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An Interim Technical Report for the Case of

Regina -v- Harmohinder Sanghera

by

D.C. Woods BSc, PhD, RFP, CBiol, MFSSoc, MEWI

Summary

Harmohinder Sanghera is charged with the murder of Sana Ali at [REDACTED] by stabbing and cutting her to the arms, chest and abdomen. Harmohinder Sanghera accepts that she attended Sana Ali's home, but maintains that when she left Sana Ali was alive and the visit was without incident. In my opinion, the findings suggest that Sana Ali was in the front bedroom when she started to bleed, and remained there throughout the assault. An early part of the assault occurred to the left of the bed, and included Sana Ali swinging an injured hand/arm to cast off blood spots across the wardrobe doors.

The distribution of blood on Sana Ali's clothing suggests that she bled heavily onto her trouser legs, while in a sitting forward position, from injuries to her chest area. The findings indicate that Sana Ali's top was raised up as she laid face down on the bedroom floor as blood and intestinal fluid created the main pooled stain. Sana Ali was stabbed at least once, and cut several times, through the fabric of the upper part of her top. It appears likely that the wound to her abdomen was inflicted when the top was raised, although there is one possible stab cut in approximately the appropriate location. Sana Ali then either moved or was moved to a position laying on her back, head behind the door and legs beside the bed.

[REDACTED]
Validated by

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This report consists of 16 pages.

Qualifications and Experience

Author — Duncan Colin Woods

I have been fully employed as a forensic biologist since 1988. I am instructed in approximately 100-120 criminal cases each year involving assaults, murders, sexual offences and other offences involving contact trace transfer. I am also responsible for the management and quality review of reports prepared by other experts at Keith Borer Consultants (over 200 annually). These cases encompass a range of issues, from the straightforward DNA profiling of a swab or stain, examination of the pattern of blood on exhibits or analysis of textile fibres on a garment, to complex cases involving examination of scenes and bloodstain patterns, and subsequent drawing of conclusions from analyses of blood, semen, saliva, textile fibres and footwear marks. I am frequently instructed to prepare "overview" reports on the way in which complex scientific findings link together and their significance in relation to disputed issues.

I have the following qualifications:

- Bachelor of Science (1984) Biology
- Doctor of Philosophy (1988)
- RFP Registered Forensic Practitioner
- CBiol Chartered member of the Institute of Biology
- MFSSoc Member of the Forensic Science Society
- MEWI Member of the Expert Witness Institute

Validator — Lee John Fagan

Mr Fagan has been employed as a forensic scientist since 1997. He specialises in the detection and DNA profiling of transferred biological material and the interpretation of biological stain patterns. He is instructed in approximately 100 cases each year, most of which involve offence against the person. He is also responsible for the quality review of reports prepared by other experts at Keith Borer Consultants, totalling around 100 annually.

Mr Fagan read Genetics at the University of Newcastle upon Tyne and graduated with first class honours. He has completed training in the interpretation of DNA evidence and statistical genetics for forensic scientists, and in advanced blood pattern analysis.

Mr Fagan has the following qualifications:

- Bachelor of Science (1997) Genetics
- CBiol Chartered Biologist
- MIBiol Member of the Institute of Biology
- RFP Registered Forensic Practitioner

Quality Statement and validation

The service provided by Keith Borer Consultants is controlled by a quality system that is independently certified to ISO 9001:2000. A second scientist, the validator, has studied the case file, read the report and is satisfied that the scientific principles used have been properly applied and the opinions expressed are reasonable based on the information made available to us.

