

THE BLOOD MARK ON THE FLOOR OF THE GUEST BATHROOM

[59] To disprove the accused's *alibi* the state submitted that a blood mark which was found on the floor of the guest bathroom in the deceased's apartment had been compared to the sole of one of the accused's sport shoes and was found to correspond. In this regard the state relied heavily on the testimony of Superintendent Bruce Bartholomew, who at the time of the investigation into the death of the deceased, was stationed at the Local Criminal Record Centre ("LCRC") of the South African Police Service ("SAPS") in Paarl with the rank of Captain. He was also formerly attached to the provincial crime scene investigation team of the SAPS but in July 2006 resigned from the service. Accompanied by a number of colleagues he was already present at the crime scene during the early morning hours of 17 March 2005.

[60] One of these colleagues was Superintendent Johan Kock of the Biology Unit of the SAPS's Forensic Science Laboratory at Delft. He investigated the crime scene and had photographs taken by Inspector Desmond Share of the LCRC of, amongst other things, the blood mark on the floor of the guest bathroom. He identified the mark as presumably a "blood contact" or "transfer pattern" and pointed it out to Superintendent Bartholomew. At that stage they simply took note of it without investigating it further.

[61] After the accused was identified as a suspect on 15 April 2005, Superintendent Bartholomew requested Superintendent Kock to accompany him to the accused's apartment in Anfield Village. There he took possession of the accused's Hi-Tec sport shoes, which appeared washed, and the strings of which had been pushed into the front

of the shoes. At a later stage, the shoes were tested for blood by Sergeant Peta Davidtsz, a member of the Biology Unit of the Forensic Science Laboratory. She subjected them to luminol and multistix tests but could not find any trace of blood. This led to the focus shifting to the blood mark in the guest bathroom in an attempt to determine if it could not possibly have originated from the sole of one of the shoes. A whole series of events followed on this.

[62] On 28 April 2005 Superintendent S J Koekemoer, similarly upon request from Superintendent Bartholomew, treated the blood mark with a chemical substance, known as amido black, after he first performed a preliminary positive test for blood with multistix. This test left a little “tail” or “tongue” which lead to allegations by the defence of a manipulation of the mark. These allegations became somewhat diluted as time passed and require no further discussion. More important is that amido black could bring invisible blood marks to the fore and these could be subjected to further enhancement and investigation. Depending on the amount of protein present in the blood, contrasting lighter and darker areas or spots would, according to Superintendent Koekemoer, be visible in the mark.

[63] It appears as if the investigating team originally believed that the blood mark could have been caused by blood on the side of a hammer. Under the influence of Superintendent Bartholomew the thought later took hold that it could indeed be a shoe print. As a result Superintendent Kock returned to the crime scene on 9 June 2005 to obtain a scraped sample of the blood mark, which had in the meantime been treated with

amido black. The mark was, as a result of the treatment, then already coloured blue, purple or black. It is not clear if this sample was ever subjected to a blood or DNA test. It was probably considered unnecessary in light of Superintendent Koekemoer's multistix and amido black tests.

[64] In his testimony Superintendent Bartholomew confirmed that he was present on 17 March 2005 when Inspector Share photographed the blood mark in the guest bathroom of the deceased's apartment. He was similarly present on 15 April 2005 when the accused's Hi-Tech sport shoes were confiscated in his apartment in Anfield Village. After the shoes were placed into an exhibit bag and handed to him, he took them with him for further investigation.

[65] With a view to have the blood mark in the guest bathroom and other blood marks, such as those from the area around the couch where the deceased was murdered, further forensically investigated, Superintendent Bartholomew contacted the national processing team in Pretoria. He spoke to Superintendent Koekemoer and requested him to assist with the spraying of chemical substances on the scene. The reason why he did this was because the local unit did not have the advanced equipment and knowledge of the Pretoria office. Superintendent Koekemoer agreed to assemble an investigative team and to obtain the necessary approval for the operation. It was decided amongst them that amido black, being the most effective substance for this purpose, would be applied.

