade. However, on arriving there she found she had farm keys and not the car keys and had to walk back to Allison Street to collect them and return once again to the car. She then drove along to the rowing sheds, which was the only place from which the boat could be seen properly. She got out, walked down to the beach and

saw a fire going and homeless people there. She could not see the boat because it was pitch black. She felt a lot better for having gone there. She then drove home.

377 It was the Crown case that her version in that interview conflicted with the evidence of Mr Hughes who said that between 11.30pm and midnight he was parked at the end of the rowing sheds, there were no other persons in the area of the sheds, and he witnessed an inflatable dinghy with an outboard running, and with a woman on board, heading from the direction of the Royal Yacht Club roughly in the direction where the *Four Winds* happened to be.

378 In that interview, the appellant was told that the red jacket police had shown her on the morning of 27 January was in fact hers because it contained her DNA. She conceded it was hers and said she had no idea how it came to be on the fence in Margaret Street.

379 She agreed in the interview that when on 27 January she gave an account to police of her movements the night before, she had not told them about returning to Marieville Esplanade. She gave as her reason that she was worried Timothy Chappell would be upset at mention of her concern about the subject of the telephone conversation from Mr King. The Crown did not dispute on the first appeal that the content of the telephone call, which concerned Bob Chappell's daughter's fears for her father, might have been unnerving.

380 The appellant also told the police that when the yacht was being repaired at Scarborough Marina in Queensland, the mechanic, Mr McKinnon, advised her that it had been illegally entered and panels had been opened and things moved about.

381 It was Timothy Chappell's evidence that on 27 January the appellant told him that the yacht had been broken into twice in Hobart on its mooring, which surprised him because he had not heard about it before. The appellant told Constable Etherington on 27 January that the *Four Winds* may have been boarded two or three times before, that some panels had been removed by unknown persons, and that the yacht may have been used to smuggle drugs. On the same day, she made a statement in which she said that approximately 13 days before she and Mr Chappell discovered that someone had been on the yacht unlawfully. She noticed that the chart table had been accessed and the freshwater pump cover and the electrical switchboard had been opened. She said exactly the same thing happened in Queensland in October when someone had been on the boat.

382 A marine mechanic, Mr James McKinnon, gave evidence that the appellant and Mr Chappell commissioned him to inspect the *Four Winds* in Queensland and to work on it at Scarborough Marina. During the course of the work he reported to the appellant that he believed someone had been entering the yacht after he finished work some days, and he also told her that on one occasion he noticed an electrical panel had been removed. However, he subsequently discovered that an electrician, Chris Geddes, had done that, and he told the appellant that was the case. Evidence was also given by Mr Rowe that he had also discussed with the appellant about the electrical panel having been opened, and about the situation that people thought the boat was being broken into. He said it was discovered that an electrician had been working on the switchboard of the yacht and he informed the appellant of that.

383 That evidence of Mr McKinnon and Mr Rowe was not challenged by the appellant's counsel in cross-examination. However, the appellant gave evidence that it was she who told them that it was Mr Geddes who had entered the yacht.

384 On 27 January 2009 the appellant told Sergeant Conroy that *Four Winds* had been entered on two occasions; that it appeared to her that something heavy may have been lifted out; that she believed it was drug smugglers and that Mr Chappell may have been on the yacht when they came back to it.

385 On 13 February 2009, in a telephone conversation, the appellant told Sergeant Conroy again about break-ins on the vessel. On 19 February she mentioned her belief that the prefix PV in the

registration number of the yacht stood for Port Vila, and that drug smugglers from Europe went to Port Vila and that was a line of inquiry she thought he should follow.

386 In the course of being interviewed on 5 May 2009, the appellant denied that there had been any break-ins on the yacht in Queensland or Tasmania and she denied saying that it had been searched.

387 When giving evidence, the appellant said that she and Mr Chappell went aboard the *Four Winds* on 10 January 2009 and found it had been entered and searched, with floor hatches pulled up, cupboard doors open, some of the cushions unzipped and mattresses flicked up, but there was no damage and nothing was missing. They decided between them not to report the matter to police. Later in evidence she denied ever saying that the yacht had been broken into in Queensland.

388 Other circumstantial evidence relied on by the Crown included the evidence of Mr Phillip Triffett. He gave evidence that he and his partner had been friends with the appellant and Mr Chappell some years before, and that the appellant owned a yacht at that time which she kept at a marina "down Electrona or Margate way". He said that when they were on the yacht in about 1996 or 1997, the appellant asked him to assist her in taking her brother Patrick out to sea and throwing him overboard, because he was in her way over their mother's property. She said they would weigh him down with a toolbox and that Mr Triffett would then take the yacht closer to shore and sink it after she had gone ashore in the dinghy. She showed him how they could sink the yacht by using the bilge pump.

389 Mr Triffett also gave evidence of a conversation not long after at the appellant's home when the appellant complained that Mr Chappell was mean with his money and "dangerous around the kids" and she said he had to go. She wanted the same thing to happen as she had suggested before, except that she wanted Mr Chappell to be wrapped in chicken wire. The appellant denied having those conversations with Mr Triffett.

390 In his closing address to the jury, counsel for the Crown argued that it made no sense, and it was not a reasonable possibility, that a stranger or strangers to Mr Chappell not only killed him but in addition removed his body from the scene by using the winch. It was argued that the person who cut the pipe to the forward toilet and opened the seacock under the floor must have had an intimate knowledge of the yacht and was not a stranger to it. The jury's attention was drawn to the evidence that the appellant had that knowledge.

391 It was also argued that it was too much of a coincidence for a stranger to have not only boarded the yacht and killed Mr Chappell, but in addition to have used the yacht's tender to enable those things to be done, a tender which the appellant said she had left tied up to a ladder at the yacht club. It was argued that the use of the winch to remove the body of the 64 kilogram deceased was more consistent with one person being involved rather than several.

392 It was argued that the evidence showed that there was an attempt to clean up the scene of the killing and that a stranger would not have done that. Counsel for the Crown was referring to the evidence that carpet tiles in front of the electrical panel, where the appellant said Mr Chappell was working that day, had been taken up after first unscrewing feet from stairs that were on top of the tiles.

393 It was suggested to the jury that they could infer that the appellant had killed Mr Chappell and left his body on the yacht when she went home in the evening and commenced to make and receive telephone calls at 9.17pm. It was argued that the telephone call from Mr Richard King unnerved her because Mr King had wanted to speak to Mr Chappell and instead learned that he was not available. As a result, it was argued, the appellant went to the boat to dispose of the body and clean up incriminating evidence. It was pointed out that the evidence of Mr Hughes assisted a finding that the appellant used the dinghy to return to the yacht at about 11.30pm to midnight, and that the evidence of the *10# call at 3.08am was consistent with her having just returned home and checking who might have telephoned while she was out.

394 The jury was urged by counsel for the Crown to conclude that in the days and months following the killing of Mr Chappell, the appellant told a great number of lies concerning her movements that day and night, in the course of which she kept changing her position, and that the jury should conclude that they were told out of a consciousness of guilt, knowing that the truth would reveal it.

The evidence of and concerning Meaghan Vass at trial

395 Ground 1 of the notice of appeal on the appellant's first appeal was as follows:

> "Ground 1: A miscarriage of justice resulted from the prosecutor's failure to recall Meaghan Vass, and/or from the learned judge's refusal to recall Ms Vass or to direct that she be recalled, following disclosure, during the subsequent evidence of Detective Sinnitt, of matters concerning the whereabouts of Ms Vass on 26 January 2009, which matters had not been disclosed to the appellant until after Ms Vass gave evidence."

396 The following summary of the evidence of and concerning Ms Vass at trial is again gratefully taken from the exposition of Crawford CJ in his reasons for judgment on the first appeal.

397 The yacht was towed to Constitution Dock on 27 January. On the following day it was moved to the premises of CleanLift Marine at Goodwood and was placed on a slip for inspection. The evidence established that the yacht was secure while it was at Constitution Dock. There was some question about the extent of its security after it arrived at Goodwood.

398 As part of the police investigation, a great number of items, samples and swabs were collected, and many were forensically examined or analysed. One was a swab taken at Goodwood on 30 January 2009. It was 9.45 metres from the bow of the yacht on the starboard walkway.

399 The swab was taken because at that point a luminol test was positive, although it proved "negative with HS screening for blood". DNA analysis of the swab revealed a full DNA profile of a female. It did not match the DNA of any individual on the State's DNA database. Statistically there was a less than one in one hundred million chance that the DNA profile of more than one person, unrelated to each other, would have matched it. There was no evidence establishing how that DNA profile came to be in a substance on the deck of the yacht on 30 January 2009.

400 The DNA profile was matched with the DNA profile of Meaghan Vass on 15 March 2010, after a sample had been taken from her by police for reasons unconnected with the disappearance of Mr Chappell.

401 On 26 January 2009, Ms Vass was 15 years old. She had been homeless since she was 13. Having discovered the matching profiles, police first spoke to her with a view to interviewing her, to see if she had any connection with the death of Mr Chappell. She declined to be interviewed. In cross-examination her explanation was that she felt intimidated and that she had "just never dealt with something this large before".

402 As it was not possible to provide a statement of the evidence she would give before the jury, a *Basha* inquiry was conducted in the absence of the jury. Its purpose was to determine what she was likely to say or not say in evidence before the jury. That was determined by counsel for the Crown examining her, and defence counsel cross-examining her in the absence of the jury.

403 In her evidence-in-chief in the course of the *Basha* inquiry, she said she was living in Hobart in early 2009, that she had never been aboard the *Four Winds*, she did not remember if she went to the area of Constitution Dock in January and February 2009, and she did not remember going to an area of Goodwood near Negara Crescent where there was an industrial estate and some yachts in January 2009. She was briefly cross-examined. First, she was asked where she was living in January 2009. She said she was "pretty sure" she was living at a Montrose women's shelter, which she named. The appellant's

counsel asked: "Pretty sure?" She answered: "Yes, I can't really remember, I'm sorry". She said she had no occupation at the time and received a special benefit. She confirmed that she had never been on board the *Four Winds* and she had no memory of being in the wharf area of Constitution Dock and seeing the yacht there. She agreed with defence counsel that the wharf area was not an area she would go to in late January 2009, and that it was highly unlikely she was around Constitution Dock on about 27 or 28 January 2009. She confirmed she had no memory of going to a shipyard in Negara Crescent, Goodwood called CleanLift Marine and agreed that she had never been there in her life.

404 Immediately after, Ms Vass gave evidence in the presence of the jury. Her evidence-in-chief was brief once again. She said she did not remember ever being on the yacht, being in the Constitution Dock area at the end of January or the very beginning of February 2009, or being at that time in the area of Negara Crescent, Goodwood where there were some yachts on slips and an industrial estate.

405 She was cross-examined again. She said she did not have a twin sister. She gave her reason for not being interviewed by police. She said she was quite sure she had never been on the yacht. Then she was asked in cross-examination where she was living on 26 January 2009. She said she was "pretty sure" it was at an address she gave in Lenah Valley, which she described as a "big block of white – a white complex". Defence counsel then put to her "didn't you say a little while ago that you were living at the Montrose address". She agreed by saying, "Yes", but added "I can't really remember, I'm sorry", which was exactly what she added in the course of cross-examination during the *Basha* inquiry.

406 Defence counsel then accused her of changing her story. Crawford CJ expressed the opinion that the line of cross-examination was unfair, for on both occasions, without the jury and with them, the witness added, "I can't really remember", and apologised. His Honour thought that it was also unfair in its innuendo that she was telling a story as she was responding to questions concerning where she was living on 26 January 2009.

407 It was pointed out to her that in the absence of the jury she had said she was living at the Montrose address, and that, in the presence of the jury, she said that she was living at the Lenah Valley address, but no mention was made by counsel that on both occasions she had added that she could not really remember. She agreed with defence counsel that the Montrose and Lenah Valley addresses were not the same, which was obvious. Prefacing that he would ask her again, counsel asked where she lived on 26 January 2009. She answered by giving the Montrose address. Counsel then asked why she gave the Lenah Valley address "a minute ago". She answered: "Because I'm getting very confused and I have been homeless since I was 13, so it's very hard for me." Counsel had no sympathy for such a claim. He asked: "It's not difficult, is it, you were asked the question in this Court a few minutes ago?" She responded: "Yes, I'm sorry."

408 Defence counsel then asked a few questions that Crawford CJ felt had some direct relevance. She was able to volunteer that Constitution Dock was "the one in town where Muirs is isn't it?" She confirmed, by saying "yes", that she did not remember going to Constitution Dock in late January 2009 around the 27th. She agreed, by saying "yes", that it would be fair to say that she did not go there "during the period". She agreed, by saying "yes", that it would be fair to say she had never been to the industrial premises called CleanLift Marine at Negara Crescent at Goodwood. She agreed, by saying "no", that she had never been there in her life and that she was most definite she was not there in late January or early February 2009.

409 That completed the cross-examination of Ms Vass and she was relieved from the need to attend the Court as a witness. Before the jury, neither counsel had asked anything of her concerning whether she had been in the vicinity of Marieville Esplanade on 26 January 2009 or on any other day.

410 Evidence was given by Mr Carl Grosser, a large part of whose work as a forensic scientist involved DNA profiling. His evidence included that it was "entirely possible" that a person's DNA profile might be found in a swab taken from a surface, notwithstanding that the person had never been

on the surface. He explained that DNA is normally found in fluids of the body including saliva, blood and sweat and in skin, and that there is a potential for it to be transferred in some way. Its presence on a walkway could be accounted for by a lot of people passing over the area and one of them transferring onto the walkway the DNA of a person picked up elsewhere on the bottom of their shoe. Potentially anything could be carrying a person's DNA and could transfer it. He also made the point that although it was highly unlikely, the DNA profile of Ms Vass may have matched that of another person. He also pointed out that it is impossible to know when the item containing the DNA profile was deposited on the walkway. Scientists could only detect its presence in a swab taken on a particular date, but could not say for how long the substance containing the profile had been there.

411 Later, evidence was given by Detective Senior Constable Sinnitt that he could establish no connection between Ms Vass and Mr Chappell and the *Four Winds*, apart from that established by the DNA result. He said that inquiries revealed that at least 21 people, not including personnel from Forensic Science Service Tasmania, had been on board the *Four Winds* from the time when it was first discovered sinking on its mooring on the morning of 27 January 2009, and the time the swab was taken from its walkway at Goodwood at 1.40am on 30 January 2009.

412 On the day after Ms Vass gave evidence, defence counsel applied to have her recalled as a witness. Since she had given evidence, counsel had received information that Detective Sinnitt had been informed by a member of staff at a women's shelter in New Town that Ms Vass was listed as a person who would be staying there on the evening of 26 January 2009, but she had told the staff that she wanted to sleep over at Unit 8 at an address she gave at Mount Nelson. The information was that she left the New Town shelter at 3.50pm with an arrangement that she would telephone later with the telephone number of the person with whom she would be staying at Mount Nelson, but she failed to do so. Although Detective Sinnitt was able to give that evidence, the judge ruled that it was inadmissible hearsay, a ruling that was not challenged on the first appeal.

413 In support of his application to recall her, counsel for the appellant said that when cross-examining her, he had not asked her anything about whether she had been at Marieville Esplanade, adding "but that theory had never been advanced at that stage". What he meant by that was not apparent to Crawford CJ. His Honour felt that Ms Vass could have been asked about that when she was cross-examined the previous day, but was not.

414 Counsel continued:

> "… and of course we now know, and we didn't know this at the time and I couldn't put anything to her obviously, that she wasn't living at [Lenah Valley] or Montrose and – as she had claimed in her evidence and that she was in fact at [New Town]. We didn't know at that time that she wasn't home on that night and we don't know where she was and it means that I'm in a situation where I need to put a whole series of questions to her that was not – material was not available to me beforehand and I submit it's in the interest of justice that this be allowed to be done.
>
> …
>
> So in a nutshell we had no material to put to this witness. Now it is a matter for the jury of course as to the question of her DNA on the deck. I'm going to be submitting to the jury that they can draw the inference that given the level of DNA on the deck that that girl was on that boat at some stage. Now it's up to them to determine when that was and it's a jury question, I mean given – bearing in mind that this is a circumstantial case, they have to look at the hypothesis consistent with innocence, et cetera. Now we need to be able to put that to her and see what she says about it.
>
> …
>
> … my friend well knows that I cannot put to that witness the proposition that she committed the crime of murder on board that boat without there being some evidence

> to support it. What I might put to her tomorrow or any other day if I'm given leave to have her recalled, might be different thing depending on the nature and quality of the answers I get to the further questions that I submit should be asked of her. Nobody could properly have put that suggestion yesterday to her based on the limited amount of information that was available at that time – and I make the point yet again. This person was called as a witness without there being any prior statement, we had to deal with it as it fell – that's all we had at the time. We now have, as a result of what's been found in the file from Mr Sinnitt much more information, much more significant information and had I not called for that file to be produced we would never have known about it."

415 Crown counsel opposed the application, and the trial judge ruled by saying :

> "So far as Ms Vass is concerned, now that there is information that on the 26th of January was staying at [New Town] and told the – told someone there that she was going to spend the night at a particular address with a particular friend, then it may be that if it were put to her that there was a night when she had such a plan, that her memory might be jogged in some respect. The question is whether, if her memory were – as to where she went that night were jogged in some respect, that the possibility of her giving new evidence of any relevance would warrant the – her being recalled and the time and inconvenience taken to get her back and have those matters put to her.
>
> I'm very conscious of the fact that this is a murder trial and you can't have a more serious charge. But the question of just where Meaghan Vass was and what she did on the night of the 26th of January seems to be peripheral when her version of events is unshakeably, or apparently unshakeably, that she did not go onto the Four Winds, that she didn't go to the slip yard at Goodwood and that she didn't go to Constitution Dock at or about the time that the boat was there. In my view the prospect of Meaghan Vass giving significant evidence if recalled is so slight as not to warrant the time taken to recall her. Having regard to how significant her evidence might be and how likely it is that she might say something of any relevance at all I think we'd be wasting time and that there's no realistic prospect of it making any significant difference if she were recalled. So I won't ask the prosecutor to recall her and I won't take steps to order her recall."

416 After the application to recall Ms Vass was rejected, cross-examination of Detective Sinnitt continued. In the course of it he said he had been unable to establish where Ms Vass had spent the night of 26 January 2009. Although there was no admissible evidence before the jury that Ms Vass had told the staff at the New Town shelter that she would be spending the night at Unit 8 at a Mount Nelson address, it was ascertained from Detective Sinnitt that he had gone to that address and could not find a Unit 8, although there were several units in the area. He confirmed that he had sought to interview Ms Vass but she had refused. Detective Sinnitt said that he had been unable to make a connection between Ms Vass and the area around Marieville Esplanade on 26 January 2009 or the morning of 27 January. However, in re-examination he said that when he spoke to her on 18 March 2010 she indicated to him that she believed she may have been hanging around the Goodwood area at the time of the disappearance of Mr Chappell. He also said that his inquiries revealed that it was common for her whereabouts to be unknown and that it appeared that she was moving between several addresses and was homeless.

