REPORT
Prepared for

KNOOPS & PARTNERS

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In the case of Ernest Louwes

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Lab Ref: *300510164/400846479*

Date: *21 February 2007*

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REPORT 2

This report is in addition to my report dated 31st March 2006.

I hold a Bachelor of Science honours degree in Genetics and a Master of Science Degree in Toxicology.

I have been employed as a Forensic Scientist at the Huntingdon Laboratory of the Forensic Science Service since 1998 where my area of expertise is in the examination of biological evidence including the interpretation of Blood Patterns and the interpretation of DNA profiling results including Low Copy Number DNA profiling.

I am also a Registered Forensic Practitioner in the field of Human Contact Traces.

References: The laboratory reference number for this case is 3000510164.

Additional information provided

I have been provided with a copy of the following documents:

1. Ernst Louwes DNA as “convincing" evidence for a murder (email dated 25/01/07)
2. The stains on the blouse (email dated 29/01/07)
3. Proof of actions with the Blouse on the scene of the crime (email dated 01/02/07)
4. The way the blouse was stored by the TR and NFI (email dated 02/02/07)

Aim

The aim of this review was to consider whether there was the possibility that the DNA that could have originated from Mr Louwes on the blouse was transferred as a result of contact with other items during the seizure, storage and examination of the item and what, if any, effect this could have on the level of support provided that this DNA was transferred as a result of a violent offence.

Discussion

In recent years the field of DNA profiling has developed significantly so that in theory a DNA profile can be obtained from a very small number of cells. This means that there now no longer has to be a visible biological material, such as blood, present but that profiles can be obtained from items that have only been in briefest contact with the target item. As the sensitivity of the DNA profiling tests has increased so has the potential to detect trace amounts of DNA from 'innocent transfers and for this reason the significance of any profiles obtained in the absence of a visible body fluid has to be treated with caution.

As the sensitivity of the profiling tests has increased so has the need to have more stringent processes relating to recovery, examination and storage of items. In the laboratory it is now a requirement that a laboratory coat, face mask, hair masks and gloves must be worn whilst examining items for DNA. There is the requirement to ensure thorough cleaning of

laboratory equipment and chemicals used to ensure that they are DNA free. During the examination it is recommended that the items from victim and suspect are kept separate where possible to minimise the risk of cross contamination from the suspect to the victim and vice versa.

From the information provided to me it is clear that there have been numerous opportunities for the possible transfer of the DNA that could have originated from Mr Louwes onto the blouse. These include:

- Innocent transfer of biological material such as saliva onto the blouse during the business meeting earlier that day,
- Secondary transfer from items at the scene that bore DNA from Mr Louwes,
- As a result of violent transfer during the incident,
- During the recovery of Mrs Wittenberg-Willemen's body from the scene and during the post mortem,
- During the Netherlands Forensic Institutes's initial examination of the blouse for stab cuts in 1999,
- During the storage of the blouse in an open envelope in a box containing items from Mr Louwes between 1999 and 2003,
- During the Netherlands Forensic Institute's examination and photography of the blouse before December 2003.

As it is known that Mr Louwes was present at the scene during the day of the offence it is likely that he would have left behind traces of his DNA, for example, on items handled. It is Willemen, or to items at the scene and then from these items onto Mrs Wittenberg-Willemen herself or her clothing. It is also possible that Mr Louwes' DNA could have been transferred from items to Mrs Wittenberg-Willemen by a third unknown individual who could be her assailant, a paramedic or someone who attended the scene after the discovery of her body. Research, using the most sensitive DNA techniques available, has shown that such a DNA

transfer is possible. However, it is not possible to quantify how much DNA will be transferred by these mechanisms and therefore I am unable to say how likely it is that Mr Louwes DNA could have been transferred by any of these mechanisms.

Current procedures for the recovery and storage of items for forensic examination are that the item is placed into a bag, labelled and sealed and then stored appropriately, for example, dry clothing in brown paper bags and kept dry, perishable items such as intimate swabs in plastic bags and stored frozen. Items from different individuals and scenes should be kept separate to prevent accidental contact and transfer of material from one item to the other. From the information available to me it is clear that the blouse was not in a sealed bag and was stored with items relating to Mr Louwes. It is therefore possible that contamination may have occurred from these items onto either the blouse itself or onto the packaging and then onto the blouse.

Current procedures in the laboratory prior to the examination of any items include examining items from suspect and victim/ other suspects in separate rooms, separate gowning up areas outside laboratories, anti contamination clothing including hats, gloves, face masks, thorough cleaning of examination tables and equipment. The procedures are constantly evolving as more information becomes available regarding the transfer of DNA and as the DNA profiling tests
become more sensitive. Therefore the procedures in place when the initial examination of the blouse was undertaken would not have been as stringent as they are now, hence the photography of the blouse in an apparently unclean environment. The DNA profiling procedures in place at that time would also not have been as sensitive and as a result less likely to pick up trace amounts of DNA from an unknown source. The examination of the blouse in an unclean area would have no effect on the detection of DNA that could have originated from Mr Louwes unless the examination was undertaken in an environment that was heavily soiled with Mr Louwes' DNA.

Consideration has to be given to whether or not any items relating to Mr Louwes had been examined in the same room either before or at the time of the examination of the blouse as

to whether there would be the potential for transfer of DNA from these items to the blouse. I have not been provided with any information as to the examination of other items in this case I cannot comment on whether or not this is a possible explanation for the presence of DNA from Mr Louwes.

Based on the information provided it can be seen that the biological material and alleged make up staining on the blouse has been altered thereby indicating that a transfer has occurred. The photographs also indicate that the blouse was wet at some point due to the altered makeup staining. If the blouse was wet/damp at some stage then this would facilitate the transfer of DNA as DNA is more likely to be transferred when one or more of the items were wet.

There is no information available to allow the measurement of how likely it is that any of these possibilities could explain the presence of DNA from Mr Louwes on the blouse. Each of these possibilities on their own or in combination with others could account for some of the DNA detected. Based on the information available it is not possible to determine if any of these events did occur and therefore for this reason, it is not possible to rule out the possibility that some or all of the DNA from Mr Louwes detected on the blouse could have arisen through contamination rather than as a result of violent transfer.

Comment

In my opinion, I believe that the Netherlands Forensic Institute were correct to examine the blouse given to its significance in relation to the offence. However, I feel that too much emphasis was placed on the significance of the DNA that could have originated from Mr Louwes associated with the possible makeup staining. In my opinion based on the information provided to me and information regarding the 'innocent transfer of DNA, the possibility that this DNA was deposited on the item during the storage and examination cannot be excluded and for this reason the level of support given to the working hypothesis of the Netherlands Forensic Institute, that the DNA detected was more likely to be

transferred to the blouse during a criminal offence, rather than normal businesslike contact would have to be significantly reduced.

L. Kenny.

Lucinda Patricia Kenny