[66] When Superintendent Koekemoer and his team went to the apartment on 28 April 2005 to do the additional investigation, Superintendent Bartholomew was

already at the premises. He could not provide any assistance himself as he did not have experience in the application of amido black. He did however observe what the team did and also saw that Superintendent Koekemoer took photographs before and after the application of the substance.

[67] The next step in the process was when Superintendent Bartholomew, on 22 July 2005, made an enlargement of the blood mark on the floor of the guest bathroom. He physically compared it with the accused's right Hi-Tech sport shoe and found a correspondence. In paragraph 7 of his affidavit in accordance with section 212(4)(a) and (8)(a) of Act 51 of 1977, dated 22 August 2005, he put it as follows:

In respect of the type, size, place, position and relation of the unique characteristics to each other, the class of the shoe prints correspond with the right shoe which belongs to one Mr Frederick Barend van der Vyfer.

[68] This conclusion was, according to Superintendent Bartholomew, based on both class characteristics and unique characteristics appearing in the blood mark. According to him the blood mark corresponded with the curve and middle part of the sport shoe, and therefore showed class characteristics of the sport shoe. More importantly though was the presence of four (initially three) spots which became visible in the blood mark after the amido black treatment. These spots, which were described as unique characteristics, corresponded with four sand grains which were stuck in a groove between ridges in the shoe's heel. To illustrate this, Superintendent Bartholomew made use of photos and transparencies with which he indicated that the spots in the blood mark correlated with the grains of sand underneath the shoe. However, this was

dependent on what he called two step marks, the second step mark being caused by a turn of the shoe's heel after the person wearing the shoe stepped onto the tile the first time with the heel.

[69] Superintendent Bartholomew subsequently approached Captain F A Maritz, a member of the Ballistics Unit of the Forensic Science Laboratory, to measure the unique characteristics electronically, using a digital measuring instrument. Captain Maritz concluded that the distance between the spots on the mark corresponded exactly with the distance between the sand grains in the groove under the sport shoe. This accorded with Superintendent Bartholomew's own microscopic investigation of the shoe's class and unique characteristics. In spite of this he was not able to gather the support of senior colleagues in Pretoria for verification purposes, though, he did convince Superintendent Koekemoer, as mentioned already, to go and apply the amido black treatment on the crime scene. He also succeeded in obtaining authorisation to visit Mr William John ("Bill") Bodziak, described as the world's foremost expert in the field of shoe print evidence, in Palm Coast, Florida, USA, during June 2006.

[70] Superintendent Bartholomew's visit to Mr Bodziak on 30 June 2006 seemingly did not entirely meet his expectations. Although he only expected a verbal opinion, he was apparently disappointed that Mr Bodziak did not perform any microscopic investigation. In addition, after considering all the exhibits that were presented to him, he only agreed with Superintendent Bartholomew's finding "to an extent".

[71] Superintendent Bartholomew's feedback to his superiors about his visit lead to an unsigned report, dated 20 July 2006, from Director Attie Trollip to certain high ranking SAPS officers, which stated that Superintendent Bartholomew handed the relevant exhibits to Mr Bodziak with a request that he independently compare the shoe and blood mark with each other. Mr Bodziak allegedly confirmed the identification of the shoeprint verbally and further gave advice to Superintendent Bartholomew with a view to the pending court case. This included that the identification had to be primarily based on the three pattern elements visible on the shoe and that the sand grains had to be used as additional points of identification. Director Trollip emphasised that it was not the purpose of the visit to recruit Mr Bodziak as a witness. It was only aimed at enabling Superintendent Bartholomew to finalise a court chart based on his advice, and present it to court. According to Mr Bodziak, Superintendent Bartholomew would in any event be the appropriate person to present the shoe print evidence.