Evidence that Meaghan Vass boarded the Four Winds

417 The evidence before Brett J was summarised by his Honour at [37]-[49] of his reasons as follows:

> "**A telephone conversation with Colin McLaren**
>
> 37 Colin McLaren gave evidence before me on the hearing of the application. He was not involved in the trial. In evidence, he asserted that he is a former police officer, who worked for many years as a detective. His work included many investigations into serious crime, including murder. He now describes himself as an author, investigative journalist and documentary film consultant. His evidence was that

in May 2016, he was hired to investigate and give a professional opinion in relation to Mr Chappell's disappearance. He subsequently decided to research and write a book about the case.

38 In the course of his investigation, he had contact with certain persons who arranged for him to meet Ms Vass. He gave evidence that his first direct contact with Ms Vass was on 16 January 2017. That contact was by way of a conversation between Ms Vass and him over his mobile telephone. In his affidavit, he reports the verbatim conversation as follows:

> 'Meaghan: We were there on the yacht partying. I can't remember but I have to think about it, Paul and Sam and me. There was a fight on the other yacht.
>
> McLaren: Four Winds?
>
> Meaghan: The old guy's yacht, next to Paul's.
>
> McLaren: How'd you get onto the Four Winds?
>
> Meaghan: I can't swim, I didn't swim. We got a dinghy.
>
> McLaren: What happened next on board?
>
> Meaghan: A fight. Fuck. I saw it but I fucked off. Took off.
>
> McLaren: How?
>
> Meaghan: In the dinghy, fucked off.
>
> McLaren: What happened to Paul and Sam?
>
> Meaghan: Don't know. They went back to Paul's yacht. I took off.'

39 Mr McLaren gave evidence that he made contemporaneous notes of this conversation.

Ms Vass'ss statutory declaration

40 Mr McLaren's evidence was that his next meeting with Ms Vass was on 17 March 2017. He says that during the course of that meeting, Ms Vass expressed a willingness 'to do an affidavit'.

41 Mr McLaren had subsequent meetings with Ms Vass at a hotel in Hobart on 17 and 18 April 2017.

42 On 21 April 2017, he drafted what he describes as "a plain paper statement about what Meaghan had initially told me about being on the Four Winds yacht with two men". His evidence was that he presented this statement to Ms Vass, who required certain changes to be made. He made the changes and she signed the statement. He then gave the statement to a lawyer, Jeff Thompson. Mr McLaren says that he had no further role in drafting or handling the statement.

43 On the application, the applicant tendered a document which purported to be a statutory declaration by Ms Vass, signed on 27 April 2017. The inference is that this document reflected the statement which had been prepared by Mr McLaren. The document asserted that Ms Vass was 'on the Four Winds yacht on the night of Australia Day 2009'. It further asserted that she was there 'with people I will not name', was scared and was not prepared to provide any further details. It further asserted that 'the lady Sue Neill-Fraser was not on the yacht'. It does not, however, refer to the claim made to Mr McLaren in the telephone conversation of 16 January that she had seen a fight aboard the yacht.

44 In evidence before me, Ms Vass admitted that she had signed the statutory declaration, but denied that it was true. Her evidence was to the effect that she had been coerced into signing the document out of fear. She claimed that she had been threatened 'to be put in the boot of a car over that statement, that is the reason why I signed that statement'. She alleged that the threat had been made by a person named Karen Keefe, and that Ms Keefe had made up the false declaration.

45 It was specifically put to Ms Vass by Mr Percy QC that she had in fact met Colin McLaren at the Best Western hotel, and had made a representation to him which was consistent with the representation contained in the statutory declaration. Her answer to this is contained in the following passage from the transcript:

> 'MR PERCY QC: Do you remember meeting a person Colin McLaren?.....Yes I do.
>
> Did you meet him at the Best Western hotel in (indistinct word)?.....Yes I did.
>
> And didn't you tell him the same thing as you told (indistinct words)…..Oh my God, no, he believed everything that Karen said. Him and Karen got together and made this statement up and made me sign it out of fear that I was going to be put in the boot. I can't give you any more to work with please.'

46 In evidence before me, Ms Vass denied ever having been on the Four Winds on Australia Day or at any other time, and could provide no explanation as to how DNA matching hers was found on the yacht.

47 In cross-examination by Mr Coates SC, Ms Vass said that Mr McLaren had said to her 'that there would be money'. However, she continued to deny that she had told him that she had been on the yacht.

The 60 Minutes program

48 After reserving my decision in this application, the applicant applied to reopen her case for the purpose of presentation of some further evidence. I was told from the bar table, without objection, that the evidence relates to an interview conducted with Ms Vass by a journalist during the course of a 60 Minutes program that was aired on television recently. I was aware from media advertisements for the program that the interview was to be aired, but this did not occur in Tasmania and I have not seen the interview. There was no objection by the respondent to the reopening of the application or to the presentation of the evidence.

49 The evidence provided to me consists of an affidavit by Ms Vass. The affidavit purports to have been sworn on 25 February 2019. The affidavit contains direct and detailed admissions of Ms Vass'ss involvement in events aboard the Four Winds on the relevant night. In particular, Ms Vass states that she was present on the yacht then with two identified male companions. She witnessed at least one of the males assault Mr Chappell. She recalls seeing a lot of blood. The affidavit does not directly address what became of Mr Chappell. Ms Vass claims that she cannot recall leaving the yacht or what happened after the assault."

418 Brett J concluded at [50] that the evidence proving each of the out of court representations by Ms Vass constitutes evidence for the purposes of s 402A. His Honour observed that at any new trial, Ms Vass would either give evidence consistent with the representations, or inconsistent with them. If she gave inconsistent evidence, as she did before him, then evidence proving the representations could well become admissible to prove a prior inconsistent statement, pursuant to s 106 of the *Evidence Act* 2001. The representations would then be admissible for a hearsay purpose, that is to say, to prove the truth of the facts asserted in the representation. And his Honour concluded that there could be no question that the evidence is fresh within the meaning of s 402A(10)(a) of the Code, as the representations, to the extent that they were actually made, were not made until well after the trial.

419 A question that his Honour, quite properly, did not decide is whether the evidence of the representations is "reliable" for the purpose of s 402A(10)(b). He only needed to be satisfied, as he was, that it would be reasonably open to the Court of Criminal Appeal to accept such evidence as credible and providing a trustworthy basis for fact finding.

The present proceedings

420 Ms Vass was called by the appellant as a witness in the present proceedings but her cross-examination had not been completed before senior counsel for the appellant Mr Richter QC formally conceded "that the evidence of Vass cannot support the notion of fresh and compelling evidence leading to the miscarriage of justice." He expressly did not abandon the notion of "the DNA evidence" being sufficient for this Court to say that there had been a miscarriage of justice.

421 Thus, despite the terms of the notice of appeal set out above, the only issue on this appeal remaining after various concessions were made, was expressed by Mr Carr SC, also counsel for the appellant, as being whether fresh and compelling evidence as to the manner of transfer of Ms Vass's DNA, taken together with Mr Conde's evidence of a grey dinghy he said he saw, demonstrated a miscarriage of justice at trial.

422 In his closing address on behalf of the appellant, Mr Carr noted that one of the critical aspects of the defence case, advancing a rational hypothesis consistent with innocence, was Ms Vass's DNA being found on the yacht. He referred the Court to the passage in the transcript of the trial at which defence counsel asserted to the jury as follows:

> "Well compound the problems for the director. You'd have Meaghan Vass's DNA being found on the deck of the Four Winds with no rational explanation as to how it got there. We would say to you this, the only reasonable hypothesis is that at some stage Meaghan Vass was on the Four Winds. It is equally a plausible and reasonable hypothesis that she, along with others, went there in the grey dinghy or by some other means and she and/or her friends are responsible or associates, I suppose, as to Mr Chappell's disappearance. It was hardly likely she would admit any involvement in such a serious matter when questioned by the police, let alone in this Court, but what we do know is this; she can't account for where she was on the night of the 26th January, she can give, and did not give, any explanation about that at all".

423 Mr Carr then, in answer to a question from the President of the Court, agreed that ultimately on this appeal, he was asking the Court to look at that hypothesis through the prism of the two reports of the appellant's DNA expert, Mr Jones.

424 The relevant material before this Court then, comprises the trial transcript, which includes the evidence of Mr Grosser, and the evidence given on the leave application by Mr Jones.

425 Upon a careful consideration of all of that relevant material, I respectfully accept as both accurate and pertinent to the issue for my determination on this appeal, the analysis of Brett J in his reasons for judgment on the appellant's leave application at [31]-[35]. His Honour there said as follows:

> "31 The primary issue to which the evidence of the DNA sample is relevant, therefore, was whether there was a reasonable possibility that Ms Vass, despite her denials, had been on board the yacht, either by herself or with others, on the night of 26 January 2009. Evidence which addressed alternative explanations for the presence of her DNA on the yacht was evidence which affected the assessment of the probability of the existence of this fact. One alternative explanation was that the evidence had been deposited directly but at a time other than at the time of Mr Chappell's disappearance, for example, after the yacht had been moved to Goodwood. The further alternative explanation was that the DNA had been deposited by secondary transfer.

32 The only expert evidence concerning secondary transfer of DNA at the trial was provided by Carl Grosser, a forensic scientist in the employ of FSST. Mr Grosser's evidence was, in essence, that secondary transfer was a possible explanation for the presence of the DNA on the yacht. In cross-examination, he was pressed on the degree of probability in respect of this question. It is fair assessment of Mr Grosser's evidence that he was not prepared to express an opinion one way or the other as to whether it was more likely that the deposit had taken place as a result of primary or secondary transfer. He clearly said that this depended on the surrounding circumstances, and without a knowledge of those circumstances, it would be impossible to speculate. In respect of a suggestion that the deposit had been transferred onto the yacht on the bottom of someone's shoe, Mr Grosser said that he had not seen or experienced such a scenario before.

33 Senior Counsel for the applicant on the hearing before me made the point that in an email provided to the defence late in the trial, Mr Grosser had also expressed the view that there was a relatively large amount of DNA present which was more likely to have come from bodily fluids, blood, saliva, than a simple contact touching event. The point is made that this evidence was not disclosed to the defence prior to the trial. The email was not before the jury. However, Mr Grosser made no secret in his evidence of the fact that he considered there to be a large amount of DNA. The only real significance of the amount of DNA was its inconsistency with transfer by way of contact touching, and the factual improbability of DNA in that quantity being brought onto the yacht on the bottom of someone's shoe. The contact touching scenario had little relevance to this issue. The primary issue was whether the substance containing the DNA had been deposited by Ms Vass directly, or whether that substance had been brought onto the yacht by someone else.

34 On this application, the applicant presented evidence from Maxwell Jones. Mr Jones is a forensic scientist employed by Victoria Police. He would seem to have similar expertise to that of Mr Grosser. In 2014, he was asked by the applicant to review the evidence relating to the DNA sample. Mr Jones's evidence before me included an expression of the following opinions:

(a) Test results, in particular, an electropherogram support the proposition that the profile matching the DNA of Ms Vass has come from a good or strong source of DNA.

(b) This is not consistent with the touch scenario, for example, a momentary touch from a hand.

(c) The test results indicate 'a greater quantity of biological material in the sample'. This supports the proposition that the sample was taken from a 'good source of biological material'.

(d) In addition to the quantity of material, it would be expected that the biological material would be something which could be classed as material which is likely to provide a strong DNA profile, for example blood, saliva, semen or nasal secretion.

(e) Mr Jones was taken directly to the proposition that the mechanism of the deposit of DNA was by way of secondary transfer, for example, on the bottom of a shoe. His response was that it was possible that the DNA was deposited this way, but the probability of it having occurred depended on many variables, which he discussed in some detail. However, he completed his answer to the question by saying:

> '... it's very hard to imagine that would occur to the extent that would result in a DNA profile like the one which the Forensic Science Service Tasmania produced from that sample, being a strong DNA profile.'

(f) Mr Jones also observed that in view of the transfer scenario, if the material was blood, then it might have been expected that one would see the material in other places on the yacht. However this would not necessarily be the case in respect of other body fluids, for example saliva.

(g) A proposition was put to Mr Jones in evidence-in-chief to the effect that having reviewed the electropherogram he could now say on the basis of his expertise that he 'would expect this to be a primary deposit of some sort of biological fluid'. His answer was as follows:

> 'I don't think it's fair to say I would expect it to be. I said without knowing anything, if I saw the profile, I would – it's the sort of profile you would obtain from a primary deposit, or if it was a – if I was to contemplate a secondary transfer scenario, I would be contemplating the transfer of a significant amount of biological substance, of biological fluid of some type. I couldn't rule that possibility out also, but it's certainly not the touch scenario. I'd certainly rule that out quite confidently.'

(h) Finally, Mr Jones agreed in cross-examination that DNA in the location in which it was found, and having regard to the conditions to which it would have been subject, would have degraded quickly. The period would have implications in respect of the timing of its deposit.

35 The significant aspects of Mr Grosser's evidence at the trial were put to Mr Jones in cross-examination. He universally responded by indicating that he did not disagree with what Mr Grosser had said. The principal difference is one of emphasis. Mr Grosser would not be drawn on an assessment of the likelihood between primary and secondary transfer, whereas Mr Jones was prepared to say that although it depended on the surrounding circumstances, the nature of the DNA profile was not typical of secondary transfer. However, a fair analysis of his evidence would reveal that he still leaves open the possibility of secondary transfer and hinges the relative probability between primary and secondary transfer on determination of the surrounding circumstances. He and Mr Grosser are unified in the position that the surrounding circumstances are essential to determining the relative probability between primary and secondary transfer. Each correctly and appropriately conceded that those are matters outside his area of expertise. They are, in fact, a factual question for the jury."

The law

426 The relevant provisions of the Code are set out earlier in my reasons. The question may be distilled as one of whether Mr Jones's evidence concerning the nature and quality of the DNA sample taken from the walkway of the *Four Winds* on 30 January 2009 and as to the likelihood of its secondary transfer, is fresh and compelling evidence within the meaning of s 402A of the Code, and whether if so, that evidence demonstrates a miscarriage of justice.

427 In *Van Beelen v The Queen* [2017] HCA 48, 349 ALR 578, the High Court confirmed that the relevant test for a substantial miscarriage of justice in a case such as the present, is the test laid down in *Mickelberg v The Queen* (1989) 167 CLR 259. That is, whether the court considers that there is a significant possibility that the jury, acting reasonably, would have acquitted the appellant had the fresh evidence been before it at the trial. Counsel on the present appeal were agreed that the *Mickelberg* test was the test to be applied by this Court.

Is the evidence fresh?

428 In oral argument, Mr Coates SC submitted that there was no evidence before this Court that the relevant aspect of Mr Jones's evidence was fresh. Echoing the respondent's written submissions, he argued as follows:

> "Now, the question of freshness. There's been no evidence adduced and this is not a point we've just raised for the first time. We've raised this right from the word go. There's been no – no evidence adduced from the defence counsel.
>
> Now – and particularly, no evidence I understand – sadly Mr Gunson's deceased, but there's been no evidence adduced from his junior about firstly, what evidence of who

> they spoke to in relation to the scientific evidence of why, secondly, of why they made the decisions they did. For all we might know they might have spoken to a number of scientists. The evidence from Mr Jones is that there's nothing new in what he said. That he (indistinct word) – that it – there was nothing new in what he – he said. That if he was briefed back in 2009 or '10 he would have said the same. That there are numerous obviously scientists around the country. This is not a case like *Van Beelen* where there is new scientific evidence, doctor – Mr Jones – sorry, didn't suggest anything that he said hadn't – couldn't – was new.
>
> Now, there's I accept some latitude given to accused persons about what's reasonable. But there's been no evidence to adduce what the position was of the accused. We know she was represented by extremely – an extremely experienced counsel and a junior. That they've adduced no evidence about their funding, indeed they've adduced, as I said, no evidence on what they were thinking or who they consulted with. And for all – and the onus is on them. For all your Honours might know they could have spoken to a scientist who told them exactly the same as this, but chose not to call the evidence because, one, as I said, the evidence is more favourable to the Crown particularly in relation to one or two days. And secondly, they might have considered it not worth losing their last right of address over."

429 The appellant's answer to this submission is that the questioning of Mr Grosser in relation to the possibility of DNA being transferred in the way ultimately suggested by Crown counsel at trial, that is to say, secondary transfer, was allowed over objection by defence counsel that the opinion evidence had not been the subject of prior disclosure by the prosecution to the defence.

430 The appellant relies for this submission on what was said in a joint judgment of the South Australian Court of Criminal Appeal in *R v Keogh (No 2)* [2014] SASCFC 136 at [102] namely:

> "An applicant bears the onus of establishing that evidence relied upon for this purpose is fresh. The question of whether evidence was adduced at trial for the purpose of 353A(6)(a)(i) may be determined by having regard to the transcript of evidence at trial. The requirement in section 353A(6)(a)(ii), that the evidence could not, even with the exercise of reasonable diligence, have been adduced at trial, *requires an objective assessment of what the applicant could reasonably be expected to have done in all of the circumstances leading up to and including the trial*." (Emphasis added.)

431 The appellant also relies on *R v Drummond (No 2)* [2015] SASCFC 82 at [174] per Peek J, where his Honour said, after reviewing the common law cases as to fresh evidence:

> "Of course, the present application is made pursuant to s 353A of the Act and the question of whether the evidence is fresh remains to be answered. However, the above authorities are relevant to that question because, *when assessing whether defence counsel used reasonable diligence, one must take into account that counsel is entitled to assume that the prosecution will disclose to the defence relevant evidence and material* and, *a fortiori*, that the prosecution will not lead false or misleading evidence as part of its case. Further, when making an assessment of whether there was reasonable diligence, *the court will extend to an accused great latitude*. (Emphasis added.)

432 In my view, the relevant opinion evidence of Mr Jones summarised at [34 (a) – (g)] of Brett J's reasons on the leave application set out at [425] above must, in "the circumstances leading up to and including the trial", be regarded as fresh evidence. It is not suggested that the tests carried out by Mr Jones, including having recourse to the electropherogram, could not have been conducted in 2009. However as I apprehend it, recourse to the electropherogram was not routine and, in my view, it could not reasonably be expected to have been sought out by the accused in all of the circumstances.