Introduction

We are instructed by Mary Monson, Solicitors, that Harmohinder Sanghera is charged with the murder of Sana Ali. In relation to this I have received the following

I. Letters of instruction.

II. Defendants account.

III. Statements of Mrs Geraldine Davidson (Forensic Scientist) dated 13th and 25th July 2007.

IV. Medical reports prepared by Dr Philip Lumb, and RT Shepherd.

V. Statement of Kirsten Turner (30/7/07).

VI. Statement of Robert Lyon (Fingerprint Officer) 28/6/07.

VII. Witness statements of Yasmin Ali, Iram Ali, Zaira Mehdi, Andrew Nuttal, Paul Jackson, Gary Johnson and Simon Brady.

From information contained in these I understand that Greater Manchester Police received an emergency phone call from [REDACTED], at 16:13hrs on 17th May 2007. I understand that Yasmin Ali and Iram Ali had met and walked to Sana Ali's home. Yasmin Ali opened the door and started checking the rooms for Sana Ali. On ascending the stairs she saw that Sana Ali's bedroom door was half open. She could see blood on the carpet inside and spattered blood on the wall. Yasmin Ali opened the door and saw Sana Ali lying on her back on the floor behind the door. She had blood on her top, near her chest and on her arms A large knife was on the floor beside her Phone calls were then placed to family friends and the emergency services. Police and paramedics attended the scene and initially Sana Ali was treated within the bedroom of the premises but later removed to hospital.

Subsequent medical examinations indicated that Sana Ali received 43 incised/stab injuries and died as a result of stab injuries to her chest and abdomen.
I understand that Harmohinder Sangh era accepts that she attended [REDACTED] on the 11th May 2007, rang the door bell and reports that Sana Ali asked her to go round to the back door. Harmohinder Sanghera went to the back door where she spoke to Sana Ali, who invited her into the house. They stood and talked in the kitchen for a while, when Sana Ali asked the defendant if she would help her shut the window. Harmohinder Sanghera attempted to shut the window from inside by climbing onto the work service but was unable to do so. She then went outside and managed to close the window from the outside before returning inside the house. Sana Ali then invited Harmohinder Sanghera upstairs and they went into one of the bedrooms where she showed Ms Sanghera s teddy bear. Ms Sanghera maintains that they talked for a period of time, before moving to the master bedroom where they sat on the edge

of the bed. There was further conversation and Ms Sanghera maintains that Sana Ali did not appear upset, angry or make any threats. Sana Ali then received a telephone call which she did not answer. Ms Sanghera maintains that she left the house at approximately 2:10pm, at which time the deceased was alive and well, and the visit had passed without incident. Harmohinder Sanghera maintains that she was not responsible for inflicting the injuries to Sana Ali.

Part of the scientific evidence consists of examinations reported in the statements of Geraldine Davidson dated 13th and 25th July 2007. These included details of her examination of the scene and a large number of items recovered to the Forensic Science Service laboratory, Chorley.

I am instructed to examine the scene photographs, Mrs Davidson's scene examination records, and to consider the significance of the scientific findings in relation to establishing the sequence of events. In addition I am requested to examine the alleged murder weapon, the kitchen knife CW1, a pair of trousers PL16, a top PL19 (both worn by the deceased) and a double bed throw AO21, to consider the significance of the findings relating to them and the accuracy Mrs Davidson's conclusions.

My instructions do not include examination of any other items, the continuity documentation or the DNA profile data, or consideration of the significance of the negative scientific findings.

The following pages are my report providing background information on blood pattern analysis, the salient points relating to the scene examinations, details of my examinations of recovered exhibits and discussion.

Statement of truth

This report is true to the best of my knowledge and belief and I make it knowing that, if it is tendered in evidence, I shall be liable to prosecution if I have wilfully stated in it anything which I know to be false or do not believe to be true. The comments and opinions expressed in this report are based upon the information available to me at the time of writing. The provision of further information may cause me to alter or amend my opinions.

Declaration of impartiality

I understand that my duty is to assist the Court on matters within my expertise and that this duty overrides any obligations to the party from whom I have received instructions or by whom I am paid.

Background to Blood Pattern Analysis

In order that bloodstain patterns are created, a source of wet blood is needed in circumstances that make it available for transfer. This is generally:

- Blood flow or projection from injuries to people
- Wet bloodstains on surfaces/items
- Accumulation, pooling and passive flow of blood.

