

State v Van der Vyver 2007

(Extract from unofficial translation)

THE ORNAMENTAL HAMMER

[86] The state further relied on the use of an ornamental hammer, which was found in the back of the accused's vehicle, as a possible murder weapon. Mrs Lotz testified that the Lotz family gave it as a Christmas present to him in December 2004. Because the deceased wanted it to be personalised, they had his first name and the year ("Fred 2004") engraved on the hammer's handle.

[87] According to the accused he opened the hammer gift at his parents' home in East-London, where he and the deceased spent Christmas 2004. On their return to the Cape, he put it in his bakkie underneath the driver's seat and forgot about it. When Mr Boet Claassen, the private investigator of George Fivaz and Company who was appointed by the deceased's parents to investigate the murder, mentioned to him that a hammer was found in the deceased's flat, the accused said that he didn't know what hammer he was referring to. He himself had a hammer that was supposed to be in his bakkie. He went to look in the bakkie and saw that it was still there. He had never used the hammer, which had sentimental value to him. Indeed, it stayed in his bakkie until it was confiscated on 15 April 2005.

[88] Regarding the seizure as such, Superintendent Kock testified that he was involved in seizing a claw hammer, which he described as a woodwork hammer or carpenter's hammer, in the deceased's apartment on 18 March 2005. On the one side of the head it

hand a round striking surface and on the other side a claw for pulling out nails. It was significantly bigger than the accused's ornamental hammer which Superintendent Kock seized on 15 April 2005. Indeed, it appeared when he wanted to take possession of the accused's vehicle. He first asked the accused if there was anything of value in the bakkie, in response to which the accused unlocked the bakkie and removed the ornamental hammer from behind the seat. This was somewhat of a surprise for Superintendent Kock as he did not regard the hammer as valuable. He rather expected that the accused would emerge with money or jewellery.

[89] Superintendent Bartholomew testified that the possibility of a hammer as murder weapon was raised for the first time by Dr Adendorff during the post mortem of the deceased. According to her they had to look for a hammer and a sharp object. He was present himself when the claw hammer was seized.

[90] Sergeant Peta Davidtsz tested the ornamental hammer for the presence of blood with luminol, a chemical reagent, and found that there could be possible blood, not ordinarily visible, present. She presumed that it was blood, but emphasised that the test was merely part of a screening process. In the present case she would exclude most of the other substances that would react positively with luminol, in favour of her presumption that there was blood on the hammer.

[91] Sergeant Davidtsz could of course not determine if the presumed blood originated from the deceased. That would have had to be left for a DNA expert. The appropriate person, Superintendent Sharlene Otto, did not testify, but she presented to the court a

sworn statement dated 22 June 2005, in accordance with section 212(4)(a) and (8)(a) of Act 51 of 1977. It served as *prima facie* proof of the tests she performed and also her conclusions.

[92] In the above mentioned sworn statement Superintendent Otto is described as a Head Forensic Analyst with the Biology Unit of the Forensic Science Laboratory. Her very impressive qualifications include subject matter expertise in the field of molecular microbiology. It is indeed her knowledge of molecular and cellular biology that qualifies her to practice DNA-technology. She tested, among other things, the “presumed watery blood solution” originating from the ornamental hammer, which was handed to her by Sergeant Davidtsz. She concluded that “the minute amount of genetic material isolated from the hammer indicates male genetic material”.

[93] The male person from whom the above mentioned genetic material originated, was not identified as the accused, or anybody else, by Superintendent Otto. From the accused’s testimony it can be inferred that in all probability it did originate from him, because there is no indication that any other male person physically touched the hammer. The genetic material, as I understand, does not necessarily mean that it had to be blood. It could also be ascribed to skin or bodily fluids, like sweat transfer.

[94] The state relied heavily on the testimony of Captain Frans Albertus Maritz to convince the court that the nature of the injuries on the deceased’s head point to the use of the ornamental hammer as the blunt force murder weapon. More specifically it was submitted that both ends of the head of the hammer, being the striking surface end as

well as the bottle-opener end, were responsible for the injuries to the deceased's head. While it was common cause that sharp force trauma, presumably from a knife or something similar, was applied to cause the multiple stab wounds to the deceased's neck and chest, no such second weapon was ever found. Captain Maritz did however test a stainless steel knife, approximately 107.6mm long and with a width of 19,30mm, that presumably corresponded with the stab wounds to the deceased's neck and chest. His report, as included in his sworn statement dated 7 June 2005 in terms of section 212(4)(a) and (8)(a) of Act 51 of 1977, was therefore not limited to the hammer as possible murder weapon. For present purposes I will however concentrate only on the possibility that the hammer could have been used as murder weapon.

[95] At the time of his investigation regarding possible murder weapons, Captain Maritz was a Senior Forensic Analyst with the Ballistics Unit of the Forensic Science Laboratory. He has since, in November 2005, moved to South Dakota in the USA where he is departmental head and technical leader of the firearm and tool-mark investigation department of the Division of Criminal Investigation. He presented an impressive *curriculum vitae* to the court, from which his distinctive expertise and extensive experience in the field under discussion appeared most clearly.