433 Notwithstanding the lack of any evidence from trial counsel, it is evident to me from the way Mr Grosser's evidence was led, and objected to, and subsequently cross-examined, that his opinion had not been disclosed to the appellant up until the time that evidence was introduced at trial. Extending

"great latitude" it could not, on an objective assessment, fairly be said that "with the exercise of reasonable diligence", Mr Jones's evidence could have been adduced at the trial on behalf of the accused.

434 I accept the submission of Mr Carr in his closing address to this Court, namely:

> "So, when one extends great latitude to defence counsel, looks at the context of this trial with its complexities, its volume of material and so forth, and the stage of the trial when this evidence was led without disclosure, one readily reaches the conclusion, in our submission, that evidence answering or addressing that evidence that was led by the director is fresh."

435 In my view the evidence is fresh within the meaning of s 402A(10)(a) of the Code.

Is the evidence compelling?

436 In his closing address at trial, Crown counsel told the members of the jury:

> "The two …big red herrings that were raised in this trial were firstly the so-called other dinghy that was (sic) Four Winds in the afternoon and the young girl Meaghan Vass…
>
> I suggest but (sic) the whole thing is such a red herring because when you realise that the DNA could have been transferred from someone on to the Four Winds, and the number of people who were there and where they came from it's – it was refinement of that red herring to say, 'Were you down at Constitution Dock,' as if she had necessarily stepped aboard or even if someone had necessarily acquired some trace of her DNA, some strong sign of her DNA on their footwear before getting on the yacht...
>
> They could have got – got in – they could have acquired that any way in Hobart. I suggest anywhere she might have been. And, we don't know where she's been, nor can she be expected to remember where she was on the 26th of January, but, it could have been put there at any time before the DNA swab was taken by anyone who had acquired some trace on their footwear at any place and then maybe got in the car, driven down and got out and on to the boat and transferred it. All those things- physiologically possible all things go to explain this finding."

437 I will turn in due course to the transcript of all of the evidence of Mr Grosser given at trial that might have enabled those submissions to have been fairly made, but for present purposes I note, as observed by Brett J at [35] of his reasons set out above, that the principal difference between Mr Grosser's evidence at trial and Mr Jones's evidence on the leave application, was that Mr Grosser would not be drawn on an assessment of the likelihood between primary and secondary transfer, whereas Mr Jones was prepared to say that although it depended on the surrounding circumstances, the nature of the DNA profile was not typical of secondary transfer.

438 I also note that in the second of his two expert reports tendered on the leave application, Mr Jones opined:

> "If the tread of a shoe retaining a moist biological substance was to be acknowledged as the likely means of the transference I believe it is reasonable to anticipate that at least one other similar stain resulting in the same DNA profile or part thereof would have been expected to have been deposited on the deck of the Four Winds as the person moved about the yacht. No such stain appears to have been detected by forensic scientists from FFST based on the six pages of DNA profile table headed, DNA Profiling Court Report. Therefore there is no evidence to support the hypothesis that the DNA detected in sample 20 was the result of a secondary transfer event caused through foot traffic on the deck of Four Winds."

439 When cross-examined on the leave application Mr Jones said, in reference to the DNA being found on the yacht, that he could not "rule out" that it was a possibility that it got there by someone walking onto the vessel because he could not exclude "a very rare occurrence occurring".

440 The approach taken by Mr Coates in cross-examination of Mr Jones on the leave application was, in the main, to read him selected passages from Mr Grosser's evidence at trial and to ask Mr Jones whether he disagreed with that evidence as read to him. Mr Jones answered in respect to the passages put to him that he did not disagree with them, but when his answers are scrutinised there is, as was submitted by Mr Carr "a stark distinction between what was said by Mr Grosser at trial and what was said by Mr Jones in his evidence on the leave application" with respect to the crucial circumstances necessary for a secondary transfer of Ms Vass's DNA.

441 So, for example, with reference to the area of the yacht where the DNA was located, Mr Jones said "[w]ell, overall I don't disagree with anything. We're dealing as I say, with a walkway which, well thereby its name, people walk and so obviously if there is going to be any transfer from a shoe that's where you're going to find it." However when pressed about that location being directly opposite the "gateway" on the boat he answered, "So, look, there's that consideration, if somebody just prior, *immediately prior to stepping on*, if there was a jetty next to the boat there and they stood on something there *where there was a large amount of material, a visible amount*. It was perhaps moist as well. Then took *one or two steps* then placed that foot onto the deck *and there was moisture* and some friction involved. Well if that were to occur I don't think I could totally rule out a transference to – to produce such a profile *but it would take a close specific set of those sort of circumstances*." (Emphasis added.)

442 To my mind, the requirement, as Mr Carr put it for "a concatenation of quite specific circumstances with a very close connection between the picking up of the DNA and its deposit on the deck of the *Four Winds*" is compelling evidence within the meaning of s 402A(10)(b) of the Code.

443 The evidence is clearly reliable and it is substantial given that it is contrary to the way the matter was put to the jury at trial. That evidence would not have allowed Crown counsel to properly put to the jury that the probability was that Ms Vass's DNA was simply somehow picked up anywhere in Hobart, by someone wandering around, then getting in a car, driving to the dock and walking onto the yacht. Again, as Mr Carr submitted to this Court, "[t]hat hypothesis, which was the way that the director deconstructed this pillar of the defence case at trial, is simply not possible on what Mr Jones said …"

444 Finally, on this issue of whether the evidence is compelling, I am satisfied that in the context of the issues in dispute at the appellant's trial, it would have been highly probative of her case, based as it was on a contended hypothesis that Mr Chappell's death was caused by another person or persons boarding the yacht around the time of his disappearance. It would have cast significant doubt on Ms Vass's denials that she had ever been on board the vessel.

Was there a miscarriage of justice?

445 Pursuant to s 402A(6) of the Code the Court may uphold a second or subsequent appeal of a convicted person if satisfied that there is fresh and compelling evidence, and that after taking into account the fresh and compelling evidence, there has been a substantial miscarriage of justice.

446 As is clear then, the remaining question for my determination is whether there has been a miscarriage of justice. In order to demonstrate that there has been, it is necessary, as has already been observed, applying the *Mickelberg* test, for the appellant to establish "a significant possibility of an acquittal". That is, whether the Court considers that there is a significant possibility that the jury, acting reasonably, would have acquitted the appellant had the fresh evidence been before it at the trial.

447 That question is not to be answered by the members of this Court putting themselves in the shoes of the trial jury, but rather by proceeding on the record, accepting the disadvantages of the record and making an objective determination of the existence or otherwise of a substantial miscarriage of justice; *Weiss v The Queen* [2005] HCA 81, 224 CLR 300 at [38]-[40].

448 In his closing address on this appeal Mr Carr submitted:

> "Now, with the obvious limitations of proceeding on the record, this court nevertheless, in our submission, can clearly apprehend that there was a substantial miscarriage of justice by reason of the evidence of Jones that would have destroyed the methodology by which the prosecutor sought to remove the pillar of the defence case at trial, namely through the transference of Ms Vass's DNA onto the boat.
>
> And once it's accepted that that is the effect of Mr Jones's evidence; that is that his evidence destroys the ability of the prosecutor to do what he did at trial and pull away that pillar of the defence case, then it inexorably follows in our submission that with the replacement of that pillar the verdict might very well have been different."

449 In relation to this question Mr Coates and Mr Shapiro, in their written submissions, focussed heavily on the strength of the circumstantial case against the accused (which is summarised earlier in these reasons), in particular on her knowledge of the vessel, the numerous lies that she told to police and the evidence of Mr Triffett. They concluded:

> "Further, in considering whether there has been a miscarriage of justice (casting aside the other pre-conditions of s 402A that have not been met), when looking at the Crown case at [31]-[124] in its entirety and not in a piecemeal fashion, what emerges is a strong circumstantial case supported by the evidence of Mr Triffett. There is nothing in the above that undermines this case to the extent that it is arguable that there is a significant possibility that the appellant would be acquitted."

450 The relevant inquiry certainly requires a consideration of the whole of the Crown case, but it also requires an analysis of the way in which that case might have been impacted if a jury had been exposed to the evidence of Mr Jones, which evidence had the capacity to have reduced the Crown's ability to negative an hypothesis consistent with innocence, by reference solely to Mr Grosser's guarded opinion.

451 Neither Mr Ellis SC, in his opening address to the jury, nor Mr D Gunson SC in his reply, said anything relevant to the question of DNA evidence in general, and nothing specifically as to Ms Vass's DNA. Presumably this was because at the commencement of the trial it was not known what Ms Vass's evidence would be. It will be recalled that she he had declined to make a statement to police after she serendipitously came onto the State DNA register in March 2010 and was matched to the sample taken by police form the yacht. She was first examined on a *Basha* inquiry in the absence of the jury after the commencement of the trial. The trial commenced on 21 September 2009. Ms Vass was called as a witness on 29 September and Mr Grosser was called on the same day, but subsequent to Ms Vass. As is well known, Ms Vass denied ever having been on the yacht. She said that she did not remember if she went to the area of Constitution Dock in January and February 2009, and she did not remember going to an area of Goodwood near Negara Crescent where there was an industrial estate and some yachts in January 2009.

452 Relevantly in his evidence in chief Mr Grosser was examined by Mr Ellis SC and responded as appears from the transcript of the trial, as follows (the passage includes Mr D Gunson's objection and overruling of the objection):

> "Thank you. Now item 20 is a swab from the starboard walkway, Four Winds, and when you examined it didn't match any individual, it was a female who didn't match any individual. Now later, was a reference sample from Meaghan Vass put on the database?…….That's right, yes, it – after this report was originally prepared a sample from Meaghan Vass was tested in the laboratory and found to match the profile from sample 20.
>
> And that's a positive match, it's a certain match – I shouldn't say certain, it's a one in a hundred million?…….That's correct, the profiles were the same that we obtained, and again, the chance of another person matching is less than one in a hundred million -
>
> We - ……..- if that person was unrelated, obviously.

Oh – now, we've heard from Ms Vass today in this trial -…….Okay.

- and she's been shown a picture of this boat, Four Winds, from which the swab was taken, which apparently matches her DNA, and she said that she's never been onboard it and she can't recall being near it was –

MR GUNSON SC: I object to the question in this form, your Honour, it's not the subject of any proof at all.

HIS HONOUR: Well if this hasn't been proofed the – that doesn't make it inadmissible. If you need time to – to plan your cross-examination of the witness you can ask for it later. But I will allow the question to continue.

MR ELLIS SC: Thank you, your Honour.

HIS HONOUR: Mr Ellis?

MR ELLIS SC: Thank you, your Honour. (Resuming): How – I'm sorry, is it possible that a person who hasn't been on that surface from which the surface – from which the swab has been taken, is it possible that she hasn't been there, notwithstanding that a swab has revealed her DNA?……It is entirely possible. One of the things about DNA – it's fairly common in bodily fluids and those sorts of things, blood saliva and once that's outside of a person's body, or off a person's body, there is a potential for that to be transferred in some way, so if for example I was to bleed onto a tissue, somebody could pick that tissue up and spot it against a wall and then there would be a blood stain on a wall that I'd never seen that potentially carried my DNA.

The presence on the surface of a walkway, would that indicate anything to you about a possible transfer?.....It's a possibility. Logically on a walkway you're going to get a lot of people passing over that particular area and potentially the mechanism for that sort of transfer to occur could be on the bottom of someone's shoe or something like that – you could step in something and transfer DNA that way. That's sort of logically what goes through my head, but again it's speculation. I can't say categorically that's what's happening in this case.

Yes, it's a reasonable possibility based on logic, is that right?.....It's a possibility, yes, that's correct."

453 Mr Grosser was cross-examined as follows:

"<XXN – MR GUNSON SC: Now just come back first of all to this question about Ms Meaghan Vass'ss DNA turning up on the deck of the Four Winds. You are aware it was on the deck of the Four Winds aren't you?....I'm aware of the approximately location, yes.

Yes, about nine and a half metres I think from the bow on the starboard side…..I believe that's correct.

All right. Now you gave us some examples of how bodily fluids can be transported, we were given the example of a tissue with blood being moved and I think you said it's possible on a walkway where a lot of people could transfer DNA. Now what we've got here in the evidence is a complete denial by Ms Vass that she was on the boat but we have her DNA on the deck. Now she said she's never been – she wasn't at Constitution Dock during the period when the boat was there, and she said she didn't go to Negara Crescent at Goodwood where the boat was moored subsequently -…….Okay.

- and was tested. So we don't have her out at Goodwood spitting on the ground or leaving any other DNA on the ground, and we don't have her at Constitution Dock spitting and being picked up on somebody's foot and deposited on the yacht. Now would you not say in those circumstances that your suggestion that it's equally possible by this methodology her DNA was left on the yacht is simply likely to be impossible – she's nowhere near the thing?…….There – there's two points that I guess I need to

clarify. The first one is that the DNA profile that I obtained matched that of Meaghan Vass, and while it's highly unlikely that there's a second person that would also match that DNA profile, it is possible. There's also the possibility of an identical twin, identical twins –

Well she's ruled that out.…….- will actually DNA profiles –

She isn't a twin.…….Okay, she hasn't got a twin.

She's told us she's not a twin.…….Okay. And beyond that I guess another issue is that we can't actually time a DNA profile or put a specific time on when DNA was deposited on an item, we can only detect its presence and then analyse that. So potentially that DNA profile may have actually been on the boat for some time. It may not have been as any result of this investigation at all. I –

The boat came down from Queensland in – it got to Hobart on the 24th of December and been sitting on a mooring ever since.

MR ELLIS SC: Well that really is argumentative and misleading, in my submission. My learned friend knows perfectly well that many people have been out to the boat – the Chappells, Timothy Chappell has given evidence, Susan Chappell, they've all been there via Marieville Esplanade, via various other things. Now to put this as a proposition, in my submission, is quite misleading.

HIS HONOUR: Well what's your question, Mr Gunson?

MR GUNSON SC: I'll put it another way. (Resuming): Assume for the purpose of this question that the boat has been on its mooring off Sandy Bay since the 24th December and taken out on a couple of pleasure cruises, brought into a marina once during that period and there's no evidence of Miss Vass being anywhere near the yacht at any stage I suggest to you the likelihood of her DNA being accidentally transferred onto the yacht is near impossible?……I – I can't make any assessment about the possibility of transfer without having some knowledge of where it may have come from, what kind of scenario we're talking about, so this feels a little bit speculative to me in that we've detected this DNA profile and all we can say is that it was present in the sample that we tested and that's the result that we got. I really can't say with any degree of certainty that given a certain scenario it's impossible that it could have got there any other way than by her being present on the boat, so I'm not really sure –

The strongest likelihood, I suggest, is that it's got onto the boat by her presence on the boat, that's more likely than not, isn't it, the rest are just fantasies?……No, I can't agree. ***I think basically what we've got is some suggestion that there's possibly a large amount of DNA that may have originated from Miss Vass present on the boat and as to how that got there I really can't say that any one particular scenario is vastly more likely than another scenario***.

I say it's more likely than not – I'll put this another way. The suggestion that it was accidentally transported there is less likely than the obvious answer, which is she was there?……I don't know that I can realistically assess those two likelihoods, I – you know, if she's testified and has some particular proof that there's no way she could've been there then I would have to say that it's more likely that there's transfer onto the boat. If she had no way to say that she hasn't been anywhere near it and no proof that she hasn't been anywhere near it then I would say potentially that that may be a more likely scenario. ***But without any indication as to how likely it was, that she could have had access to the boat, I can't say***.

It's a question of access to the boat; it's a question she says, 'I didn't go on the boat'. She hasn't said where she was on those days when the – before the DNA was found she simply says, 'I didn't go on it'. Now you don't need to trouble yourself about how she might have got there, that's an entirely different matter, but the likelihood of it accidentally being deposited is far less than it being deposited through her presence?……I really can't answer that because it does depend on whether her presence is possible or not. If we knew for instance that she was overseas skiing in Canada at

the time then we would know that there was no way she could have had access to that boat and then transfer is by far the most likely scenario. ***If, however, we know that she was in Hobart and potentially around the area then each of those scenarios seems like a likely possibility to me and I can't give you any indication of the relative strengths of those possibilities.***

How many occasions have you dealt with transfer of DNA in the sort of circumstances we're talking about, how many times have you come across it in your career?……Transfer is one of those things that's potentially quite difficult to identify so I could have inadvertently come across transfer of DNA evidence numerous times without knowing it it's not until you see –

Confine yourself to the question which was on how many occasions have you come across transfer of DNA –

MR ELLIS SC: Well, your Honour, the witness shouldn't have been interrupted, in my respectful submission, he was trying to explain, he might have come across it many times without knowing it but he's just been interrupted and cut off and now allowed to answer.

MR GUNSON SC: I asked him a very simple question. How many times has he identified transfer -

MR ELLIS SC: Well I have an objection –

HIS HONOUR: Well now just a minute. I think he – Mr Gunson, I think he was trying to answer in his own way. What he'd got out was that he could have inadvertently come across transference in the past. What he – look, I'll ask a couple of questions – it might cut through this.

WITNESS: Okay, your Honour.

HIS HONOUR: Have you ever knowingly come across transference in the course of your work where someone's DNA has been transferred to a place where that person hasn't been?

WITNESS: I'm – I'm not certain that I could categorically say that I haven't, but I'd say that if I have it would be very rare.

HIS HONOUR: All right. Back to you, Mr Gunson?

MR GUNSON SC: (Resuming): Thank you. Now no example springs to mind – you can't say, for instance, in court case XI was satisfied after being cross-examined that my view about the DNA being there was wrong and that it had been transferred by somebody's footprint or something like that – there's no case like that you've been involved in, is there?…….Again, without going through the detailed background of my cases, I believe that I haven't identified transfer. But the problem with having or being able to identify transfer is that it requires additional knowledge, like I was suggesting before about being on holidays in Canada, but typically when we're doing our DNA profiling we're not privy to any of this additional information and we're just basing our information off the samples that we receive at the laboratory and the results that we get. Typically it might come out later in the case that transfer is the most likely explanation for the results that I've obtained. But I don't tend to follow the cases through to see what actually the outcome was in the courtroom.

You've never been involved in a case where it's been suggested to you that DNA at point X, wherever that might be, was as result of transfer, have you?…….In fact, that has been suggested a number of times, quite frequently in casework defence lawyers will lead suppositions to – to myself to suggest that the DNA profile that I'm observing on a particular item somehow might have been transferred onto that item without the person whose DNA profile I'm detecting having ever come in contact with that item or seen that item. So it is actually presented quite frequently as an explanation for how a DNA profile I've observed came into being.