The spread and location of spilt blood can give a lot of information, however the interpretation of bloodstain patterns is rarely an exact science. It is possible to obtain good results for fingerprints, footwear marks, and sometimes implement or fabric marks.

The interpretation of bloodstain patterns at scenes and on exhibits is a routine part of forensic examination and a generally accepted terminology has been developed. This includes:

Contact staining -	resulting from contact with wet blood on a surface or object; can include wiping marks, implement impressions and hair marks.
Drip -	blood which has fallen passively under gravity (i.e. not projected) from a wound or heavily bloodstained item.
Contact smears -	moving contact against a surface wet with blood.
(Projected) spatter -	small blood spots and splashes which can be produced when a force is applied to wet blood, e.g. kicking, punching, expiration, vigorous movement.
Secondary spatter -	generated as tiny droplets when blood drips or splashes onto a hard surface(s).
Expirated spatter -	only feasible if blood is present in the nose, mouth or airways. Characteristics of expirated spatter can include air bubbles within stains, beading/stringing and dilutions of stains caused by mucus and/or saliva. Can be indistinguishable from projected spatter generated by impacts.
Cast off -	spots and splashes often seen on ceilings or walls at crime scenes and on clothing, resulting from blood being cast off a weapon or object which is swung or moved in a linear manner.
Arterial gushing/spurting -	a volume of blood projected under pressure from a severed artery characterised by large drops and blood runs.
Blood runs -	blood which is present in sufficient quantity to flow/run down surfaces such as walls, furniture or clothing worn by an injured person.
Pooled blood -	an accumulation of blood on a flat surface, often accompanied

by passive flow of blood across surfaces.

Percussive stains - distortion of wet bloodstains already on an object when that object comes to an abrupt stop.

Cessation cast off - blood droplets released from the abrupt stop of a heavily wet bloodstained weapon.

Clearly, there are numerous additional subtle variations to be considered in the interpretation of bloodstain patterns. Although the analysis of bloodstain patterns is frequently an important consideration in criminal cases, it is not an exact science and every case is different. The exact significance of finding, or not finding, a particular pattern of bloodstains is usually dependent on the nature of the incident and thus on the non-scientific evidence. In addition, as people do not bleed liberally at the instant of an impact, the absence of an expected bloodstain pattern cannot usually be used as a secure means of eliminating a particular scenario.

The Scene

In relation to the physical features of the scene and the distribution of blood staining, I have received the following;

I. Statement prepared by Geraldine Davidson dated 13th July 2007 detailing her examination of the scene.

II. Copy of Mrs Davidson's scene examination records.

III. Scene photograph albums AJD1, MG1, MG22

Based on information in these there appear to be the following salient points:

1. The scene premises is a substantial detached house. The garden is enclosed by a low wall with gates. No blood staining appears to have been found immediately outside the house.

2. The front door opens onto a hall, from which there are doors to a number of rooms, including a shower room, lounge/dining room and kitchen/dining room. A flight of stairs leads from the hall to the first floor. There are 4 bedrooms and a bathroom upstairs. The front bedroom is straight ahead at the top of the stairs.

3. I understand that the front bedroom was where the deceased was found. The bedroom to the left was occupied by Hassan Ali. Another bedroom to the left was occupied by Sana Ali and the master bedroom to the right by Sana Ali's parents.

4. The door to the main bedroom opened to the left. On entering there was a double bed straight ahead with fitted wardrobes either side. There were curtains and blinds at the window, a mirror and free standing heater to the right and bedsills either side of the bed. There were various other items in the room including a chocolates box on top of the bedside cabinet and a mobile telephone on the bed. There was a large fabric throw covering the bed which was displaced.

5. The heaviest of bloodstaining was on the floor between the door and the bed (photographs 27, 28 and 29 of AJD1). This consisted of a soaked in pool of blood, some of which was mixed with other fluids, as might be expected from an abdominal wound.