[96] On 17 May 2005 Captain Maritz forensically investigated the ornamental hammer to try and determine if it could have been responsible for the injuries to the head of the deceased. With this view he would compare the nature and extent of the wounds with the shape and measurements of the flat round striking surface and the bottle opener part of

the hammer. The striking surface has an average diameter of approximately 21,68mm, while the maximum width of the bottle opener was approximately 37,22mm. On 19 May and 2 June 2005, by applying the hammer's striking surface and the bottle opener part, he performed toolmark tests on a pig's carcass, and the skulls of pigs and sheep, the skin of which is closest to human skin tissue. On 31 May 2005 he made imprints thereof on a lead plate and sculpting clay and also made a cast model of a human ear. He did his investigation with reference to the post mortem report, photographs of the crime scene and digital images. From that he inferred that the injuries to the skull had the description and physical appearance of wounds caused by blunt force (hitting/striking wounds), while the injuries to the neck and chest had the description and physical appearance of wounds caused by sharp force (stabbing wounds). The injuries would therefore have been caused by at least two objects.

[97] Captain Maritz subsequently compared the shape and measurements of the head injuries with the results of the tool-mark tests and also the imprints and cast mentioned above. Using transparencies he could demonstrate a correspondence between the injuries and the tool marks. He arrived at the conclusion that the most prominent strike wounds to the deceased's head and the strike wound just behind her left ear could fit in with the dimensions and profile of both surfaces of the hammer, i.e. the striking surface as well as the bottle opener part thereof. It could, similarly, fit in with the class characteristics of the tool-marks left by both striking surfaces of the hammer on the various test media, including skin tissue, bone tissue, sculpting clay and the lead plate. In this regard

Captain Maritz pointed out that the striking surface of the hammer leaves a circle shaped, semi-circle shaped and “bean shaped” (or “liver shaped”) depressed print when it connected with a spherical surface. The bottle opener though, left a slightly bent longitudinal to just longitudinal depressed imprint when it connected a surface, the ends of the imprint curled to the inside and tended to appear “widened and edged-off” in certain cases. This could be ascribed to the thickened rounding of the edges on both sides of the bottle opener. Furthermore it appeared that the curling to the inside of the bottle opener’s tool-mark profile curled to the opposite end of the hammer.

[98] In cross-examination by Adv de Bruyn, Captain Maritz conceded that the photographs he used to arrive at his conclusions were not all taken squarely from above, so that the angle from which the photograph was taken could mislead. He also conceded that sometimes there were differences in the sizes of the wounds and those of the tool marks. This he explained, however, by pointing out that human skin tissue is elastic and is naturally inclined to return to its original position. In addition, bruises around an injury would make the injury appear larger than it actually is.

[99] A more serious problem that emerged during cross examination appeared from a video recording of the tests on a pig’s head. With the first or second blow of the bottle opener end of the hammer, the bottle opener bent. This was never mentioned in Captain Maritz’s report. It was also not mentioned that, for fear that the bent part of the hammer would break off if applied further, he went to great lengths to obtain a similar hammer. Further tests were then done with the substitute hammer, despite the fact that the

measurements thereof in some areas were significantly, between 37% and 49%, larger than that of the ornamental hammer. None of this is apparent from the report. Equally, no mention was made of the fact that certain tests were also done with the claw hammer that was found in the deceased's apartment.

[100] In answer to a question by Adv Teunissen during re-examination, namely if Captain Maritz could exclude the ornamental hammer (exhibit 2) as murder weapon, his answer was: "My Lord, based on the class characteristics left by the tool mark caused by exhibit 2, it cannot be excluded beyond reasonable doubt." He was satisfied that the use thereof could be associated with the nature of the blunt force injuries to the deceased's head. His response was different for the claw hammer that was found in the deceased's apartment. That he would definitely exclude as a possible murder weapon: neither the striking surface nor the claw part could be associated with the head wounds. This follows Sergeant Peta Davidtsz' finding that she was not able to locate any traces of possible blood on it.

[101] The defence's answer to Captain Maritz was Professor Gert Saayman, who has since 1998 been the head of the Department Forensic Medicine in the Faculty of Health Sciences at the University of Pretoria. He is simultaneously the head specialist in Forensic Pathology services for Northern Gauteng. As it appears from his extraordinarily impressive *curriculum vitae*, he has been practising since 1984 as forensic surgeon and pathologist, while simultaneously presenting lectures at pre- and postgraduate level, during this time. His experience as expert witness, assessor and consultant in various

directive court cases and investigations, nationally and internationally, is noteworthy. He is regularly involved in medico-legal post-mortems of unnatural deaths, the most recent being the investigation, in April 2007, into the airline tragedy involving a Kenyan airline in the Cameroon.