[72] Mr Bodziak learned of this report with shock and amazement, as appears from an e-mail dated 9 March 2007 which he sent to Adv de Bruyn. In it, he confirmed the contents of a letter dated 19 December 2006 to Adv de Bruyn, which is attached to the accused's plea explanation. More specifically he mentioned that the exhibits presented to him were not suitable for a proper investigation. In addition, Superintendent Bartholomew did not want him to subject the right shoe to any tests as he was afraid that these would dislodge the sand grains. He unequivocally denied that he confirmed the identification of the shoeprint. On the contrary, he made it clear that the sand grains

were stuck so deep in the groove of the shoe's heel, that they could not possibly make contact with the surface of a floor. In fact, Superintendent Bartholomew unsuccessfully tried, by way of a test, to make the groove of the left shoe get into contact with a hard surface. He took the print impression of this test with him.

[73] Although Mr Bodziak had no intention to come to South Africa to testify in this case, the defence persuaded him to do so. As it appears from his extraordinarily impressive *curriculum vitae*, his qualifications make him probably, the foremost expert in the world in the field of footwear and tyre tread impressions. His book on *Footwear Impression Evidence* (2nd edition 2000) is widely accepted as the most authoritative work in the world on the field of footwear impression evidence.

[74] In his testimony Mr Bodziak dealt with the correspondence that preceded Superintendent Bartholomew's visit on 30 June 2006, and confirmed the contents of the letters written by him. He pointed out that, despite his request that Superintendent Bartholomew bring the best possible evidence with him, he was presented with only two CD's and a few photographs, which were un-scaled. Of the two CD's, the one could not be opened while the other contained irrelevant information. Superintendent Bartholomew admittedly had the sport shoes concerned with him so that he could point out to Mr Bodziak the three sand grains, on which he relied at that stage.

[75] This presentation was of little help to Mr Bodziak, as it appears from a report that he prepared for the trial. Therein he said, *inter alia*:

Bartholomew advised that three small pieces of debris lodged in one of the shoe grooves led him to believe that he could identify the prints on the tile floor. He had some

photographs of this and some small overlays, but they were not scaled the same and detail was limited. Even in the absence of the scale, the relative location of the debris in the shoe did not correspond with the areas of the impression he said he believed matched. I also explained that the debris was too deep in the grooves and would never contact the surface during walking. He said he thought the perpetrator may have stood on one leg while putting on a shoe, causing sufficient pressure to make the impression. I provided an identicator pad and paper and we made some impressions of the opposite shoe and Bartholomew was unable to reproduce that portion, even when stomping hard. He explained that no impressions of the shoe in question had been made, since they do not want to disturb the debris in the heel area. It is noted that this debris could not have caused any impression on a flat surface, due to its location deep in the groove.

[76] Mr Bodziak could not accept that the spots in the blood mark represented unique characteristics of the shoe impression in any way. His own tests with the left shoe satisfied him that the sand grains in the groove of the right shoe's heel were so deep (2,5mm) that it would not be able to make contact with a level surface. In any event, there were a great deal more than just three or four sand grains present in the groove of the heel. He counted at least thirty-one. It was, according to him, unscientific to select only three or four that correlated by coincidence with the spots in the mark.

[77] Furthermore Mr Bodziak pointed out that the texture of the floor tiles, the surface of which is not entirely even, could also have contributed to the presence of spots on the blood mark. A further contributing factor could have been the amido black process itself, in so far as the person who applied it could have wiped over the mark to remove excessive dampness and in the process destroyed or disturbed some of the uneven areas on the surface of the tile. The spots could therefore have been "artefacts of the enhancement process".

[78] Mr Bodziak also did not observe any class characteristics of the shoe in the mark. While he had suggested previously to Superintendent Bartholomew that he must do tests with the right shoe to try and determine if there could indeed be class characteristics of the shoe present, it appears that he never did so. If there were no class characteristics, in the sense of a specific pattern, shape or size present, he testified, it would in reality be the end of the investigation. His considered opinion was therefore that the blood mark on the floor of the deceased's guest bathroom could not have been made by the accused's shoe.