Comment

I understand that Sana Ali was found with her head behind the door, body lying parallel to the left wall with legs in the space to the left of the bed. This indicates that Sana Ali moved or was moved from the location of the heaviest bloodstaining on the floor where much of the staining is consistent with passive flow of blood and intestinal contents from the deceased. There were also what appear to be numerous drip stains in this area indicating blood dripping from above. To the left of the blood pool there were numerous contact bloodstains and smears, many of which were heavy and soaked into the carpet. These extended across to the wall where the deceased was found. The distribution of bloodstains in this area is what might be expected to result from Sana Ali being moved and receiving medical attention from paramedics. There appears to be relatively little bloodstaining to the right of the main pooled blood. In my opinion, it is likely that the pooled blood was caused as Sana Ali laid on

the floor and bled from her abdomen, before she was moved to the location behind the door.

6. There were numerous blood spots and splashes within the room, some showing directionality. These were concentrated in the confined area to the left of the bed, including the wall near to where the body was found, and across the wardrobe doors in the far left corner of the room (as viewed from the door). In particular, there appears to be a single horizontal linear cast off distribution of blood spots across the wardrobe doors. This suggests a single swinging action of Sana Ali's injured hand or arm, while located in this corner of the room.

Comment
These findings are what would be expected if Sana Ali was involved in a struggle with her assailant, which involved her receiving defence injuries to her arms and hands, while attempting to protect herself. It is noteworthy however, that there was only one clear linear cast off distribution amongst a relatively limited amount of blood in the far left corner of the room. Sana Ali had numerous incised injuries to her hands and forearms. In my opinion, it is likely that some of these injuries were inflicted after Sana Ali moved away from this corner of the room, otherwise there would probably have been more dripped blood on the floor and more blood cast off from movement of her arms.

7. Contact bloodstaining was noted on the edge of the bed throw, which was disarranged on the bed. There was further contact staining on the kickboard at the base of door 3 (as designated by Mrs Davidson), and a number of downward blood drips in this area. (The bed throw is described in more detail l later).

8. Mrs Davidson reports that bloodstaining was found on the bedroom window frame, handle and locking button. This is recorded in Mrs Davidson's photographs but is not shown in the police scene photographs provided. Mrs Davidson has concluded that it is consistent with the window being closed by a person with a wet bloodstained hand. No bloodstaining was found on the vertical blinds and no blood drips were recorded on the window sill or surfaces underneath the window.

Comment
This would suggest that whoever touched the window handle and frame, did so with a hand on which there was fluid blood, but was not dripping blood from an injury.

9. Bloodstaining on the back of the bedroom door included smearing on and around the handle. There were further smears of blood 120cm above floor level and some spots/drops lower down on the door. Similar staining, including downward directional blood spots at upto 140cm above the floor, and contact type stains, were distributed on the left wall, between the door and the first wardrobe door (i.e. the area of wall above where the body was found).

10. Some areas of bloodstaining were found on the banister at the turn of the stairs. There was also a small contact blood stain on the corner of the mattress in Sana Ali's bedroom. Traces of diluted blood were found on the kitchen mixer tap and sink. No blood was found elsewhere in the kitchen or in the other rooms of the house.

Examination of the Exhibits

On the 25th September 2007 I attended the Forensic Science Service Laboratory, Chorley, where I examined available exhibits and Mrs Davidson's case file, which contained original examination records, continuity documentation and DNA profiling results. Copies of the general examination records and examination photographs for the following items were taken. The bloodstained double bed throw AJO21 was available on the 25th September and was examined. The knife CW1 was not available for examination on that date, by prior arrangement, because it was required for fingerprint examination. I did, however, have an opportunity to briefly examine it on an earlier date, sufficient to establish that there is little benefit in a more detailed examination given that the handle has been extensively swabbed to remove DNA and the rest of the knife extensively stained during fingerprint examinations. Consequently, I am heavily reliant on Mrs Davidson's laboratory records and photographs to provide information about the original distribution of blood on this item. The deceased's top and trousers PL19 and PL16, were examined during my attendance at the Chorley laboratory on 2nd October 2007.