> But normally you're in a position where you say that couldn't occur?…….***Normally I'm in a position where I say that I can't make any inference either way as to how that could have occurred. I'd agree that both possibilities are possibilities***.
>
> And transfer of DNA by being picked up off the ground through, I submit, some expectorant or something like that, haven't come across that, have you?……I don't believe I've come across DNA that I've known categorically has been carried from one place to another through spittle or something on the ground that's been walked.
>
> On a shoe perhaps?……On a shoe, yeah, I don't believe I've seen any of that.
>
> Thank you. And that could have come, of course, from Ms Vass'ss – her bodily secretions by spit or menstrual blood or a cut – something like that – that gets on someone's shoe…yes.
>
> Who walks on the deck….Potentially anything that would be carrying a lot of DNA from that individual could have been transferred onto that…
>
> Now let us think about how DNA from Miss Vass could be on the boat if she had been on the boat, what sort of substances might have been on the deck that ……. If DNA could be extracted from?…….If we took the assumption that she had been on the boat there could be any number of substances that could have originated from within her body. So you'd be talking about potentially blood, saliva, sometimes even contact, you can have DNA in your sweat and if you touch something you could leave DNA behind that way.
>
> So a person who was touching the deck with a sweaty hand could leave DNA behind?…….Quite – quite possibly, yes.
>
> Somebody had spat on the deck may – would leave DNA behind?…….Quite – I believe so, yes.
>
> Yes. If we – a person just rubbed their hand across the deck, it's possible to leave a skin – a piece of skin behind, minute particles of skin from which DNA could be extracted?.....That's also possible, yes.
>
> Yeah. And the obvious one, of course, is blood, and we know it wasn't that, so it's more likely than not it's one of those others we've mentioned?…….We – we don't know categorically that it's not blood. We know that we've done some testing and – and that we haven't been able to prove that there is blood there, but it doesn't actually automatically mean that there isn't blood there.
>
> And I think Ms McHoul, it's possible there could have been a minute sample or portion of blood inside whatever it was to make it luminol positive, but the blood couldn't be extracted?…….Okay, Debbie's the expert in that area, so I'd have to defer to her opinion on that.
>
> All right. But when you do your DNA tests, you don't, unless it's glaringly obvious it's blood or something like that, you don't actually identify the substance from which the DNA is being extracted?…….That's right, no."

454 Mr Grosser was not re-examined.

455 I have already set out excerpts from Crown counsel's closing address to the jury to demonstrate the manner in which the defence hypothesis was able to be trivialised as a "red herring", a metaphor or analogy he used some 48 times in that address. It is appropriate however in the context of the present inquiry, as to whether the fresh and compelling evidence results in a miscarriage of justice, to set out the relevant parts of trial counsels' closing addresses and of the learned trial judge's summing up.

456 Relevantly, Crown counsel addressed as follows:

"Well I want now to just mention some of the red herrings and so on that have been thrown about. No doubt you'll hear much more about them from Mr Gunson when he speaks to you, after all it's been the way the case has been conducted I suggest, red herring, red herring, red herring, with the boats, must add up to a doubt, you've got so many red herrings. It's like that interesting program that the man from the Victorian police showed us how you can look at the bottom of the Derwent, there was a school of fish, well it could have been a school of red herrings as far as this case is concerned because that's how many have been strewn about…

The two – two big red herrings that were raised in this trial were firstly the so-called other dinghy that was at Four Winds in the afternoon and the young girl, Meaghan Vass and in both cases when they were raised and pursued very, very energetically by her counsel, Mr Gunson, Ms Neill-Fraser apparently knew things that would undermine that very energetic geeing up of an issue, that energetic, 'Look over there at Meaghan Vass's. Because, it seems, it was never suggested it was said to police, it seems that she now says anyway that the boat when it was at Goodwood was entered and some things were taken, wrenches. Now I've suggested that wrenches have been on her mind as a sort of implement that she used to kill Mr Chappell. It was never suggested that when police came she informed them of this and we've had Meaghan Vass, a sixteen year old homeless girl, bullied and chased around by Mr Gunson all because some of her DNA was found in the one spot on Four Winds, one spot, one spot only, on the top of the deck – a sixteen year old girl. And the idea was to making you think that she could or was – to make a reasonable doubt in your minds that she was connected to this killing – but that gained her what? 'Where were you living on the night of the 26th?' 'Don't know' – two different stories, oh, homeless girl, two different stories. Treated ferociously, treated ferociously, while all the time it seems that she may have been in the Goodwood area, maybe she had something to do with an entry there, maybe not – probably not, ***I suggest, but the whole thing is such a red herring because when you realize that the DNA could have been transferred from someone onto Four Winds, and the number of people who were there and where they came from, it's – it was a refinement of that red herring to say, "Were you down at Constitution Dock then?" as if she had necessarily stepped onboard, or even if someone had necessarily acquired some trace of her DNA, some strong sign of her DNA on their footwear before getting on the yacht. They could have got in – they could have acquired that anyway in Hobart, I suggest, anywhere she might have been, and we don't know where she's been, nor can she be expected to remember where she was on the 26th of January. But it could have been put there at any time before the DNA swab was taken by anyone who had acquired some trace on their footwear at any place and then maybe got in the car, driven down and got out and onto the boat and transferred it. All those things are logically possible, all things go to explain this finding, which of course has been disclosed to Ms Neill-Fraser, it's been thoroughly investigated, which was always on the DNA chart as an unknown person until she got into some sort of trouble with the law and her DNA became on the database and it was matched. But where does that leave us? Where did that red herring take us? Why was that girl pursued? Why was she bullied and argued with so fiercely? Was it because it was wanted for you to seriously entertain a reasonable doubt that she's responsible for this killing?*** That she, a complete stranger to it all, a sixteen year old homeless girl, has gone down to Marieville Esplanade untied, as it happens, the very dinghy, the very dinghy, which belongs to Four Winds, even though it isn't marked as such, there's no Four Winds dinghy, taken that very dinghy to Four Winds by coincidence, committed an atrocious crime for no reason, taken the body out somewhere in order to cover up that crime and come back. Well that's a long bow but when you're desperate, when you're desperate, anything will do when you're conducting your case on the basis that, well we'll raise anything that comes along and the jury are going to have to have a reasonable doubt about that because, you know, there's her DNA after all, what – CSI, DNA, she's all the same, whatever the theory was, but it was a theory, I suggest, a theory of how to pursue this case which was one and the same with how Ms Neill-Fraser had conducted herself with the police. To suggest false trails of investigation to point away from her anytime you can. Meaghan Vass, a red herring, a red herring, should not have been, I suggest, pursued in this case but when you're addressed next you'll probably hear more of." (Emphasis added.)

457 Defence counsel addressed the jury, relevantly, as follows:

"Now as that address went on, and I listened with great interest to Mr Ellis, as I'm sure you did too, I added some other adjectives. They were these, and I'll talk to you about each of them, cynicism, sarcasm, fantasy and misleading coupled with an element of hypocrisy. Let me tell you why I say those things. You may think that's a harsh comment to make. Fantasy, the way in which he belittled the DNA evidence relating to Meaghan Vass, pure and absolute fantasy. He would have you accept that somehow, magically, perhaps by the DNA pixies, this DNA arrived on the deck of Four Winds, or was perhaps trampled there in circumstances which he couldn't really explain. He started to suggest that perhaps it had been put there out at Goodwood, conveniently ignoring Ms Vass's evidence she'd never been there and then I thought backed away from that one, and I think at the end of the day it was a situation, 'well, we really don't know how it got there'. But it is pure fantasy to suggest that it was somehow trampled on board. If that was the case, you'd be surprised at – you wouldn't have been surprised to learn that half of Hobart's DNA wasn't found on the deck, having been dragged on there by the feet of various people who went on board. Hypocrisy, the laying of false trails, Mr Ellis was very happy during the course of his submissions to suggest that false trails had been laid by the accused, false trails had been laid by me, which would lead you to basically reject her case…

But you see, it is necessary, and I understand why Mr Ellis has done this, it's necessary for him to describe that grey dinghy as white and to try and convince you you're all as colour blind as he is, apparently, to believe that grey means white and white means grey, and for him to dismiss Meaghan Vass's DNA evidence as a 'red herring' because he knows full well that these issues have irretrievably damaged his case.

Now if something apparently doesn't suit Mr Ellis' case and he doesn't like it, then it's immediately labelled a 'red herring' – 'it's a red herring or we don't like that – the grey dinghy is a red herring, we don't like that, what a horrible red herring that is – chuck it aside members of the jury, ignore it'. Well if you do that you'd ignore your oath. 'Chuck aside the DNA IT doesn't fit my case and I'm sorry it's here but just ignore it, it's a red herring', and I would suggest to you that Mr Ellis' fascination with red herrings and to describe any evidence that he doesn't like, which doesn't suit the prosecution case, is singularly unhelpful to you as members of the jury, when setting about determining this case…

Now in his closing address Mr Ellis said many things to you over a period of about two hours, the total time he devoted to what we say are the critical issues in this case, which are the existence of this grey dinghy and Meaghan Vass's DNA, was about two minutes. Now I'm going to have to take you through those and tell you things about them and I'll do that in due course…

Well compound the problems for the director. You'd have Meaghan Vass'ss DNA being found on the deck of the Four Winds with no rational explanation as to how it got there. We would say to you this, the only reasonable hypothesis is that at some stage Meaghan Vass was on the Four Winds. It is equally a plausible and reasonable hypothesis that she, along with others, went there in the grey dinghy or by some other means, and she and/or her friends are responsible – or associates, I suppose, as to Mr Chappell's disappearance. It was hardly likely she would admit any involvement in such a serious matter when questioned by the police let alone in this court but what we do know is this. She can't account for where she was on the night of the 26th January 2009. She can give and did not give any explanation about that at all. I'll come back to that a little later…

Let's now have a bit of think about Meaghan Vass and her involvement? Well, what do we know about her DNA and where it was on Four Winds? Ms McHoul, the forensic scientist, said it was found in area, I think, 11, which was nine and a half metres approximately from the bow of Four Winds, which puts it on the starboard side of the boat right near the entry point – on that side, and that was confirmed by Constable Sinnitt in cross-examination. It is obvious from the scientific evidence that there was a significant amount of DNA. It was enough to show up in the luminol test, and to be extracted from the deck for the purpose of DNA testing. What it was, the experts could not say, they couldn't say to you, what part of the body it came from, whether it was from her skin, whether it was sweat, whether it was expectorant, you know for instance,

she'd spat on the deck, or what it was – or whether in fact it was a bodily fluid that contained a very minute portion of blood – we don't know. But Meaghan Vass left DNA on that deck. We say to you that the efforts by the DPP to try and suggest that her DNA got there by transference is not credible That was a desperation ploy, absolute desperation, and you might remember when the Forensic Scientist was giving evidence, he was very uncomfortable, in my submission, about what he was being asked to do, trying to explore the – that was Mr Grosser – he talked about, 'you know, well I would only exclude it, for instance, by some other means if she was in Canada and I knew that, or something like that.' So we get the, 'oh well, it could have got on her because she was maybe at Constitution Dock'. Well, it wasn't bad. Remember the boat was under video surveillance all night. So if you go on board the boat on the 27th when it was at Constitution Dock, she said she was nowhere near there. She said she'd been nowhere near the Clean-Lift Marina at Negara Crescent, and whilst Mr Ellis this morning tried to suggest that maybe, notwithstanding her denials that she got on the boat there, he seemed to fade away and say, 'well, it probably didn't really matter'.

Now where was the boat before it was at Constitution Dock and before it was at Negara Crescent Woodwork Clean-Lift? It was on its mooring at Marieville Esplanade. It follows logically if her DNA was on board that boat, if and – it was, there's no doubt about that. If it was there right near the entry, it follows logically that she was on board and you cannot exclude that as a rational hypothesis.

Now after considerable prevarication, I suggest, Mr Grosser who was the DNA expert eventually can see that the likelihood that she was in Hobart as opposed to be skiing in Canada and transference thereby was not really a plausible explanation, now we know it's her DNA, there's no argument about that, no-one suggested it wasn't. I guess in some ways the accused is fortunate because when that first report came through from Forensic Services, it's Item 20, you'll see it there, it's marked as – identified as a person or a woman E, and I suppose it's fortunate that Meaghan Vass committed some sort of offence and had her DNA taken for analysis and if that hadn't occurred we wouldn't know who Female Person E was, but we do know that. So Question: we know – first of all we know Meaghan Vass'ss DNA is there. How did it get there? Reasonable assumption, only open assumption was she was on the Four Winds. Bear in mind this, she refused to be interviewed by the police about the matter at all. Detective Sinnitt said he tried to interview her, she failed to keep appointments with him. Now she said, in the witness box, 'I wasn't on the boat', well what else are you going to say, of course you'd expect that. The scientific evidence plainly points to the contrary. Why was she on the boat? A reasonable conclusion is she was there for no good and more likely was there with some other person or persons. A boat like Four Winds sitting alone out there without a tender would be a prime target for thieves operating amongst yachts. It doesn't matter that no other yachts were reported having been broken into on previous occasions around that area for some time.

You do have the accused's evidence that somebody in her belief had been on board that yacht and she explained the methodology by which they could get inside. Nothing was taken, she said. If she was gilding the lily about that how easy might it have been to say, 'Yes, this that and the other was taken from the yacht'. How could the police prove otherwise unless there was an inventory of everything on board that Mr Chappell and Ms Neill-Fraser had put on the yacht, how else. So if she was going to gild the lily that's how you would do it. But she said clearly nothing was taken, things were disorganised and so forth. The likely scenario I suggest on the basis of this evidence that she probably, with others, almost certainly got on board the boat, you can rationalise, I suggest, probably some sort of confrontation with Mr Chappell that, for whatever reason, resulted in his death and we submit that's the only logical conclusion. And that's also when you go through the Forensic Services report you'll find DNA findings with respect to other males who couldn't be identified. True is it that lots of people had been on that boat but nonetheless there are males unidentified.

Now it's hardly likely, as I said, that Ms Vass being brought to this Court would come here and say, 'Look, yes, it's a fair cop, I did it, it's a trial about murder I'm prepared to put my hand up to it', it's just not going to happen. Well (indistinct words) you consider the evidence about the grey rubber boat alongside Four Winds, you'll consider that in conjunction with Meaghan Vass's DNA. We also know that on the 26th January she

had said in this court she was living initially at the Annie Kennerly Women's Shelter. She then said she was living at Stainforth Court on that day, a direct contradiction within a few moments, and I said to her in cross-examination when she said she'd been living at Stainforth Court, I said to her words to this effect, "Hadn't you earlier in this court room", when you weren't present, members of the jury, "said you'd lived at Annie Kennerly Women's Shelter? She said, "Yes", so she was conflicted about that. We find out from Detective Sinnitt that all of that was wrong, she was really living at Mara House. We know that he was unable to find out where she spent the night of the 26th January. We know he went to a false address at Mt Nelson which didn't exist, we know that she was nowhere near Constitution Dock or at Goodwood and it stands to reason that in those circumstances you can comfortably make the finding that I have said.

Now we also I suppose to some extent were hampered in being able to cross-examine Ms Vass because some aspects of her evidence only emerged much later and that was when Detective Sinnitt gave evidence about his difficulties in trying to find her residence of the night of the 26th January."

458 In summing up to the jury, the learned trial judge made the following relevant comments:

"…[I]f there is open on the whole of the evidence that the jury accepts any rational hypothesis, big words, any sensible theory, consistent with innocence, then the accused must be found not guilty…

If there's another reasonable possibility consistent with Ms Fraser's – Ms Neill-Fraser's innocence, then the Crown hasn't proved anything beyond reasonable doubt, and that reason – that other theory, that other possibility can't be excluded, and you – the guilt – her guilt hasn't been established beyond reasonable doubt and you – you must give her the benefit of the reasonable doubt…

Now Mr Gunson told you yesterday that the critical issues according to the defence case are the existence of a grey dinghy, the grey dinghy seen by Mr Conde, and the finding of Meaghan Vass's DNA on the vessel. Now so far as the dinghy is concerned the defence say that a number of people saw a dinghy that was not the Four Winds' dinghy. Mr Conde gave a description that was inconsistent with the dinghy he saw at 3:55 being the Four Winds' dinghy. His passenger, Mr Clarke, in his statutory declaration which I think is P29, described a dinghy that was a grey dinghy. The witness who signed the statutory declaration, P36, the defence say saw a different dinghy and Mr Lorraine, they say, saw a different dinghy. So the defence say that a different dinghy was seen by those four people that afternoon and that the police didn't adequately investigate the information that they had about a grey dinghy.

Mr Gunson suggested that Mr Sinnitt set out to deliberately deceive Ms Neill-Fraser when he told her of a dinghy having been seen at 3:55 and that he set out to deceive her into thinking that it was the Four Winds' dinghy when he had reason to believe that – or reason to suspect or think that it was not, and the defence contend that the police investigation was inadequate and that if the matter had been properly investigated there might have been other evidence that you – evidence whose nature you can't predict or could only speculate about that would exculpate Ms Neill-Fraser, evidence that would tend to suggest or confirm her innocence.

The hypothesis is someone else was there on a grey dinghy in the afternoon, someone else was responsible for Mr Chappell's disappearance. The person who went there on the grey dinghy, person or persons who went there on the grey dinghy could well be responsible for his disappearance, that can't be ruled out. So that's an aspect of the defence case…

In relation to Meaghan Vass Mr Gunson suggested to you that the only reasonable hypothesis was that Ms Vass and/or associates of hers were responsible for Mr Chappell's disappearance. Mr Gunson suggested to you that she was on the Four Winds, that that's how her DNA got there, that it's not plausible that it was transferred there on someone's shoe and that she was not a trustworthy witness and that she or someone associated with her, she and/or one or more people associated with her were responsible for Mr Chappell's disappearance…

Well ladies and gentlemen, next I want to review the evidence relating to Meaghan Vass. She gave evidence, her evidence begins at page 633. She told us that she was born on the 14th October 1993, so in January 2009 she was fifteen years old and apparently homeless. Now you'll remember that she was shown a photo of the Four Winds and asked if she'd ever been on that yacht and she said no. She was asked:

At the end of January 2009 or the very beginning of February 2009 do you remember if you went to Constitution Dock area in Hobart?

She said: I don't remember, no.

Well that probably doesn't matter much because we had evidence from Detective Sinnitt that he viewed the security footage and saw that nobody had gone on board the boat – or no members of the general public had gone on board the yacht while it was moored there. And she was asked:

And at that same time do you remember going to an area in Goodwood, Negara Crescent, where there's some yachts on slips and an industrial estate there?

She said: No, I don't remember.