[102] In his testimony Professor Saayman referred to the photographs and other relevant exhibits in this case. From the outset he was of the opinion that it was highly unlikely that the wounds to the head of the deceased were caused by the ornamental hammer. He conceded that some of the injuries could perhaps be reconcilable with the use thereof, but nevertheless regarded this as unlikely. In general he ascribed his doubts to the fact that the head injuries were conspicuously larger than one would expect from the hammer's striking surface. While he could not exclude the possibility that a hammer was used, the nature and appearance of the injuries rather indicated the use of a linear, rigid, bar-shaped or cylindrical object.

[103] Professor Saayman summarily rejected the use of the bottle opener side of the hammer, because for practical purposes it had a sharp rather than blunt leading edge. Except in the case of a single wound that had the appearance of the skin being cut rather cleanly, it was highly improbable that it could cause any of the injuries.

[104] A further problem that Professor Saayman had with the hammer as a possible murder weapon, was that it was relatively small and light and was unlikely to be able to cause such serious injuries as driven-in fractures and a fracture to the base of the skull. In fact he described it as "a small little hammer" that simply could not be associated with

such violently caused trauma. This correlated rather with a relatively heavy and somewhat larger item with a wider striking surface than that of the hammer. It goes without saying that even such an object would have had to be used with great force to cause injuries of this nature. And, even great force would not easily lead to a fracture at the base of the skull. It is the type of fracture that one would expect in motor vehicle accidents or where the victim is bludgeoned with heavy bricks. It could also happen where the victim's head is put against the floor and is then stepped or tramped on. In this regard Professor Saayman referred to a number of authoritative textbooks where the subject is explained in great detail and with appropriate illustration.

[105] Professor Saayman furthermore suggested that the nature of the head wounds was such that the use of two blunt force objects could not be excluded. Some of the wounds had the appearance of being made by a linear bar-shaped object, while others, like the large driven-in skull fractures and the fracture to the base of the skull, could have been the result of blows with an uneven, while still heavy, object.

[106] At the start of cross-examination Adv van der Vijver placed on record that no report of Professor Saayman's had been provided to the state and that he gave testimony that was never put to Dr Adendorff or Captain Maritz. He envisaged that the state would have to consider its options to reopen its case to present further testimony from a pathologist. In the end it was not necessary, but it goes without saying that the court must bear in mind that the state could be disadvantaged by this, and that the testimony of Professor Saayman would have to be approached with the necessary caution.

[107] Under cross-examination from Adv Teunissen, Professor Saayman made it clear that, even though he could not exclude the hammer as murder weapon, especially with regard to a few of the wounds, he still considered it highly improbable. He emphasised that it was not his intention to attack the testimony of Dr Adendorff or Captain Maritz. He merely wanted to arrive at his own conclusion. On the other hand he could not associate himself with Captain Maritz's transparency exercise, unless it was done in accordance with strict scientific principles, which clearly did not happen.

[108] When this testimony is taken into consideration, the unavoidable conclusion must be reached that Captain Maritz did not advance the state's case in a material way. His ultimate conclusion, namely that he could not exclude beyond reasonable doubt the hammer as possible murder weapon, falls significantly short of the burden that rests on the state to show that it was indeed beyond reasonable doubt used as murder weapon. In effect it is no more than that he could not exclude it as weapon, but could also not say that it was probably used as such.

[109] The tests that Captain Maritz performed with the transparencies appeared persuasive, but patently failed to conform to the scientific exactness required for the accuracy of such a test, as correctly pointed out by Professor Saayman. In addition his experiments with the hammer, which was later replaced with a similar hammer, were completely unreliable. In my view it borders on the unprofessional that in his sworn affidavit he did not mention a word about the bending of the bottle opener part of the

ornamental hammer and his subsequent replacing of it with a similar hammer. This omission in fact tainted his testimony as a whole.

[110] The testimony of Professor Saayman, who in all respects honoured his reputation as a leading expert in his field, was in my view clear and scientifically well-founded. The state certainly indicated that it intended calling a pathologist to oppose him. This did not happen, however, with the effect that his testimony stands alone as a version that is based on and responsive to medico-legal principles. While he was rightly critical about the state's limited pathologist testimony and about the lack of precision in Captain Maritz's experiments, he was similarly willing to concede about possibilities that were put to him. However, he held his ground that, even though he could not exclude the hammer as possible murder weapon, it was highly unlikely that it caused the injuries to the deceased's head.

[111] This conclusion is supported by the fact that no blood could be found on the hammer and that it showed only traces of male genetic material. It is in any event highly unlikely that, if it were indeed a murder weapon, that the accused would mention it completely voluntarily to Mr Boet Classen when he heard that a hammer had been seized from the deceased's apartment. Even more unlikely is the suggestion that, if he used it as murder weapon, he would leave it in the back of his bakkie and then show it to the police when they wanted to take possession of his vehicle. It may be that it might not have been perceived as a valuable item when the police asked him if he had anything of

value in his bakkie. On the other hand it was the first Christmas present that he received from the deceased and it would logically have sentimental value to him.

[112] It follows then that the court is bound to exclude the probability that the ornamental hammer was used as murder weapon. There is simply not sufficient evidence to support the state's allegations in this regard.