AJO21 Bloodstained, double throw

The labelling indicates that this was seized at 11.00 hours on 13/5/07. It is a large, double or king-size, quilted bed cover. One side is plain white, while the other has a complex pattern in brown, cream and pink, involving sewn panels, some of which have an embroidered floral design. It carries the brand name "pure opulence" and the labelling indicates the upper fabric to be 65% polyester, 25% polyamide and 10% viscose. The upper facing fabric has a "satin" appearance and consequently is relatively poor at maintaining the shape of bloodstains deposited on it. The plain white undersurface appears likely to be cotton or polyester/cotton fabric.

The item is in good lightly worn condition with a limited amount of staining and wear. Bloodstaining was present primarily on the upper patterned side. The following, particularly significant, blood patterns were noted (locations given as viewed from the foot of the bed at the scene):

i) A possible partial hand print in wet blood towards the lower right of the throw. This was in a location which may have been over the edge of the bed.

ii) A void area (i.e. area without bloodstaining) at the centre bottom of the throw, as might occur if this area was protected by the seat of a person sitting on the edge of a bed while depositing blood around where they were sitting. (The possible handprint was to the right of this void area).

iii) Extensive smeared bloodstaining above this void area and towards the lower left quarter of the throw (i.e. to the left of the foot of the bed as viewed at the scene). Some of this bloodstaining appeared to have run out onto the upper surface of the throw from a liberally bleeding wound. There was also contact staining and smearing extending to the lower left corner of the quilt (that is the corner displaced off the bed and onto the floor in the scene photographs).

iv) A series of individual stains extending across the left side of the throw, towards the edge, consistent with being caused by a linear cast-off of blood droplets.

v) Smaller contact stains, smears and blood spots on the left side of the throw, including smears towards the top end. There was also a 5mm cut to the fabric at the top left of the throw.

vi) Bloodstaining in two separate locations on the under surface of the throw. There were two bloodstains on the underside of the lower left corner (as viewed on the bed), the heaviest of which was in the very corner of the throw. There was also a heavy contact bloodstain on what would be approximately halfway up the right side of the throw as viewed on the bed, and three lighter bloodstains in this general vicinity.

In my opinion, the general distribution of blood on the throw would support the suggestion that a person sat on the centre bottom of the bed and placed a wet bloodstained hand on the edge of the bed. If this occurred then it would be the left hand of the sitting person that was placed on the bed throw. It is also possible that, having received a serious injury, this person has slumped backwards and to their right (the left as viewed from the foot of the bed), where blood has run out from their injury onto the throw. The general widespread distribution of blood droplets, contact stains and smears also suggests much movement/activity on the bed, which appears to have dis-arranged the throw as the blood was being deposited.

CW1 1 x large kitchen knife, bloodstained

The labelling indicated that this was seized at 16:25 on 11/5/07 from the front bedroom floor behind door at [REDACTED], Bury. I understand that this knife was found immediately adjacent to the location in which the deceased was found, lying on the bedroom floor. Brief examination indicated that it has now been much altered by laboratory and fingerprint examinations. The laboratory records indicate that it is a black handled kitchen type knife with three rivets in the handle. It has a single cutting edge blade. It is in good condition with no obvious damage. Particularly, there is no bending or deformation of the blade. The blade is 175mm long and 35mm at its widest point, near to the hilt. The blade thickness is approximately 1mm. The overall length of the knife including the handle is 300mm. It carries the brand name "Tramontina Brazil" on one side of the blade.

The entire knife was extensively and heavily bloodstained. There were numerous hairs and fibres adhering to the blood. There were areas of bloodstain on the cutting edge and handle.

The laboratory records indicate that individual fibres were mostly concentrated towards the cutting edge of the blade, and all hairs appear to be cut at both ends and therefore unsuitable for DNA profiling.

Mrs Davidson's laboratory records contain numerous photographs taken of the knife in its original condition. These record that the entirety of both sides of the blade had blood smears of varying intensities. These photographs also show the extensive distribution of blood smears and small blood spots over the handle.