When she was cross-examined by Mr Gunson he asked her about the – those premises and what he said at 636 was:

And it would be fair to say that you've never been to the industrial premises that were described a moment ago called Clean Lift Marine at Negara Crescent at Goodwood?

And she [said] – Yes.

She said. She agreed with him. In other words that's a bit different from saying, "I don't remember I was there", when it's put to her that she'd never been there. When she was asked:

Would it be fair to say you've never been there?

She said: Yes.

And Mr Gunson said:

Never been there in your life?……No.

So she agreed with that. One question that arises in this case is whether that's a reliable answer. Now the evidence was that her DNA was taken later in 2009 after she'd been arrested for something. I don't think we know whether she committed an offence, I think we only know that she got arrested and apparently charged and the DNA taken.

Now later when Detective Sinnitt gave evidence, at about page 778 and following, he gave evidence about his investigations and not – to the effect that he hadn't been able to establish where she spent the night of 26th January and at pages 823 and 824, again when being asked about his investigations, he said that:

Clean Lift had been broken into on several occasions and that there was information that Meaghan Vass had been hanging around the Goodwood area.

The actual evidence about her DNA is in the long report that you've got in relation to the forensic scientists' tests, it's exhibit P61, and the relevant swab is item 20, and what that report reveals is that first of all that it was a swab from area 11. Now Ms McHoul, I think, said that that area was a certain number of metres from the bow of the fifty three foot yacht, but Detective Sinnitt knew where area 11 was he said it's on the deck where the opening is on the starboard side and that in other words it's where someone would get on, onto the deck, if you stepped through the opening boarding the vessel from the opening on the starboard side. Now the description of the area swabbed says:

Luminol positive area 11 (possible drops)

In other words luminol which reacts positively to blood but also gives false positive results did produce a positive reaction in area 11, so maybe there was blood there, maybe the luminol was reacting to something else. The report also says:

Negative with HS screening test for blood.

So the second test that was done in relation to the detection of blood on the deck gave a negative result. The swab taken of the surface said that it was a full DNA profile of a female. At the time of the report it didn't match any individual currently on the Tasmanian DNA database. The individual whose DNA that was was given the name 'Person E', and then the evidence is that months later, following her arrest, the people who look after the database or somehow it came to the attention of the police that the blood – that the DNA of Meaghan Vass matched the DNA from the sample and the statistical figure about the match is one in one hundred million, in other words the chances of another person having matching DNA is one in one hundred million. So it's fair to conclude, I'd suggest, that the DNA found on the deck was the DNA of Meaghan Vass, especially since she gave evidence that she didn't have a twin sister.

Now what Mr Grosser said was that that doesn't necessarily mean she was there, that it is possible for someone's DNA to be transferred from place to place and at page – Mr Ellis asked him at the bottom of page 689:

Is it possible that she hasn't been there notwithstanding that a swab has revealed her DNA?……It's entirely possible. One of the things about DNA it's fairly common in bodily fluids and those sorts of things, blood, saliva, and once that's outside of a person's body or off a person's body there is a potential for that to be transferred in some way. So if, for example, I was to bleed onto a tissue somebody could pick up that tissue and spot it against a wall and then there would be a bloodstain on a wall that I'd never seen but potentially carried my DNA.

And he was asked about a walkway. He said:

It's a possibility. Logically on a walkway you're going to get a lot of people passing over that particular area and potentially the mechanism for that sort of transfer to occur could be on the bottom of someone's shoe or something like that. You could step in something and transfer DNA that way, that's sort of logically what goes through my head, but again it's speculation, I can't say categorically that that's what's happening in this case.

Well I'd suggest you think about that. There is evidence that apart – I think it was Detective Sinnitt had counted up the number of people other than forensic scientists who'd been on board the boat – the yacht from the time it was found sinking to the time the swab was taken and he'd counted up twenty one people and these included people getting on board with pumps, policemen, firemen and marine – people in the marine – from marine businesses getting on board with pumps, family members, people at Constitution Dock, people at Goodwood***. Now if Meaghan Vass was homeless in the northern suburbs one of the possibilities that I'd suggest you ought to be considering is whether she'd spat – it's not a delicate subject, but had urinated or something like that somewhere where a policeman had trodden and then that officer had walked onto the deck or got into the car and driven to the boat and walked onto the deck, is it possible that that's the mechanism by which her DNA got there and that she wasn't there***. Another possibility is that although she said she wasn't there really on the night of the 26th January or sometime thereafter – sorry, on the night of the 26th January or sometimes thereafter she was on that boat, and given – if you accept that she didn't get on at Constitution Dock then you'd need to consider whether it's plausible that she got aboard while it was at its mooring or is it plausible that she got aboard while it was at Goodwood.

Well Mr Grosser was cross-examined about the possibilities of transference and about the relative chances of the DNA coming directly from the girl or the DNA coming indirectly from her and being transferred there, perhaps on someone's shoe. ***All that***

> ***he really said was in substance that he couldn't evaluate the possibilities, he couldn't say whether one possibility was more likely than the other***. ***He certainly didn't say that transference - without the girl having got on the boat that transference was not plausible.*** For example, he said:
>
> I can't make any assessment about the possibility of transfer without having some knowledge of where it might have come from, what kind of scenario we're talking about.
>
> And he said:
>
> ***I think basically what we've got is some suggestion that there's possibility a large amount of DNA that may have originated from Ms Vass present on the boat and as to how that got there I really can't say that any one particular scenario is vastly more likely than another scenario***.
>
> ***Well he wasn't asked what he considered – how large a quantity he would consider to be a large amount of DNA***. Sometimes scientists have different ideas about what's a large amount, especially when the forensic examination of surfaces for DNA sometimes involves minute amounts of DNA being analysed and matched. But – well the evidence is there commencing at 694, if you think you need to you can read it for yourselves from the transcript, ***but the furthest Mr Grosser went was to say that he wasn't able to say whether transference was more likely or less likely than Meaghan Vass having been present on the boat.***
>
> It wasn't put to Meaghan Vass that she or anybody with her had in any way been responsible for the disappearance of Mr Chappell. Now Mr Gunson contends that that's a rational hypothesis, in fact the strongest theory in this case, the most likely explanation of how it came about that Mr Chappell disappeared. The Crown says that when you consider the whole of the evidence you should be satisfied beyond reasonable doubt that the only rational hypothesis is that Ms Neill-Fraser intentionally killed Mr Chappell and that Meaghan Vass had nothing to do with it, that it's improbable or just not plausible that she would in any way have been involved." (My Emphasis.)

Conclusion

459 Having regard to the evidence at the accused's trial and the closing addresses of counsel and the learned trial judge's summing up, I am of the view, after taking into account the fresh and compelling evidence of Mr Jones, that there has been a substantial miscarriage of justice.

460 I accept the submissions made by Mr Carr in his closing address to this Court, which are set out above at [448] of these reasons. I will not repeat them here.

461 Had Mr Jones's evidence been before the jury, the Crown case could not have been left to the jury with the reasonable hypothesis raised by the defence as to Ms Vass being present on the yacht trivialised as it was, as a "red herring". Had the jury been exposed to expert evidence that secondary transfer of Ms Vass's DNA on the sole of someone's shoe would have been a "very rare occurrence" requiring a very specific and immediate concatenation of steps, the jury could not properly have been told, as they were by Crown Counsel:

> " I suggest, but the whole thing is such a red herring because *when you realize that the DNA could have been transferred from someone onto Four Winds, and the number of people who were there and where they came from*, it's – it was a refinement of that red herring to say, "Were you down at Constitution Dock then?" as if she had necessarily stepped onboard, or *even if someone had necessarily acquired some trace of her DNA, some strong sign of her DNA* ***on their footwear*** *before getting on the yacht. They could have got in – they could have acquired that anyway* (sic) *in Hobart*, I suggest, anywhere she might have been, and we don't know where she's been, nor can she be expected to remember where she was on the 26th of January. But *it could have been put there at any time before the DNA swab was taken by anyone who had* ***acquired some trace on their footwear at any place*** *and then maybe got in the car, driven down and got out*

> *and onto the boat and transferred it.* All those things are logically possible, all things go to explain this finding, which of course has been disclosed to Ms Neill-Fraser, it's been thoroughly investigated, which was always on the DNA chart as an unknown person until she got into some sort of trouble with the law and her DNA became on the database and it was matched…" (Emphasis added.)

462 Moreover, the learned trial judge in my view would not have had a basis in the evidence for telling the jury, as he quite properly did on the basis of the evidence as it stood:

> "Well I'd suggest you think about that. There is evidence that apart – I think it was Detective Sinnitt had counted up the number of people other than forensic scientists who'd been on board the boat – the yacht from the time it was found sinking to the time the swab was taken and he'd counted up twenty one people and these included people getting on board with pumps, policemen, firemen and marine – people in the marine – from marine businesses getting on board with pumps, family members, people at Constitution Dock, people at Goodwood**.** *Now if Meaghan Vass was homeless in the northern suburbs one of the possibilities that I'd suggest you ought to be considering is whether she'd spat – it's not a delicate subject, but had urinated or something like that* ***somewhere where a policeman had trodden*** *and then that officer had walked onto the deck or got into the car and* ***driven to the boat and walked onto the deck****, is it possible that that's the mechanism by which her DNA got there and that she wasn't there…*
>
> Well Mr Grosser was cross-examined about the possibilities of transference and about the relative chances of the DNA coming directly from the girl or the DNA coming indirectly from her and being transferred there, perhaps on someone's shoe. ***All that he really said was in substance that he couldn't evaluate the possibilities, he couldn't say whether one possibility was more likely than the other***. ***He certainly didn't say that transference - without the girl having got on the boat that transference was not plausible***." (Emphasis added.)

463 In my view, on an objective assessment of the record, and recognising the limitations in doing so, after taking into account the fresh and compelling evidence of Mr Jones, there is a significant possibility that the jury, acting reasonably, might have acquitted the appellant had the fresh evidence been before it at the trial.

464 It will be obvious that I have confined the basis of my assessment to the expert evidence of Mr Jones and have not found it necessary to canvas the evidence of Mr Conde and Mr Clarke as to the colour and size of the dinghy they saw tied up to the *Four Winds* on the afternoon of 26 January 2009. The issues surrounding that evidence will no doubt be matters for a jury to consider along with the fresh and compelling evidence on any retrial.

Disposition

465 I would uphold the appeal and quash the appellant's conviction for murder.

466 In my view the appropriate order under s 402A(8) is an order that there be a retrial. In so deciding I respectfully adopt (for my own part), as apposite to the present case, the passage from the judgment of the South Australian Court of Criminal Appeal in *R v Keogh (No 2)* (above) at [355]:

> "… [W]e consider that the non-expert circumstantial evidence, when considered together with the forensic pathology evidence as it is now understood, is such that it would remain open to a properly directed jury to convict. However, we expressly recognise that a properly directed jury may consider that that evidence would not be sufficient to establish guilt beyond reasonable doubt. These are truly jury questions and this judgment should not be taken to express a view on whether the applicant in fact committed the crime with which he was charged. For our part, our review of the material does not establish a case for an acquittal following this appeal. Accordingly, we would set aside the conviction and order a retrial. It is a matter for the Director to determine how the matter should proceed."

File No 2015/2019

SUSAN BLYTH NEIL-FRASER v STATE OF TASMANIA

REASONS FOR JUDGMENT **COURT OF CRIMINAL APPEAL**
PEARCE J
30 November 2021

467 In 2010, following a trial conducted before Blow J (as he then was) and a jury, the appellant was found guilty of the murder of her partner Robert (Bob) Chappell. The prosecution case at trial was that the appellant murdered Mr Chappell on 26 or 27 January 2009 on board their yacht, the Four Winds, and then disposed of his body. An appeal against the conviction was dismissed by this Court on 6 March 2012: *Neill-Fraser v State of Tasmania* [2012] TASCCA 2. Special leave to appeal to the High Court was refused.

468 This is a second appeal by the appellant. It is brought in accordance with the *Criminal Code*, s 402A(6), a provision introduced in Tasmania in 2015. Like similar provisions in other jurisdictions, it manifests an intention that the finality of the criminal process yield in the face of fresh and compelling evidence which, taken with the evidence at trial, satisfies an appellate court that there has been a substantial miscarriage of justice: *Van Beelen v The Queen* [2017] HCA 48, 262 CLR 565, 576 [27]. The power to hear a second or subsequent appeal is subject to the grant of leave under s 402A(2). In this case, leave was granted by Brett J on 21 March 2019 after a hearing: *Neill-Fraser v Tasmania* [2019] TASSC 10, 30 Tas R 146.

469 What is in controversy in this appeal is not that Mr Chappell was murdered, but the identity of the perpetrator. The case against the appellant at trial was entirely circumstantial. Thus, it followed from the verdict that the jury was unanimously satisfied that the circumstances established by the evidence were inconsistent with any reasonable hypothesis other than her guilt: *Peacock v The King* (1911) 13 CLR 619 at 634; *Barca v The Queen* (1975) 133 CLR 82 per Gibbs, Stephen and Mason JJ, at 104; *R v Baden-Clay* [2016] HCA 35, 258 CLR 308. That is, the jury must have excluded beyond reasonable doubt, as an inference that was reasonably open, the hypothesis that a person or persons other than the appellant killed Mr Chappell.

470 At trial, the jury heard evidence that in the course of an examination of the Four Winds conducted by forensic scientists after Mr Chappell's disappearance, a swab was taken on the deck of the yacht from an area identified after application of luminol, a chemical applied as a screening test for blood. Analysis of the swab showed the presence of DNA strongly matching the DNA of a 15 year old homeless girl, Meaghan Vass. The appeal to this Court is on the ground that there is fresh and compelling evidence that evidence led by the prosecution at trial about the results of, and inferences that could be drawn from, DNA testing, and the results of, and inferences that could be drawn from, luminol testing related to that DNA test, was misleading, and which establishes that there has been a substantial miscarriage of justice.

471 The evidence upon which the appellant now relies is from a forensic scientist, Maxwell Jones. It concerns the DNA profile taken from the swab and the inferences which may be drawn from it. The appellant submits that the evidence from Mr Jones is fresh and compelling, and when taken into account, demonstrates a substantial miscarriage of justice. The appellant contends that, had Mr Jones's evidence been before the jury at trial, there is a significant possibility that she would have been acquitted because the jury would not have excluded as a reasonable possibility that the murder was committed by Meaghan Vass or someone associated with her.

472 I have had the advantage of reading, in draft form, the reasons of Wood J. I would respectfully adopt her Honour's description of the relevant evidence at trial, the trial proceedings, the procedural history, the evidence before this Court and the contentions of the appellant and the respondent. Because her Honour has set out those matters in such detail it is not necessary for me to repeat all of it, although some repetition is unavoidable. For the following reasons I agree with her Honour that the evidence relied on by the appellant is not fresh or compelling and does not demonstrate a substantial miscarriage of justice.

The circumstances of the crime

473 On 26 January 2009 the Four Winds was moored in the Derwent River off Marieville Esplanade, Sandy Bay. Marieville Esplanade runs roughly parallel to the shore and is the location of the Sandy Bay Rowing Club and the Royal Yacht Club. The rowing club is on an area of reclaimed land which juts out into the river, with water on both sides. On the foreshore in the area of the rowing club there is a large grassed public area, and just to the north of the club is a beach. The mooring was about 400 metres out from the rowing club and about 600 metres from the yacht club, which was about 200 metres further south.

474 Mr Chappell was working on the yacht during that day. He spent the night on board. At about 5.40 am the following morning a witness found the yacht's tender, an inflatable dingy, bobbing on the water and nosing into rocks near the rowing club. Its painter, the rope attached to the bow used for tying up or towing, was inside, suggesting that it had been put there rather than having come away from being tied. The witness secured the dinghy and then headed out with another man in a small boat. Just over an hour later, as they were heading back in, the men went past the Four Winds and noticed that it was low in the water on its mooring. The police were called.

475 When the police boarded it was apparent that the yacht had been sabotaged and was sinking. It was taking in water through a pipe which had been cut and a seacock which had been left open. An automatic bilge pump and alarm had been deactivated. The police saw blood on the steps, a knife on the floor of the wheelhouse and a torch splattered with blood. Mr Chappell was not on board and has not been seen since. His body has never been found.

The forensic examination

476 On 27 January 2009, after the water had been pumped out, the Four Winds was towed to Constitution Dock. On the following day, 28 January 2009, it was towed about six kilometres further upriver to the premises of CleanLift Marine at 6 Negara Crescent, Goodwood where it was tied up at a jetty in a gated compound. Between 28 January 2009 and 4 February 2009 a forensic scientist employed by Forensic Science Service Tasmania (FSST), Deborah McHoul, attended the yacht on several occasions, while it was moored at Negara Crescent. She assisted in the search of the vessel and examined it for biological material, blood for example, which may have been of forensic use. She made visual observations and took samples with swabs. In various places she saw what she believed was possibly drops of blood or blood stains. In the course of looking for blood Ms McHoul used two types of screening test. The first was by use of a chemical called luminol. Ms McHoul and other experts gave evidence that, when sprayed on an area of interest, the chemical, by luminous reaction, provides a sensitive but non-specific indication of the possible presence of blood. Conclusions may be drawn from the strength of the reaction, how long lived it is, the colour and nature of the reaction. Substances other than blood may react to luminol, including some plant materials, metals, some paints and cleaning chemicals that are based around bleach or substances similar to bleach.

477 The other screening test for blood used by Ms McHoul was by Hemastix (HS), plastic strips treated with chemicals which react to the presence of blood by changing colour.

478 Samples taken by Ms McHoul were returned to the FSST laboratory for analysis. Ms McHoul and another scientist, Chris McKenzie, undertook the biological analysis. Some of the samples were subjected to a confirmatory test for the presence of human blood. Some samples were also sent for DNA analysis by another scientist, Carl Grosser. The reports of Ms McHoul's examination and the report of the laboratory analysis were in evidence at the trial.

479 There was ample evidence of the presence on the yacht of human blood and DNA strongly matching the DNA of Bob Chappell. Analysis of six of the ten swabs taken from the torch found in the wheelhouse confirmed the presence of human blood and, in three cases, the presence of DNA. That DNA matched the DNA of Bob Chappell and the chance of a second person, unrelated to Mr Chappell, having the same DNA profile was less than 1 in 100 million. Analysis of swabs of red stains taken in the wheelhouse at the bottom of the wooden ladder, on the second step of the ladder and on the wheel casing confirmed the presence of human blood and DNA in the samples also matched the DNA of Bob Chappell with the same level of probability. The swab of a stain on the right side of the cockpit adjacent to the winch roller which was luminol positive, was weakly positive to the HS screening test. No attempt was made to confirm the presence of human blood, but DNA in the sample matched Mr Chappell's DNA with the same level of probability. Analysis of swabs taken from three separate droplets found on the wheelhouse galley bulkhead and a droplet on the 12V regulator panel in the saloon confirmed the presence of human blood and showed the presence of DNA matching that of Mr Chappell with the same level of probability. Nine swabs were taken from a cushion on the vertical part of a seat in the saloon which was luminol positive, and on which were observed many small red/brown stains. Analysis of five of those swabs confirmed the presence of human blood and seven of the swabs contained DNA which matched the DNA of Bob Chappell with the same level of probability.