[79] This opinion was shared by Mr Paul Francis Ryder, a highly qualified expert from the Forensic Science Service in the United Kingdom. His singular expertise in the area of blood prints made by a shoe stood beyond dispute. Because his testimony materially corresponded with that of Mr Bodziak, it is not necessary to refer to it in any detail. It could perhaps be pointed out that he was of the opinion that the mark could have been caused by a bloodied object, like a hammer or something similar, that may have been used as murder weapon.

[80] Mr Ryder rejected the possibility of a shoe mark for similar reasons as those provided by Mr Bodziak. He added that, if it were a shoeprint, there should have been similar prints found on the scene, between the couch in the living room and the guest bathroom. Even if such prints were trampled by other persons that came onto the scene, those prints would still have been visible if an enhancing substance like amido black were to be applied.

[81] Mr Ryder was also of the opinion that, if sand grains in the groove of a shoe's heel were present when it made contact with blood, there would also be blood traces on the sand grains. Such blood traces would then appear if luminol or a similar chemical substance for testing blood presence would be applied to the shoe. However, this did not happen, as can be gathered from the testimony of Sergeant Peta Davidtsz. In any event he would have expected that such sand grains would have been removed, or would not have remained static, if the shoe were to have been washed in a washing machine.

[82] The defence had another foreign expert available at court, who would have testified about the blood mark, but did not call him because his testimony would have overlapped, in large, with that of Messrs Bodziak and Ryder. It was Mr Michael R Grimm, a forensic consultant from Virginia in the USA, who produced two reports, dated 25 July 2006 and 5 February 2007 respectively. The accused indeed refers to these reports in his plea explanation and attached them thereto, especially to illustrate what he submitted was an intentional manipulation of evidence by the police. For present purposes it is not necessary to deal with it any further.

[83] When this evidence is carefully considered, the unavoidable conclusion must be reached that the state did not succeed in proving that the blood mark on the floor of the deceased's guest bathroom originated from one of the accused's sport shoes. Superintendent Bartholomew did not make a good impression as witness, and his testimony was unreliable and especially tainted by the seriously misleading allegations he uttered about his visit to Mr Bodziak. He evidently did also not play open cards with

his senior colleagues when he gave them feedback on his visit, as appears clearly from Director Trollip's report. Mr Bodziak, who in turn made an extremely good impression as witness, was completely justified in expressing his shock and amazement when he had to learn in Director Trollip's report that he agreed with Superintendent Bartholomew's finding on the blood mark.

[84] The reasons submitted for their expert opinions by Mr Bodziak and Mr Ryder, who similarly impressed the court as witness, were in all respects logical and scientifically well-founded. Although Superintendent Bartholomew's comparison of sand grains and white spots appeared persuasive at first glance, it was questionable in many respects. There was, for example, no explanation of how only one print, and not a sequence of prints, came to be present. There was also no explanation of how the sand grains could have escaped blood contamination or how, despite the depth to which they were stuck in the groove concerned, they could have succeeded in making their impression in the blood mark. Similarly it could not be explained how the sand grains, despite the fact that the shoe to which they were stuck apparently had to have been in a washing machine at some stage, remained stuck in the groove between two ridges in the heel of the shoe. Last and best, there was no reliable proof of any class characteristic of the shoe visible in the mark. The suggestion that the curve of the shoe was visible as class characteristic, depended on the shoe's heel turning to make a "second step". It simply did not make sense.

[85] It follows then that Superintendent Bartholomew's finding on the origin of the blood mark has to be rejected in favour of that of Messrs Bodziak and Ryder. Clearly there was not sufficient evidence to show that the blood mark originated from one of the accused's shoes.