While the blood smearing around the handle is consistent with being deposited while the knife was being held, and thus suggests that the person holding the knife had a bloodstained hand, the small projected blood spots would have been deposited when the handle was exposed.

The distribution of bloodstaining on the blade (and the DNA profile results reported for it) would strongly support the suggestion that this knife was used to cut and stab the deceased. The extent of smeared bloodstaining on the handle would support the suggestion that at least the hand of the assailant was bloodstained at the time. The findings also suggest that parts of this knife, particularly parts of the handle nearest to the blade insertion, were exposed to small projected blood droplets. It is unclear when these blood droplets may have been produced during events at the scene.

Comment
I understand that swabs were taken from the handle of this knife for DNA profiling. While it was expected to detect the DNA profile of the deceased from bloodstaining on the knife, it was hoped to also detect any DNA that might have been left by the person holding the knife handle. I understand that no probative results have been obtained.

PL19 Top

The labelling indicates that this was seized at 08:00 on 12/5/07 from the body of Sara Ali. It is a deep purple coloured long top with long sleeves. The main body area has a double layer of fabric but there is no lining to the sleeves. This garment appears to be of fitted design and intended to be fairly long on the wearer, possibly to approximately knee level. There are no manufacturer's labels. It is clean, moderately worn with some minor signs of normal wear.

It has a long cut running from the lower right hem, up the centre lower front to the neck line, I assume caused during medical attention. In addition, both sleeves had been cut along their length from neck to cuff.

A number of possible stab and slash cuts were identified as follows:

i) A 13mm cut to the centre back of the left sleeve.

ii) A complex 6.5cm series of cuts/slash damages, to the outside upper left front, some of which penetrate the outer layer of fabric but not the inner layer.

iii) 3mm and 3mm penetrative cuts to the outer fabric of the front left of neck area. These were associated with scoring of the fabric suggesting that they were caused by a slashing action.

iv) An 11mm cut penetrating both layers of fabric to the outside upper right front.

No clearly identifiable slash or cut damage was observed to the centre front of this garment, in the location that would have been over the wearer's abdomen.

The top is extensively bloodstained, effectively to all surfaces. It is particularly heavily bloodstained around the upper areas, there is however a relative absence of soaked in bloodstaining and/or stomach contents to the centre and lower front.

Comment
There was a horizontal 45mm cut damage, in approximately the abdomen area of the garment, which had been cut through by the 'paramedics', however it is unclear whether it was caused by a stab with a knife or as part of the main vertical cut created by paramedics/medical attendants. While there was some bloodstaining to the lining of the garment in this area, there was no compressed soaked in staining of blood and intestinal

fluid. Consequently this area of the garment was not covering Sana Ali's abdominal wound when she laid and bled out onto the bedroom floor (i.e. when the main pool of blood and intestinal fluid was deposited).

The top, and the trousers described below, are shown remaining on the deceased at the start of the post mortem photographs. It is likely that the extent and distribution of bloodstaining on these garments will have been altered and extended in the period between her removal from the scene and when the clothing was removed at post mortem.

PL16 Trousers

The labelling indicates that these were seized at 03:00 on 12/5/07 from the deceased, Sana Ali. They are a pair of home-made plum coloured trousers with an elasticated waistband. They contain no labels to indicate which way round they should be worn, although the distribution of blood provides an indication of their orientation during blood shed. The trousers have pleats to the front and back. The trousers are in good overall condition and appear relatively clean. There are a few indications of wear damage but no significant cuts or slash damages. The trousers are heavily and extensively bloodstained with the major areas being as follows:

i) Very heavy concentrated bloodstaining down the front and back of one of the legs. This included blood runs and individual blood spots. This is likely to have been the right leg as worn.

ii) Discreet blood spots and splashes around the crutch area and on the front and back of the other leg. In addition there is heavy contact bloodstaining to areas on the front of that trouser leg.