480 During the course of Ms McHoul's examination luminol was applied to many areas of the exterior and interior of the yacht. There were numerous luminol positive areas including on the deck, on the cabin roof towards the wheelhouse, on the cockpit seat and floor, and on rope coiled on the starboard cockpit seat. One luminol positive area has particular significance to this appeal. It was reported as "Luminol positive area 11 (Possible drops)". It was located on the starboard walkway. An HS screening test for blood was negative. Analysis of a swab taken from the area on what the evidence established was 30 January 2009 disclosed the presence of a full DNA profile from a female. At the time of the analysis no match for the DNA profile was established. However, by March 2010, Mr Grosser had matched the DNA profile to another person, Meaghan Elizabeth Vass. A reference sample from Ms Vass had been put on the FSST database in February 2010 for unrelated reasons. Mr Grosser informed the police that the chance of a second person unrelated to Ms Vass also matching the profile was less than 1 in 100 million. A DNA profiling report to that effect dated 7 April 2010 was sent to the police.

Meaghan Vass

481 Meaghan Vass was called at the trial but her evidence was relatively brief. At the time of the murder she was aged 15. At the time of the trial she was 16. The trial judge first permitted examination and cross-examination of her in the absence of the jury because, as she later agreed in her evidence, she had previously refused to be interviewed by the police. In the course of that cross-examination she said that in January 2009 she was "pretty sure" that she was living at a shelter at Montrose, which she named. In the presence of the jury she was shown a photograph of the Four Winds. Her evidence was that she had never been on board the yacht. Under questioning by counsel for the State, she said that she did not remember whether she had, at the end of January or the very beginning of February 2009, been to Constitution Dock or to Negara Crescent in Goodwood. When cross-examined she agreed that the police had obtained her DNA following an arrest in relation to an allegation of stealing. She was asked again where she was living on 26 January 2009 and she said that she was "pretty sure it was [an address] in Lenah Valley" before again saying that it was the shelter she had earlier named. When she was pressed about her answer she said that "… I'm getting very confused and I have been homeless since I was 13

so it's very hard for me." She repeated that she had no memory of having gone to Constitution Dock in January 2009, but as to Negara Crescent, Goodwood she agreed in cross-examination that she had never been there.

482 The jury later heard evidence from a detective, Shane Sinnitt. Detective Sinnitt gave evidence that he had established through police records that, at the relevant time, Ms Vass was living at a different address, a place providing accommodation in New Town. Detective Sinnitt agreed that, in the course of his investigation, after he had learned of the existence of DNA matching hers on the yacht, he had been unable to establish Ms Vass's whereabouts on the evening of 26 January 2009. He looked for but did not find any evidence of her presence at either Constitution Dock or Negara Crescent at the relevant time. He viewed the CCTV security footage from Constitution Dock and established that no-one went on board the yacht while it was there. He established that Ms Vass's fingerprints did not match any of those lifted from the Four Winds. He looked at her phone records. He found no other link between Ms Vass and the Four Winds or to any other person involved in the investigation. He gave evidence that during the period between the time the Four Winds was first discovered sinking on the mooring on the morning of 27 January 2009 and 1.40 am on 30 January 2009, when the DNA sample was taken from the deck of Four Winds at Negara Crescent, there had been at least 21 people on board the yacht, not including FSST personnel. The persons who had been on the boat included police officers, fire officers and civilian witnesses.

483 As to the possibility that Meaghan Vass's evidence that she had never been to the premises of CleanLift Marine at Goodwood was not reliable, Detective Sinnitt gave evidence, not objected to, that his investigations disclosed that the premises had been broken into on several occasions. He gave evidence that, when he spoke to Ms Vass on 18 March 2010, that she told him that she "may have been hanging around the Goodwood area at the time of Mr Chappell's disappearance."

The Meaghan Vass DNA evidence at trial

484 At trial, in the course of her cross-examination, Ms McHoul explained that the sample which was later shown to contain the DNA matching that of Meaghan Vass was taken from the starboard walkway, 9.45 metres from the bow, and 250 centimetres from the starboard rail. It was reasonably close to a gate in the starboard rail where persons might be expected to step onto or leave the deck of the yacht. Ms McHoul circled an area about 210 by 260 millimetres to mark the slightly smaller luminol positive area from within which she took the sample with a swab. Ms McHoul explained that the reference to "possible drops" in her report might be either that the stain was in the form of a drop, or that a drop of luminol had come from the bottle she was spraying with. When cross-examined, and having stated that the HS screening test of the area was negative for blood, she said that she had no way of knowing whether the luminol reaction occurred because of the presence of a small amount of blood within some other substance, or was a false positive.

485 Evidence of the DNA analysis was given by Carl Grosser. Mr Grosser had been employed as a forensic scientist at FSST since 2002 and held a degree in Forest Science and a degree in Science majoring in genetics. A large part of his work with FSST was performing DNA profiling. Mr Grosser gave evidence about all of the DNA profiling he undertook, but it is his analysis of the swab which produced DNA matching that of Ms Vass which is of particular relevance. In his report of the analysis the item, identified in the report as item 20, was described as:

> "swab
>
> *Luminol* positive area 11 (possible drops). Negative with *HS screening test* for blood.
>
> Starboard walkway, 'Four winds', 6 Negara Cres, Goodwood
>
> Full DNA profile (female)."

486 At trial, in the course of the examination-in-chief of Mr Grosser, the following exchange occurred:

> MR ELLIS SC: Oh – now, we've heard from Ms Vass today in this trial -…Okay.
>
> - and she's been shown a picture of this boat, Four Winds, from which the swab was taken, which apparently matches her DNA, and she said that she's never been on board it and she can't recall being near it was –
>
> MR GUNSON SC: I object to the question in this form, your Honour, it's not the subject of any proof at all.
>
> HIS HONOUR: Well if this hasn't been proofed the – that doesn't make it inadmissible. If you need time to – to plan your cross examination of the witness you can ask for it later. But I will allow the question to continue.
>
> MR ELLIS SC: Thank you, your Honour.
>
> HIS HONOUR: Mr Ellis?
>
> MR ELLIS SC: Thank you, your Honour. (Resuming): How – I'm sorry, is it possible that a person who hasn't been on that surface from which the surface – from which the swab has been taken, is it possible that she hasn't been there, notwithstanding that a swab has revealed her DNA?…It is entirely possible. One of the things about DNA – it's fairly common in bodily fluids and those sorts of things, blood, saliva and once that's outside of a person's body, or off a person's body, there is a potential for that to be transferred in some way, so if for example I was to bleed onto a tissue, somebody could pick that tissue up and spot it against a wall and then there would be a blood stain on a wall that I'd never seen that potentially carried my DNA.
>
> The presence on the surface of a walkway, would that indicate anything to you about a possible transfer?...It's a possibility. Logically on a walkway you're going to get a lot of people passing over that particular area and potentially the mechanism for that sort of transfer to occur could be on the bottom of someone's shoe or something like that – you could step in something and transfer DNA that way. That's sort of logically what goes through my head, but again it's speculation. I can't say categorically that's what's happening in this case.
>
> Yes, it's a reasonable possibility based on logic, is that right?...It's a possibility, yes, that's correct.
>
> Thank you. And that could have come, of course, from Ms Vass's – her bodily secretions by spit or menstrual blood or a cut – something like that – that gets on someone's shoe…Yes.
>
> Who walks on the deck….Potentially anything that would be carrying a lot of DNA from that individual could have been transferred onto that."

487 The focus of the cross-examination of Mr Grosser by counsel for the appellant was the possibility that Ms Vass's DNA was transferred onto the yacht without her presence. Mr Grosser pointed out that he could not give any indication as to when, assuming the DNA was from Ms Vass, it was deposited. When it was suggested to him that the likelihood that her DNA being accidentally transferred onto the yacht was "near impossible" he answered:

> "I can't make any assessment about the possibility of transfer without having some knowledge of where it may have come from, what kind of scenario we're talking about, so this feels a little bit speculative to me in that we've detected this DNA profile and all we can say is that it was present in the sample that we tested and that's the result that we got. I really can't say with any degree of certainty that given a certain scenario it's impossible that it could have got there any other way than by her being present on the boat, so I'm not really sure."

488 It was suggested to Mr Grosser that the strongest likelihood was that the DNA was on the yacht because of Ms Vass's presence on the yacht, despite her evidence to the contrary, and that any other explanation was "just fantasy." Mr Grosser responded in these terms:

> "No, I can't agree. I think basically what we've got is some suggestion that there's possibly a large amount of DNA that may have originated from Miss Vass present on the boat and as to how that got there I really can't say that any one particular scenario is vastly more likely than another scenario."

489 Mr Grosser was not asked about what he meant by his reference to a "large amount of DNA." He, when further pressed, indicated that he was unable to realistically assess the respective likelihoods of the scenarios whereby the DNA was present in that location by transfer or by direct deposit by reason of Ms Vass's presence on the yacht. Assessment of the possibilities, he said, would require additional knowledge of other circumstances that he was not privy to, for example whether it was known that the person could not have been at the location the DNA was found.

490 Mr Grosser was asked by the trial judge about his own experience of ever having "knowingly come across transference in the course of [his] work where someone's DNA has been transferred to a place where that person hasn't been." He answered:

> "I'm not certain that I could categorically say that I haven't but I'd say that if I have it would be very rare."

491 Defence counsel then asked:

> "And transfer of DNA by being picked up off the ground through, I submit, some expectorant or something like that, haven't come across that, have you?……I don't believe I've come across DNA that I've known categorically has been carried from one place to another through spittle or something on the ground that's been walked.
>
> On a shoe perhaps?…On a shoe, yeah, I don't believe I've seen any of that."

492 The foregoing summary makes clear that, at trial, the jury heard evidence capable of supporting the inferences that:

- the DNA profile obtained from the swab was a full profile;
- Mr Grosser described the sample as "possibly a large amount of DNA which may have originated from Miss Vass";
- DNA may be transferred such that it may be found in a place with which the person who is the source of the DNA had no direct contact;
- Mr Grosser could say only that there was DNA in the sample he analysed and any assessment of a scenario which may give rise to the possibility of transfer involved speculation;
- it was logically possible that DNA may be transferred onto a walkway;
- one potential mechanism for transfer of DNA onto a walkway is by means of the bottom of the shoe of a person who has stepped in something in the nature of bodily fluid such as saliva or blood. But Mr Grosser expressed his evidence in terms that "Potentially anything that would be carrying a lot of DNA from that individual could have been transferred onto [the deck]";
- Mr Grosser was unable to realistically assess the respective likelihoods of the possible scenarios which may explain the presence of the DNA matching that of Ms Vass on the yacht, which may depend on other circumstances not known to him;
- Mr Grosser could not recall being aware of any occasion "where someone's DNA has been transferred to a place where that person hasn't been", that if he had it would "be very rare", and that he did not believe he had come to know of an instance of DNA being transferred by the bottom of a shoe.

493 It is necessary to mention at this stage one other matter concerning Mr Grosser's consideration of the DNA analysis of the sample. After Mr Grosser's evidence was completed, in the course of the

evidence of Detective Sinnitt, it emerged that Detective Sinnitt had created and was in possession of a file concerning Meaghan Vass which had not previously been disclosed to the defence. The file relevantly included correspondence exchanged with Mr Grosser in March 2010 when the DNA match with Ms Vass had become known. In the correspondence Mr Grosser was asked by Detective Sinnitt whether he had "any idea what the stain or droplet or whatever may have been?" Mr Grosser responded by email dated 18 March 2010 in these terms:

> "This was an area (the black outline in the photos) that was positive with luminol, which suggests the presence of blood. However our testing of this swab taken from this area was negative for the blood screening test, suggesting that we cannot confirm the presence of blood. *Given the strong DNA profile that we obtained from this swab I'd suggest that this is indicative of the presence of a relatively large amount of DNA, which is more likely to come from body fluids (blood, saliva, etc) than a simple contact touching event.*
>
> So, basically we cannot say with any certainty where the DNA may have come from. The positive luminol result suggests that the source may have been blood, and the fact that this was an external surface means that there may have been washing or weathering events that have prevented us from being able to definitively identify the presence of blood. More complex scenarios, such as the luminol result coming from an older event (eg an old stain) which has been overlayed by a more recent event which is where the DNA came from (eg spitting on the deck), cannot be ruled out." [Emphasis added.]

494 An application by counsel for the appellant to recall Mr Grosser so he could be cross-examined about the opinion he expressed in the email was refused. The trial judge ruled that the contents of Mr Grosser's email were "unsurprising" and did not "raise any sufficiently new or different or surprising matters that would warrant his recall." As a result, evidence of the email containing that expression of Mr Grosser's opinion was not before the jury.

The closing addresses and the summing-up

495 In his closing address to the jury, senior counsel for the prosecution reminded the jury of the circumstantial evidence which he contended was probative of the appellant's guilt. The evidence is explained in the reasons of Wood J. I will refer to some aspects of it later in these reasons in a different context. He submitted that the evidence should persuade the jury of the appellant's guilt beyond reasonable doubt. The prosecutor addressed the jury about the main issues which he anticipated would be relied on by the defence as to why the jury should entertain a reasonable doubt of guilt, and to persuade the jury that they should not entertain such a doubt. The issues were generally characterised by the prosecutor as "red herrings" or "false trails". The prosecutor argued that one such issue was the suggestion that Mr Chappell was not dead. Another was the claim that the police should have, but did not, make further enquiries about the possibility that a dinghy seen on the night of the murder was not the Four Winds tender. Another was the claim that the yacht had been broken into on other occasions and that this was somehow related to the murder.

496 The issue concerning Meaghan Vass was also characterised as a "red herring". Senior counsel for the prosecution submitted to the jury that:

> "… we've had Meaghan Vass, a sixteen year old homeless girl, bullied and chased around by [counsel for the appellant] all because some of her DNA was found in the one spot on Four Winds, one spot, one spot only, on the top of the deck – a sixteen year old girl. And the idea was to making you think that she could or was – to make a reasonable doubt in your minds that she was connected to this killing …".

497 The address to the jury continued:

> "Treated ferociously, treated ferociously, while all the time it seems that she may have been in the Goodwood area, maybe she had something to do with an entry there, maybe not – probably not, I suggest , but the whole thing is such a red herring because when

> you realize that the DNA could have been transferred from someone onto Four Winds, and the number of people who were there and where they came from, it's – it was a refinement of that red herring to say, 'Were you down at Constitution Dock then?' as if she had necessarily stepped on board, or even if someone had necessarily acquired some trace of her DNA, some strong sign of her DNA on their footwear before getting on the yacht . They could have got in – they could have acquired that anyway in Hobart, I suggest, anywhere she might have been, and we don't know where she's been, or can she be expected to remember where she was on the 26th of January. But it could have been put there at any time before the DNA swab was taken by anyone who had acquired some trace on their footwear at any place and then maybe got in the car, driven down and got out and onto the boat and transferred it. All those things are logically possible, all things go to explain this finding, which of course has been disclosed to Ms Neil - Fraser, it's been thoroughly investigated, which was always on the DNA chart as an unknown person until she got into some sort of trouble with the law and her DNA became on the database and it was matched."

498 In his closing address to the jury, counsel for the appellant suggested to the jury that the arguments made by the prosecution that Ms Vass's DNA was present on the deck of the yacht by transference were implausible. He submitted:

> "It is obvious from the scientific evidence that there was a significant amount of DNA. It was enough to show up in the luminol test, and to be extracted from the deck for the purpose of DNA testing. What it was the experts could not say, they couldn't say to you what part of the body it came from, whether it was her skin, whether it was sweat, whether it was expectorant … or whether in fact it was a bodily fluid that contained a very minute portion of blood – we don't know. But Meaghan Vass left DNA on that deck."

499 He contended, in substance, that the jury should accept as a reasonable possibility that Ms Vass's denial that she was on the boat was not trustworthy or reliable, and that it was a "reasonable conclusion that she was there for no good and more likely was there with some other person or persons" as the Four Winds would be "a prime target for thieves operating amongst yachts."

500 In his summing-up the trial judge carefully reviewed the evidence concerning Meaghan Vass. His Honour referred to the evidence relevant to whether she could have been on the yacht at Constitution Dock and reminded the jury of Detective Sinnitt's evidence that no members of the general public had been on board the yacht while it was moored there. His Honour reminded the jury of Meaghan Vass's denial that she had ever been to the premises of CleanLift Marine at Goodwood, but also of Detective Sinnitt's evidence that the premises had been broken into on several occasions, and of the evidence that suggested that Meaghan Vass may have been hanging around in that area. His Honour then referred the jury to the evidence of Mr Grosser. In the course of doing so his Honour referred to the evidence that other persons had been on the vessel between the time it was seen sinking and the time of the swab, including "people getting on board with pumps, policemen, firemen and … people … from marine businesses getting on board with pumps, family members, people at Constitution Dock, people at Goodwood". His Honour reminded the jury of Mr Grosser's evidence about the possibility of transfer and read out to the jury the passages from Mr Grosser's evidence referred to in these reasons. As to Mr Grosser's reference to a "large amount of DNA that may have originated from Ms Vass", his Honour continued:

> "Well he wasn't asked what he considered – how large a quantity he would consider to be a large amount of DNA. Sometimes scientists have different ideas about what's a large amount, especially when the forensic examination of surfaces for DNA sometimes involves minute amounts of DNA being analysed and matched. But – well the evidence is there commencing at 694, if you think you need to you can read it for yourselves from the transcript, but the furthest Mr Grosser went was to say that he wasn't able to say whether transference was more likely or less likely than Meaghan Vass having been present on the boat."

501 At various stages of his summing-up, the trial judge carefully reminded the jury that the jury were the judges of the facts, that it was for the jury to determine what evidence was or was not important, and that each member of the jury had a duty to reach their own independent views about the facts.

The evidence of Mr Jones

502 By agreement of the parties, the evidence in this appeal comprised the trial transcript and exhibits, and, with limited exceptions, the transcript of the evidence and exhibits before Brett J on the hearing of the leave application. Mr Jones gave evidence at the hearing of the application for leave. He holds a Bachelor of Science and, at the time of giving evidence, had been employed as a forensic scientist by Victoria Police for just over 31 years. He had been involved in the field of DNA analysis since the mid-1990s. In 2014 Mr Jones was engaged to provide his opinion about the analysis of the swab which disclosed the presence of DNA matching that of Meaghan Vass. He was given documentation which included the FSST reports, examination notes made by FSST scientists, images of the deck of the yacht, and the email correspondence between Detective Sinnitt and Mr Grosser. He was given briefing notes and asked a series of questions.