The overall distribution of blood supports the suggestion that extensive quantities of blood had splashed and run onto the front and back of one of the legs. Taking that to be the right leg, the distribution would be fitting with the deceased sitting forward while blood in volume ran onto approximately the knee area and then down the trouser leg; possibly from injuries to her chest or neck. There was a distinct void area (area with little or no bloodstaining) around the waistband on both sides of the trousers. This would indicate that the wearer was not upright, i.e. sitting or standing, after she had received the injury to her abdomen, or indeed while blood might have been running down her front from injuries to her chest.

Comment

These findings support the suggestion that Sana Ali bled liberally from chest injuries onto her trouser leg, while in a sitting forward position after which she moved to a laying position, in which she received the injury to her abdomen. It remains possible that she received her abdominal injury while standing/sitting and immediately fell to a laying position. She could only have remained in a sitting or standing position for any length of time with her abdominal injury, if it is possible that she could have stemmed the flow of blood and other material, perhaps with her hand under her clothing. The laboratory records indicate that the front of the knickers worn by Sana Ali was heavily bloodstained. This could not have run down onto the knickers while the trousers were being worn normally. Whether this observation is relevant to the circumstances surrounding Sana Ali's death will depend on the opportunity for the knickers to have become blood stained during medical intervention and/or transportation to the mortuary.

Discussion/Conclusions

1) The findings do not indicate where the assault on Sana Ali started or where the first injury to her was inflicted. They do however suggest that she remained in the front bedroom after she has started to bleed.

2) Although there is no specific physical evidence of a violent struggle, such as broken items, the type and distribution of blood suggests much activity/movement as it was deposited.

3) In my opinion it is likely that an early part of the assault occurred in the left corner of the bedroom, between the bed and wardrobes, after Sana Ali had started to bleed. It is likely that she swung an injured arm or hand in a horizontal manner, casting off a line of droplets onto the wardrobe doors.

4) According to the post mortem report, Sana Ali had numerous incised wounds to both hands and arms many of which were consistent with being defence wounds (17 to the right hand/arm and 14 to the left hand/arm). Given that there is only one cast off distribution in the left corner of the room, it seems likely that only a proportion of these injuries could have been inflicted during a struggle in this location.

5) A heavily bloodstained hand has been placed on the bed throw at the foot of the bed. This could have been the left hand of Sana Ali, as she sat on the end of the bed: the central void area in the bloodstaining representing the area protected under her seat. I note however, that Yasmin Ali states that she and Zaira, both sat on the end of the bed, although it is unclear whether they had blood on their hands at the time.

6) There has been some activity on the bed, consistent with being a continuation of the assault, which resulted in another cast off distribution of spots across the left side of the throw, and extensive smearing of blood on the lower left quarter of the throw.

7) There is an area of bloodstaining just behind the void area (i.e. further up the bed), which appears to have been caused by blood running out onto the fabric in some volume. In my opinion, this distribution of blood would be fitting with Sana Ali falling backwards from the sitting position, diagonally to her right (left as viewed) where blood then ran out onto the throw from a major injury. Then she moved or was moved across the bottom left area of the throw to the floor. This could account for the position of the throw at the scene, and the heavy smeared and contact bloodstains extending to the bottom left corner of the throw.

8) The post mortem photographs indicate contact bloodstaining on the sole of Sana Ali's right foot. There is extensive bloodstaining concentrated on one leg of her trousers, which is unlikely to have been deposited without some similar bloodstaining also getting onto her foot and the floor around where she was. Although it is clear that the main area of pooled blood on the floor was deposited while Sana Ali was laying, it remains possible that it and the surrounding stains include some which were deposited earlier in the incident.

9) In my opinion, Sana Ali laid on the bedroom floor for a period while bleeding and leaking intestinal fluid from her abdomen injury. She may have been face down at this time, but her top would have been pulled up as it was not similarly soaked with blood and other material to the front. It is difficult to establish her orientation and it is possible that she may

not have been laid out straight. While there was lots of bloodstaining to the left of the main pool (i.e. towards the well) there was little to the right. It is likely however, that by the time Sana Ali laid on the floor her trousers were soaked in blood and she had many if not all of the injuries to her upper body and arms. Consequently both ends of her body would have been capable of transferring blood to the carpet by contact. Given that all injuries were to her arms and body, it is likely in my opinion that Sana Ali laid face down on the floor, with her top raised to expose her abdomen, with her legs towards the window and head/arms towards the wall.

10) Sana Ali subsequently moved or was moved from this position, to that in which she was found which I understand was laying on her back, with her top worn normally. If she was moved by the assailant then it is likely that this would have involved both moving her upper body to the location behind the door, and taking hold of the legs to move them near to the wall. In my opinion it is highly likely that if this was done, then the assailant would have received bloodstaining on themselves, although possibly limited to their hands.

11) The findings suggest that a bloodstained hand was used to close the bedroom window. Whoever closed the window did so without depositing blood on the blind or drips on the floor/sill etc underneath. It is therefore unlikely to have been the injured Sana Ali. If the window was not closed by any of the others who discovered the body at the scene, then it would appear likely that it was closed by the assailant, confirming that at least one of their hands became heavily bloodstained during this incident.

12) The limited amount of bloodstaining outside the bedroom would suggest that the assailant left in a manner that did not involve touching surfaces with bloodstained hands or brushing against surfaces with bloodstained clothing. Alternatively they could have wiped themselves before leaving the bedroom or covered bloodstained surfaces.

13) Some care needs to be exercised in attaching any significance to small areas of bloodstaining outside the bedroom, given that several family members discovered the body and thus were present, and paramedics would need to have removed the body via the stairs.

14) There is no scientific means of establishing whether the traces of diluted blood around the kitchen tap and sink are relevant to this incident. They are however, consistent with someone washing blood from themselves or a surface at the kitchen sink.

15) The distribution of blood on the knife found in the bedroom makes it highly likely to be that which was used to injure Sana Ali. The findings also suggest that during the incident it was exposed to projected blood spatter, and that the person holding it had a bloodstained hand.

16) In relation to the distribution of blood, Mrs Davidson has concluded as follows:

- "Sana ALI bled from the stab injury to her chest area whilst in a sitting position
- the stab injury to Sana ALI's abdomen was inflicted whilst her top was raised and she was lying down
- following the injury to her abdomen she did not get back up
- Sana ALI was slashed several times to her upper front and also to her left arm, although I am unable to determine if this is

prior to the receipt of the stab injuries to her chest and abdomen.

- Sana Ali was stabbed through the upper front of her top at least once."

These conclusions are well supported by the findings derived from the distribution of blood and cut damages to Sana Ali's clothing. In particular, it is clear that Sana Ali's top was raised when she received the stab to her abdomen and remained raised as she laid and bled onto the bedroom floor. Given the construction of the top, which would have been loose fitting, it is apparent that Sana Ali did not get up to a sitting or standing position after being stabbed to the abdomen; which implies that this stab injury was inflicted towards the end of the assault. Sana Ali has clearly bled out onto her trouser legs from an upper body injury, while sitting. The absence of blood which has run down onto the waist of her trousers suggests she was sitting forward, and that she was bleeding from the chest area, or perhaps arms held against her chest.

17) In my opinion, the scientific findings collectively suggest that this was not the type of frenzied attack which was concluded in a matter of seconds, but was a rather more protracted incident. It is not possible however to provide an indication of the time between the first injury and the assailant leaving the scene.

18) In my opinion, it is highly likely that the assailant was bloodstained, however this may have been limited to contact bloodstaining on their hand(s) and possibly blood spots cast off onto their clothing by movement of Sana Ali. The findings do not suggest that the assailant was necessarily heavily or extensively bloodstained and the relative absence of bloodstaining outside the bedroom suggests that they were not.

D.C. Woods
3rd October 2007

L.J. Fagan
Validated by