503 Mr Jones's first report was dated 4 April 2014. One of the questions he was asked was to describe the nature of the sample found on the deck of the yacht. His report included the following:

> "Based on my experience, it is possible that a DNA profile could be obtained from the remnants of a bloodstain that had produced a Luminol positive response yet had failed to produce a Hemastix (HS) positive result. The reason being that if enough time had elapsed to allow the bloodstain to completely dry before rinsing, washing of weathering (ie such that the visual appearance or Haem within the blood had been significantly reduced), the remaining less visible cellular material could be sampled and produce a DNA profile.
>
> If the DNA profile in question is indeed a 'strong DNA profile' as claimed by … Carl Grosser then I would also agree with his further assertion that such a result 'is indicative of the presence of a relatively large amount of DNA, which is more likely to come from body fluids (Blood, saliva etc) than a simple contact/touching event."

504 The proposition with which Mr Jones expressed agreement was the one which Mr Grosser stated in his email of 18 March 2010. The email was not before the jury. Mr Jones indicated, however, that confirmation of his opinion required that he be able to view the "DNA electropherogram and DNA concentration result relating to the sample in question." In his first report, in answer to the question concerning the likelihood that the DNA sample found on the deck of the yacht "came in on the bottom of someone's shoe", Mr Jones referred to the amount of police and other foot traffic which he had been informed had occurred on the yacht prior to the taking of the sample, and to the possible presence of a section of rope across the area, but continued by expressing his view that the answer rested heavily on the "amount of DNA detected in the sample and the strength of the DNA profiling result". He stated that "if the sole of a shoe or a section of rope were to be an intermediary transfer surface (ie secondary or tertiary transfer mechanism), then I am of the view that such a surface would had to have come into contact with a significant quantity of biological fluid a short time prior to the transference to the deck of the yacht". Later in his report he considered the possibility of secondary transfer in these terms as an explanation for the DNA profile:

> "Regarding secondary transfer as a means of producing the DNA profile in question, I don't believe this can be entirely ruled out. There is documented information suggesting ample opportunity for this to occur given that at least 21 people had gained access to the yacht, including Police. In my experience, DNA profiles produced this way are typically low level. This is not consistent with Carl Grosser's findings. I can only conclude that if secondary transfer were to have been the mechanism of transfer in this case, the intermediary surface would have retained a significant amount of the biological substance after contacting a primary source."

505 Mr Jones was subsequently provided with Mr Grosser's profiling results and the results of the DNA electropherogram (the graphical depiction of the variants comprising the DNA profile) for the sample which matched that of Ms Vass. He prepared a second report dated 11 July 2014. In the report he expressed further opinions which he then expanded upon in his evidence before Brett J. He concluded that the result of the profiling indicated that the original sample was a "strong source of DNA". He said that there was no sign of factors which may indicate weaker, lesser or degraded biological material. It was his opinion that the nature and quality of the DNA profile was typical and indicative of the source being a biological substance which retained "quite a lot of cellular material" such as blood, saliva, semen or some other bodily fluid, and was less likely to be present as a result of a touching event involving some form of skin contact. Mr Jones stated that he would be "very confident in excluding" the source of the DNA as from such a touching event. The essence of Mr Jones's opinion about the possibility of secondary transfer by shoe was that it depended on a number of variable factors, and would "take some quite specific circumstances" for that to occur. One of the variable circumstances suggested by Mr Jones was that it would require a "large amount of the biological material to be on the shoe to begin with." Mr Jones also reported his belief that "if the tread of a shoe retaining a moist biological substance was to be acknowledged as the likely means of the transference", then other similar staining would likely have been deposited. The absence of any other sign of Ms Vass's DNA on the deck of the yacht was, in his opinion, a counter indication of secondary transfer.

506 In the course of his oral evidence on the leave application Mr Jones confirmed his opinion that the strength of the DNA profile revealed on analysis was, in his opinion, inconsistent with having resulted from a touch or skin contact. When asked his opinion "as to the relative likelihood of the primary deposit as against secondary transfer", he said that it was "a very difficult question to answer", but:

> "… if I knew nothing about this case and I was just a normal case worker and I obtained a profile like that in general case work, the simplest answer would be, well, it would indicate some sort of substance from primary transfer, something like a small bloodstain, or a small amount of saliva, perhaps saliva on a cigarette butt or chewing gum, that sort of thing. Secondary transfer wouldn't be something which would come to mind initially because it's not typical of secondary transfer DNA profiles."

507 He was asked whether what he observed was that he "would expect this to be a primary deposit of some sort of biological fluid". He answered:

> "I don't think it's fair to say that I would expect it to be. I said without knowing anything, if I saw the profile I would – it's the sort of profile you would obtain from a primary deposit, or if it was a – if I was to contemplate a secondary transfer scenario, I would be contemplating the transfer of a significant amount of biological substance, of biological fluid of some type. I couldn't rule that possibility out also, but it's certainly not a touch scenario."

508 Mr Jones's evidence was that the sample indicated that "we are dealing with a stronger source of DNA, not a touch scenario, not from skin cells, nothing to indicate that a momentary touch from a hand, for example, or a bare foot, would've left enough DNA to produce a profile such as this. It had to be something more substantial than that". During the further course of his examination-in-chief he said that "this sort of profile indicates that there's some biological substance, something which retains a lot of cellular material, or DNA. Something like you'd expect from blood, saliva, semen; that sort of thing, some bodily fluid, for example, or it could be a nasal secretion, or something." When asked by counsel for the appellant to comment on "the likelihood or even the reasonable possibility that this was the product or this deposit of DNA was the product of somebody having picked up something on their shoe and walked some distance to get on the Four Winds" he gave a lengthy answer, but suggested that because he would expect some loss of degradation or removing of material when walking that he "would expect there to be a significantly large amount of biological material to begin with to at least even detect

a minor amount of material on the deck of the Four Winds". He suggested some scenarios which may make it possible but suggested that "it would take some quite specific circumstances to occur".

509 When cross-examined, Mr Jones agreed that he could not entirely rule out the possibility of secondary transfer, although he said that he would "stipulate that it would require a specific set of circumstances that – perhaps ideal conditions for that transfer to occur to that extent to produce such a good DNA profile from this sample".

510 The following exchange then occurred:

> Q: Now, you can't rule out that it got – a possibility is it got there by someone walking onto the vessel? You might think it's unlikely, but you can't rule it out as a possibility?
>
> A: Well that's right, I can't rule it out as a possibility, but as I say it's a – you'd have to postulate a particular circumstance whereby that would've occurred to – to that extent.
>
> Q: And you also can't rule out that it got transferred there from some other unknown way can you?
>
> A: That's right, I mean there's other potentially other things that I can't think of which may have caused that. I mean obviously unusual things do happen, and – so I can't exclude a – a very rare occurrence occurring.
>
> Q: And you can't comment on what's more likely, whether Ms Vass is telling the truth or whether this is a direct positive, can you, that she's been on the boat. You can't say what's more likely, can you?
>
> A: I can't sort of evaluative either in terms of one's more likely than the other, that's right and there's so many unknown factors."

The difference between the evidence of Mr Grosser and Mr Jones

511 To my mind, the starting point is to identify the evidence of Mr Jones which the appellant says is fresh and compelling. The evidence of Mr Jones could only be fresh evidence to the extent that it goes beyond or differs from the evidence given by Mr Grosser at trial. There were substantial areas of agreement. The witnesses agreed that:

- The DNA profile was a full female profile;
- In the absence of other scientific or contextual information, it is not possible to identify the time of deposit of DNA;
- It was possible that the DNA was present on the deck of the yacht as a result of having been directly deposited there by the source of the DNA;
- It was possible that the DNA was present as a result of deposit by secondary transfer;
- Assessment of the relative likelihood of direct deposit or secondary transfer included assessment of factors unknown to the scientific experts. According to Mr Grosser, that transfer of DNA on the bottom of a shoe was a logical possibility but "it's speculation. I can't say categorically that's what's happening in this case." According to Mr Jones "there's other potentially other things that I can't think of which may have caused that. I mean obviously unusual things do happen". And, "I can't sort of evaluative either in terms of one's more likely than the other, that's right and there's so many unknown factors".

512 Further, in my assessment, the evidence of the two witnesses in other respects was similar, subject to what I regard as subtle differences of expression, context and emphasis:

- Mr Grosser told the jury that "potentially anything that would be carrying a lot of DNA from that individual could have been transferred onto [the deck]". Mr Jones contemplated that to enable

secondary transfer he would "expect there to be a significantly large amount of biological material on the shoe to begin with".

- Mr Grosser told the jury that he could not recall a case in which he had come across transfer of DNA to a place that the person "hasn't been", but that if he had it was very rare. Mr Jones thought that secondary transfer in this case would require a "specific set of circumstances", or "ideal conditions", but that he could not exclude "a very rare occurrence occurring".
- Mr Jones all but excluded the DNA having been present as a result of a "touch scenario". Mr Grosser, leaving aside the email which was not before the jury, did not contemplate secondary transfer by "touch" and confined his evidence to transfer of bodily fluids, blood and saliva.
- Although both men were asked about the specific scenario of transfer of DNA by means of the bottom of a shoe, neither expert confined their respective expressions of opinion to that scenario.
- With the possible exception of the limited evidence that the premises at Goodwood had been broken into, neither witness was aware of any other evidence which tended to explain how Meaghan Vass's DNA could have been transferred onto the Four Winds, on the bottom of a shoe or otherwise.

513 In my view it has not been demonstrated that, even were Mr Jones's evidence to be accepted in full, Mr Grosser's evidence was, to any degree, in error. There was little, if any, inconsistency between his evidence and that of Mr Jones. It was submitted by counsel for the appellant to this Court that there was a "stark" distinction between the evidence of Mr Grosser and Mr Jones. When asked to identify the evidence in support of that submission it was contended that the distinction was apparent from the "sum total" of the evidence of one when compared with the evidence of the other, and that while Mr Jones accepted the possibility of secondary transfer, it was his elaboration of the kind of circumstances which would be required for secondary transfer to have occurred which distinguished his evidence from that of Mr Grosser. It was not contended by the appellant that Mr Jones's elaboration of circumstances, a required specific chain of events, was inconsistent with the evidence of Mr Grosser. Rather, the submission was that the evidence was inconsistent with the case argued by the prosecution at trial, and the absence of it enabled the prosecution to suggest the "plausibility" of the transfer scenario advanced in closing. According to the appellant it enabled the prosecution to "deconstruct" the defence case. I would accept, for the purposes of determining this appeal, that Mr Jones placed emphasis on his opinion that the nature of the profile was strongly suggestive of having come from bodily fluid rather than touch (albeit noting that Mr Grosser made no suggestion to the contrary), and paid greater attention to the nature of the circumstances which might be required to facilitate the transfer of bodily fluid, such as to result in a profile of the one obtained in this case. Mr Jones also gave an opinion on one matter not touched upon by Mr Grosser, that is, that were the tread of a shoe retaining a substantial amount of moist biological substance the likely means of the transference, then other similar staining would likely have been deposited on the deck.

The legislative provisions and the grant of leave

514 Section 402A(6) provides:

> "The Court may uphold the second or subsequent appeal of a convicted person if satisfied that –
>
> (a) there is fresh and compelling evidence; and
>
> (b) after taking into account the fresh and compelling evidence, there has been a substantial miscarriage of justice."

515 By s 402(10)(a), evidence:

> "(a) is fresh evidence if –
>
> (i) it was not adduced at the trial of the convicted person; and

(ii) it could not, even with the exercise of reasonable diligence, have been adduced at that trial; and

(b) is compelling evidence if –

(i) it is reliable; and

(ii) it is substantial; and

(iii) in the context of the issues in dispute at the trial of the convicted person, it is highly probative of the case for the convicted person."

516 The concepts of what is fresh evidence and compelling evidence are based on the terms of the analogous South Australian legislation considered in *R v Keogh (No 2)* [2014] SASCFC 136, 121 SASR 307 and *R v Drummond (No 2)* [2015] SASCFC 82. I would accept that the approach adopted in those cases should guide the approach of this Court to the expressions used in s 402A. As to whether there has been a substantial miscarriage of justice, *Van Beelen v The Queen* (above) at [22], authoritatively establishes that the test to be applied is that which was stated by the majority in *Mickelberg v The Queen* (1998) 167 CLR 259: whether the court considers that there is a significant possibility that the jury, acting reasonably, would have acquitted the appellant had the fresh evidence been before it at trial.

517 The South Australian provision considered in *Keogh* and *Drummond* was the *Criminal Law Consolidation Act* 1935 (SA), s 353A. It is similar to the Tasmanian provision, but not the same. In South Australia, a convicted person was required to establish that there is evidence which is fresh and compelling and should, in the interests of justice, be considered on an appeal as a pre-condition to the exercise of the jurisdiction of the appellate court to hear the second appeal. A convicted person may only appeal with permission of the Full Court, and the Full Court may only allow the appeal if satisfied that there was a substantial miscarriage of justice. In Tasmania, leave to appeal is required: s 402A(2). However, leave must be granted if the convicted person establishes that he or she "has a reasonable case to present to the Court in support of the ground of the appeal", s 402A(5)(a)(i), and it is "in the interests of justice for leave to be granted", s 402A(5)(a)(ii). The grant of leave was made in this case on the basis of different contentions and substantially different evidence than is now before this Court. The primary reason given by Brett J for the grant of leave concerned evidence given by and concerning Meaghan Vass, and out-of-court statements made by her since the trial. During the hearing of this appeal the appellant called evidence from Ms Vass. In the course of her evidence the appellant expressly withdrew any reliance on the contention that evidence from Meaghan Vass was fresh and compelling. It must follow, even if not part of the express concession, that it could not be contended that any of the related evidence before Brett J on the application for leave about out-of-court statements made by Ms Vass since the trial could be regarded as a credible or reliable basis for fact finding, and no reliance was placed on that evidence by the appellant. The appellant also withdrew reliance on grounds referring to other evidence asserted at the time of the application for leave, to be fresh and compelling. This appeal is confined to the contention that Mr Jones's evidence about the DNA testing of the sample said to contain the DNA of Meaghan Vass taken from the luminol positive area on the deck is fresh and compelling and demonstrates a substantial miscarriage of justice.

Is the evidence from Mr Jones fresh evidence?

518 The appellant must establish that the evidence could not have, even with the exercise of reasonable diligence, been adduced at trial. As to the definition of "fresh" used in the South Australian legislation, in *R v Keogh (No 2)*, Gray, Sulan and Nicholson JJ said at [102]:

> "An applicant bears the onus of establishing that evidence relied upon for this purpose is fresh. The question of whether evidence was adduced at trial for the purpose of 353A(6)(a)(i) may be determined by having regard to the transcript of evidence at trial. The requirement in s 353A(6)(a)(ii), that the evidence could not, even with the exercise of reasonable diligence, have been adduced at trial, requires an objective assessment of what the applicant could reasonably be expected to have done in all of the circumstances leading up to and including the trial."

519 It is trite to observe that determination of what the exercise of reasonable diligence may or may not involve is a judgment to be made on the factual circumstances of a particular case. This is a not case in which any of the evidence given by Mr Jones was not available to be given at the trial. Mr Jones did not contend that his opinion involved the consideration of new scientific knowledge, techniques or studies not available at the time of trial. It is not contended that his opinion was based on any material which did not already exist at the time of trial. He agreed that his laboratory was operating in 2009, that it used much the same technology used by the Tasmanian laboratory, that he was sometimes consulted for advice by defence counsel, and that in 2010, given access to the same material upon which his opinion was based, his evidence would have been exactly the same. He also said that such evidence could have been given at trial by numerous other expert witnesses located throughout Australia who routinely provide advice, reports and evidence on such matters, including on behalf of accused persons.

520 The question in this case is whether, in the circumstances of this trial, the appellant could not have adduced the evidence even with the exercise of reasonable diligence. As the plurality pointed out in *Keogh (No 2)* at [99], citing Barwick CJ in *Ratten v The Queen* (1974) 13 CLR 510 at 516-517, ordinarily, an appellant will not have acted with reasonable diligence if he or she could reasonably be expected to have become aware of the evidence and adduced it at trial.

521 The appellant's primary submission is that, even with reasonable diligence, the appellant could not have adduced the evidence now adduced from Mr Jones. That is, it could not even with reasonable diligence, have investigated an alternative opinion about the matters which became the subject of Mr Grosser's evidence. That was so, the appellant contends, because, in breach of its duty of disclosure, the prosecution gave no notice to the appellant of the intention to lead evidence from Mr Grosser about the possibility that DNA matching that of Ms Vass had been transferred onto the yacht, and no notice of what Mr Grosser's evidence about that issue would be. As part of that submission the appellant contends that there was a related failure to disclose the electropherogram, as well as the contents of Mr Grosser's email to Detective Sinnitt to the effect that the strength of the DNA profile obtained from the swab was indicative of the presence of a relatively large amount of DNA more likely to have come from bodily fluid than by a contact touching event.

522 It may be accepted that compliance with the prosecution duty of full disclosure is a fundamentally important aspect of a fair criminal trial. It is ordinarily expressed as a duty to give an accused adequate notice of the case which is to be made against him or her, and to disclose all relevant evidence: see *Grey v The Queen* [2001] HCA 65, 75 ALJR 1708. See also the recent analysis of the duty in *Roberts v The Queen* [2020] VSCA 58, 60 VR 431 at [55] and following. A breach of duty here is not advanced as a material irregularity in the conduct of the trial, but in the context of determining whether Mr Jones's evidence could not have been adduced, even with reasonable diligence. The contention advanced by the appellant is that the absence of notice by the prosecution to adduce evidence from Mr Grosser about the relative possibility of the presence of the DNA being explained by direct deposit or secondary transfer effectively deprived the appellant of the opportunity to adduce evidence relevant to that issue. In my view, the contention does not, in the circumstances of this case, withstand scrutiny.

523 Well in advance of the trial, the appellant was given notice of the results of all of the scientific investigations conducted by the forensic scientists. Comprehensive reports were delivered which included an express indication that the full notes and details of the test methods and results of examinations and tests were available to defence counsel. The reports indicated that FSST "provides an impartial service and defence counsel are encouraged to contact the authors directly for clarification of any aspect of this report, without prejudice." Both scientists were cross-examined in preliminary proceedings.

524 Ms McHoul's forensic biology scene examination report dated 12 June 2019 described all of the luminol positive areas she found in the interior and on the exterior of the yacht. She collected at

least 61 items from the yacht on various dates, including 24 swabs taken from luminol positive areas. Of those swabs, 12, on my count, were taken from the deck of the yacht or on, in, or adjacent to the cabin or cockpit. Following the DNA profiling conducted by Mr Grosser, the sample ultimately shown to contain DNA matching that of Ms Vass was reported as "Full DNA profile (female)." In the reports, the term "Full profile" was not defined. However the term "Partial profile" was defined as "an incomplete profile where some DNA characteristics have not been detected". It was readily to be inferred that a full profile was a complete profile in which all DNA characteristics were detected. The nature of the profile was to be contrasted with the results of the profiles obtained from other similar swabs of luminol positive areas which were variously reported as, in one case, a full male profile matching that of Bob Chappell, and others either containing no DNA profile or partial profiles from which no reliable conclusions concerning possible contributors could be drawn. Some contained male DNA and some were inconclusive as to gender. One was a mixed profile with at least three contributors with male DNA present, from which Mr Chappell was not excluded, with a probability ratio of 1 in 10, but inconclusive as to female DNA. Of the luminol positive areas I have described, eight, including the swab reported at item 20 from area 11, were negative to the HS screening test for blood. The swab containing DNA matching that of Mr Chappell was weakly positive to the presence of blood. Two other swabs, one taken from the seat in the cockpit, and another from the starboard walkway adjacent to the cockpit, were weakly positive to the HS screening test for blood. None of the samples were made subject to the confirmatory test for the presence of blood.

525 When it became known that the full DNA profile in the swab taken from the starboard walkway matched that of Meaghan Vass, the relevance of how that DNA may have come to be present on the yacht to the issue of whether she may have been present on the yacht at the time of Mr Chappell's murder was obvious to anyone, still more so experienced counsel. It may have been that counsel for the appellant at trial made a forensic assumption that, in the absence of a proof of evidence to be adduced from Mr Grosser, no evidence would be adduced by the prosecution about how DNA may be present in a particular location. It may have been thought advantageous to the defence that the jury would, absent any further evidence, have been left simply with the unexplained presence of Meaghan Vass's DNA on the yacht. The appellant now contends that, until evidence on the question was led from Mr Grosser, no occasion for enquiry by the defence arose. Put another way, that the failure of the prosecution to give notice of the evidence led from Mr Grosser meant that by the time it was in fact given, the evidence now relied upon could not have been adduced. I would accept that, until Mr Grosser gave his evidence, the defence had no notice of what he would say about the possible explanation for the presence of the DNA. That is not to say, however, that evidence relevant to the relative likelihood of direct deposit, as opposed to secondary transfer, *could not*, with reasonable diligence, have been obtained by the appellant. The available evidence on that question was, prior to trial, no different than it is today. There was no impediment at all to a request for expert opinion on that subject.

526 With due allowance for the very unfortunate fact that senior counsel for the appellant, Mr D Gunson SC, died in 2018, there is no evidence adduced by the appellant in this appeal that no enquiries about the relevant significance of the DNA profile were made prior to trial, or if not, why not. Mr Jones's evidence has been known since 2014. The amendment to the legislation permitting this appeal occurred at the end of 2015. The appellant's case on appeal is not assisted by any evidence of the reason that no enquiry was made about the nature of the DNA sample and what, if any, inferences could be drawn from it, or that further evidence would have been sought for the defence at trial had notice of the proposed evidence from Mr Grosser been made the subject of a proof of evidence prior to trial. I accept that it may be inferred from the objection to the relevant parts of Mr Grosser's evidence that no such enquiry had been made. However, to me, that does not adequately explain the absence of any enquiry about what is now described as a "pillar" of the defence case when such evidence was available.

527 Moreover, I am not persuaded that the reasonable opportunity to adduce the evidence now relied on was lost by late notice of Mr Grosser's evidence. Although an objection to the evidence was overruled, the trial judge offered the defence the opportunity to ask for time to prepare cross-

examination. No adjournment application was made either to prepare for cross-examination or to investigate further evidence. Cross-examination of Mr Grosser on the relevant questions occurred. Mr Grosser's evidence was given on 29 September 2010. Detective Sinnit's evidence which led to discovery of the email from Mr Grosser was given on 30 September 2010, at which time counsel for the appellant became aware of Mr Grosser's opinion that the sample of DNA was of a nature more likely to come from bodily fluids than a touching event. In the course of the application to recall Ms Vass and Mr Grosser, made on that day, counsel for the appellant submitted to the trial judge that he intended to submit to the jury that "they can draw the inference that given the level of DNA on the deck that that girl was on that boat at some stage." The appellant was not called upon to make her election until 11 October 2010, when she elected to give but not adduce evidence. Without more, even with allowance for the demands of trial, there appears to have been an opportunity, with reasonable diligence, for enquiry on behalf of the defence about the availability of the evidence now relied on. Again, the appellant's contention that the evidence is fresh is not assisted by any evidence that enquiry was made, the result of any enquiry, or that there was a reason it was not. That the evidence could well have been adduced at trial is demonstrated, to my mind, by the relative ease with which an opinion was ultimately obtained from Mr Jones on material which existed at the time of trial and was readily available.

528 The appellant submits that "great allowance" should be extended to a convicted person when considering whether evidence could not, with reasonable diligence, have been adduced. I agree with the approach taken by Stanley and Doyle JJ in *Helps v The Queen (No 3)* [2021] SASCFC 10 at [198]-[202] and their Honours' remarks about the need to maintain a robust threshold for the hearing of second or subsequent appeals in accordance with the principle of finality. Their Honours were considering the South Australian legislation which required demonstration of fresh evidence as a condition to the exercise of jurisdiction to consider a second appeal. The principles apply with equal force when considering the position in Tasmania which limit the circumstances in which this Court may uphold an appeal. However, in this case, even with allowance for the latitude to be extended to an accused contemplated by the court in *Keogh (No 2),* deriving from the statements of Barwick CJ in *Ratten v The Queen* (above), the appellant has not established that the evidence could not, with the exercise of reasonable diligence, have been adduced at trial and is thus not fresh.

Is the evidence from Mr Jones compelling?

529 The appellant must, in accordance with the terms of s 402A(10)(b), establish that the evidence is reliable, substantial and, in the context of the issues in dispute at the trial of the appellant, highly probative of the case for the convicted person. In *Van Beelen v The Queen* (above) at 578, the Court addressed the terms "reliable" and "substantial" and "highly probative" at [28]:

> "Nothing in the scheme of the CLCA or the extrinsic material provides support for a construction of the words 'reliable', 'substantial' and 'highly probative' in other than their ordinary meaning. Understood in this way, each of the three limbs of sub-s (6)(b) has work to do, although commonly there will be overlap in the satisfaction of each. The criterion of reliability requires the evidence to be credible and provide a trustworthy basis for fact finding. The criterion of substantiality requires that the evidence is of real significance or importance with respect to the matter it is tendered to prove. Plainly enough, evidence may be reliable but it may not be relevantly 'substantial'. Evidence that meets the criteria of reliability and substantiality will often meet the third criterion of being highly probative in the context of the issues in dispute at the trial, but this will not always be so. The focus of the third criterion is on the conduct of the trial. What is encompassed by the expression 'the issues in dispute at the trial' will depend upon the circumstances of the case." [Footnotes omitted.]

530 The criterion of reliability thus requires the evidence to be credible and provide a trustworthy basis for fact-finding: *Van Beelen v The Queen* at [28] citing *Keogh (No 2)* (above) at [105] and *R v Drummond* (above) at [325]. There is no question that Mr Jones is a credible witness and that his evidence would provide a trustworthy basis for fact-finding.

531 The criterion of substantiality requires that the evidence is of real significance or importance to the matter it is tendered to prove. According to the court in *Keogh (No 2)* at [106], evidence will be substantial "if it merits being accorded weight as part of the consideration of the issue to which it relates." In this case, whether the evidence is substantial is closely related to the question of whether the evidence is, in the context of issues in dispute at the trial, highly probative of the case for the appellant. If it is, then it will also be substantial.

532 Broadly stated, the issue in dispute at trial was whether the prosecution had proved beyond reasonable doubt that the appellant, and not another person, killed Mr Chappell. The case for the appellant was that the evidence did not exclude, as a reasonable and rational hypothesis consistent with innocence, the possibility that Mr Chappell was killed by someone other than the accused. Considered more narrowly, the appellant's contention is that Mr Jones's evidence is probative of the appellant's contention at trial that Meaghan Vass could have been on the yacht at or around the time of Mr Chappell's death, which raised as a reasonable possibility that she or someone associated with her, could have killed him.

533 The evidence of Mr Jones did not falsify the basis of Mr Grosser's opinion. It did not demonstrate it to be wrong or misleading. Mr Jones did not discount the possibility that the presence of Ms Vass's DNA on the yacht may have been explained by reasons other than her presence. The appellant's written submission that Mr Jones's evidence is that the presence of DNA matching that of Ms Vass was "more likely to have resulted from primary rather than secondary transfer", and that "expert evidence that the DNA was most likely deposited directly and not by way of secondary transfer" is not an accurate representation of Mr Jones's evidence. I would accept that his opinion that the sample derived from bodily fluid, his elaboration of the kind of circumstances which would be required for secondary transfer to have occurred, and his expectation of, if secondary transfer were to have been the source, the presence of other matching DNA on the deck distinguished his evidence from that of Mr Grosser. As expressed by the appellant's counsel to this Court, Mr Jones stated the likely need for the "concatenation of quite specific circumstances with a very close connection between the picking up of the DNA and its deposit on the deck of the Four Winds." The proper characterisation of Mr Jones's evidence is that his opinion about those factors was relevant to the assessment of the possible reasons for the presence of the DNA. The inference which might be drawn from his evidence is that the particular circumstances necessary before DNA, sufficient to result in a profile such as was obtained in this case, might have been transferred onto the boat by some other unknown medium, made that scenario less likely. However I agree with the observations of Brett J in his reasons for granting leave that "[Mr Jones] and Mr Grosser are unified in the position that the surrounding circumstances are essential to determining the relative probability between primary and secondary transfer. Each correctly and appropriately conceded that those are areas outside his area of expertise. They are, in fact, a factual question for the jury."

534 I accept the submission of the respondent that acceptance of Mr Jones's evidence that the biological source of the DNA was most likely bodily fluid, for example blood or saliva, made transfer a more likely explanation for the presence of the DNA as it virtually ruled out the possibility that Ms Vass left the DNA simply by touching the yacht.

535 I do not think that Mr Jones's contention that, had the sample been produced from a significant quantity of bodily fluid then other examples would have been expected to be found, carries much significance. Mr Jones and Mr Grosser agreed that the evidence did not establish that the source of the DNA was the same substance that produced the luminol reaction. What caused the luminol reaction reported as item 20 from area 11 was not established by the evidence. In argument during this appeal counsel for the appellant emphasised the size of the luminol positive area, stating the area swabbed was 210mm x 260mm. The dimension was demonstrated with cardboard cut to size. Ms McHoul's evidence was that the luminous area within the swabbed area was somewhat smaller because she allowed a margin. Be that as it may, in the absence of evidence that the substance which caused the positive

reaction was the source of the DNA, and the obvious inference that because the whole area was swabbed with a single swab, the DNA could have come from any part of the area, the contention carries little weight. There were many luminol positive areas on the deck. Mr Jones agreed that luminol can give a false positive for blood. Most areas on the deck which reacted to luminol were negative to the HS screening test for blood. Others were weakly positive. In no case was a confirmatory test for the presence of blood performed. According to Mr Jones, although the positive luminol reaction suggested the presence of blood, other factors in this case suggested that it may not be blood, and the possibility that the DNA was from vomit or saliva could not be ruled out. In my assessment, had the source of the DNA which was bodily fluid been directly deposited by Ms Vass when present on the boat, the likelihood of the fluid being present elsewhere on the deck would have been no different. The proposition just stated was acknowledged by Mr Jones when, in cross-examination before Brett J, the following exchange occurred:

> "Q … if this is a walkway and all this DNA is being deposited there, however it got there, say if it was put there by direct transfer, however it go there, you'd expect some – it be found elsewhere, with people walking there on and off with – is that the case?
>
> A I believe it's a reasonable possibility to propose, yes, particularly if there's liquid involved, if there's moisture and foot traffic and foot traffic transferring some of that moist material to another area that would be quite likely in my opinion."

536 Mr Jones also agreed with the proposition that, were the source of the DNA not blood, there would have been no means to identify the location of it for sampling.

537 The appellant places considerable weight on the contention that the effect of Mr Jones's evidence would have been to preclude the prosecution, in counsel's closing address to the jury, from advancing the scenario that the DNA on the yacht "could have been put there at any time before the DNA swab was taken by anyone who had acquired some trace on their footwear at any place and then maybe got in the car, driven down and got out and onto the boat and transferred it." This submission, it is contended, coming from the Director of Public Prosecutions and "with all the authority that that office carries", enabled the prosecution to dismiss aspects of the defence case as "red herrings" and to "deconstruct" one of the "two pillars of the defence case."

538 A distinction is to be drawn between the evidence itself and the submissions of counsel at trial. Strong contrary submissions were made by counsel for the appellant. The trial judge made clear to the jury that matters of fact and evidence were for them to determine, that it was their duty to form an independent view of the evidence and reminded the jury of the defence contention that the possibility of secondary transfer was not plausible.

539 Whether the evidence of Mr Jones is highly probative of the appellant's case is also to be considered in light of the other evidence relevant to the likelihood of Meaghan Vass's presence on the yacht at the time of Mr Chappell's murder. The evidence is reviewed in detail in the reasons of Wood J and I need not repeat all of it. There was no other evidence probative of her presence, or the presence of anyone associated with her, on the yacht at that time. The defence does not rely on any evidence to contradict her denial at trial that she was not on the yacht, although it was open to the jury to reject it. The jury was entitled to conclude that, even if the presence of her DNA on the yacht was not satisfactorily explained, it was implausible that a 15 year old homeless girl, with no connection to the deceased or the yacht, and no connection to the area where the yacht was moored, would be present on the vessel, either alone or with others. The defence scenario that another dinghy may have been used to travel to the Four Winds is discussed by Wood J in her reasons. I agree with her Honour's comments. Moreover, the suggested use of a different dinghy does not account for the appearance of the Four Winds tender, when it was found with the painter inside. A finder of fact is also entitled to regard as implausible a scenario whereby Ms Vass, in her circumstances, either alone or with others, stole the tender from where the appellant claimed she left it, the tender happening to be the one from the Four Winds, had the means to operate it, and then use it to travel to the yacht from which it had come, rather

than one of the other perhaps closer yachts moored in the same area. The implausibility of the scenario that Ms Vass, or persons with her, was or were responsible for the murder was compounded by the evidence which suggested that that removal of the body, if by means of the winch, required a working knowledge of the winches on the yacht, and the compelling evidence that the method of sabotage required an intimate knowledge of the yacht.

540 I agree with the observations of Wood J that the evidence did not preclude the possibility of either secondary or direct deposit of the DNA when the yacht was moored at CleanLift in Goodwood from 28 January 2010 until the sample was taken on 30 January 2010. The evidence did not preclude the possibility of direct deposit during that time. It was open to the jury to disbelieve Ms Vass's evidence that she had not been on the yacht at Goodwood. The appellant gave evidence that the Four Winds was broken into whilst at Goodwood and items were stolen. The manager of CleanLift Marine gave evidence on the leave application that the yacht, while it was moored there, was left in the open, that the premises were not secure and that previous break-ins to other yachts had occurred. In this respect, as Wood J points out, there were aspects of Mr Jones's evidence which were arguably unfavourable to the defence case. When cross-examined before Brett J on the leave application, Mr Jones was asked about his conclusion that the electropherogram reported that the DNA sample displayed very little sign of degradation. He had earlier reported that there was no indication that "any component (allele) within the DNA profile had dropped out nor was there any indication of stochastic variation." Mr Jones explained that DNA may be degraded by exposure to sunlight and environmental factors, including bacteria. The evidence at trial established that the deck of the boat was exposed to the elements, as of course it usually was, from the time it was seized until the sample was taken. The evidence suggested that the area from which the swab was taken was exposed to a considerable amount of foot traffic during the same period. Mr Jones explained that sunlight degrades biological material "quite rapidly". He indicated that he was not in a position to give a definitive opinion about how long, in those environmental conditions, the biological material would survive so as to show the DNA profile which was subsequently produced from it. However he indicated that three or four days was a "grey area" and that his first response would be "one or two days … Potentially a little longer, but it depends on how much starting material you have." Although not definitive, that evidence was in favour of a scenario in which the DNA was deposited closer to 30 January 2010 than overnight between 26 and 27 January 2010.

541 When considering the context of the issues in dispute at trial, it is important to recall the basic but fundamentally important proposition that the prosecution carried the onus to prove the appellant's guilt beyond reasonable doubt. What is to be considered is whether Mr Jones's evidence is highly probative of whether the prosecution excluded, beyond reasonable doubt, the scenario consistent with innocence: the possibility that Ms Vass was on the yacht and could, either alone or with others, have killed Mr Chappell. For the foregoing reasons, when all things are considered, I am not persuaded that the evidence relied upon by the appellant adds anything which is correctly described as of real significance or importance to the case that murder by Ms Vass, or someone associated with her, was a reasonable hypothesis. I am not persuaded that the evidence of Mr Jones is highly probative of the appellant's case. The appellant has not established to my satisfaction that the evidence is compelling.

A substantial miscarriage of justice?

542 It is accepted by the appellant that, when considering whether, after taking into account evidence which is fresh and compelling, there has been a "substantial miscarriage of justice" that the test in *Mickelberg v The Queen* (above) is to be applied. It is the test endorsed by the High Court in *Van Beelen* at [22]-[23] and [75]. It requires the appellant to demonstrate that there is a "significant possibility" that the jury, acting reasonably, would have acquitted the appellant had the fresh evidence been before the jury at the trial.

543 To my mind, in the scheme of the Tasmanian legislation, and in the circumstances of this case, there is overlap between the question of a substantial miscarriage of justice and the second and third criterion of whether the evidence is compelling, that is, whether it is substantial and highly probative. In other words, whether evidence is substantial and highly probative may be judged against the combined force of all of the other evidence at trial which was probative of guilt. Regardless of the correctness of that proposition, Wood J has detailed the evidence probative of the appellant's guilt, and I respectfully agree with her Honour, for the reasons she gives, that there is not a significant possibility that the jury, acting reasonably would have acquitted the appellant had the evidence of Mr Jones been before the jury at trial.

544 I would dismiss the appeal.