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Cutthroat

A detailed examination of the neck wounds sustained by the Whitechapel murder victims

Even after well over a century of discussion and analysis, there is still no consensus as to exactly how many of the Whitechapel murder victims were killed by the same assailant. This fundamental prerequisite to establishing the identity of the serial killer remains elusive, and in consideration of opportunities and alibis it is always important to accurately determine how many victims were the work of the same killer.

Many researchers and authors continue to rely upon the canonical list of Ripper victims as defined by then Chief Constable Sir Melville Macnaghten in 1894, but this list of victims has an arbitrary basis and is largely unsubstantiated. Through a particularisation and objective analysis of crime scene and pathology data, it is possible to establish links between individual murders or to exclude others as being the work of a serial killer. Such investigations require a detailed examination of each murder to identify the relevant components, followed by a standardised comparison between the murders. This is quite a challenge, given the nature of the raw information surrounding the Whitechapel murders, much of which cannot be relied upon because it is either not first-hand or is otherwise not from a reliable professional source.

I have already documented at length the crime scene details of the Whitechapel murders as part of a much more extensive investigation.[1] The present contribution is an additional and more detailed assessment of the neck wounds inflicted on those Whitechapel murder victims killed by such means. For the purposes of this examination, I have used exclusively the descriptions provided by contemporaneous professional medical examiners. No other information is relevant to this work and the victims compared are the canonical Ripper victims identified by Macnaghten, namely Mary Ann Nichols, Annie Chapman, Elizabeth Stride, Catharine Eddowes and Mary Jane Kelly, together with Alice McKenzie and Frances Coles.

The descriptions provided by the medical examiners are taken from inquest testimony, as reported in official transcripts or in *The Times* or *The Daily Telegraph*, or from other formal documentation. Although the medical testimony is first hand, with one or two exceptions the reporting is not, and newspaper reports do not always accurately represent what was said at the inquests. However, we must be thankful that the newspapers of the period did such a thorough job of reporting the inquest details since, in the absence of archived original inquest reports for many of the victims, there would otherwise be huge gaps in the accumulated information. Unfortunately, the descriptions given by medical professionals were not always consistent in detail and there are inevitably shortfalls. Nonetheless, in most cases there is sufficient detail to reliably represent, in general terms, the direction and path of the major or fatal cut, or where two cuts coincide, the path of the composite wound.

In witness descriptions and in later discussions all references to left and right relate to the victim's body and not as viewed. The detailed descriptions of wounds from all sources for each victim are as follows:

Mary Ann Nichols

Inquest testimony of Dr Rees Llewellyn[2]: 'On the left side of the neck, about an inch below the jaw, there was an incision about four inches long and running from a point immediately below the ear. An inch below on the same side, and commencing about an inch in front of it, was a circular incision terminating at a point about three inches below the right jaw. This incision completely severs all the tissues down to the vertebrae. The large vessels of the neck on both sides were severed. The incision is about eight inches long. These cuts must have been caused with a long-bladed knife, moderately sharp, and used with great violence. No blood at all was found on the breast either of the body or clothes.'

Annie Chapman

Inquest testimony of Dr George Phillips[3]: 'The throat was dissevered deeply. I noticed that the incision of the skin was jagged, and reached right around the neck. The incisions of the skin indicated that they had been made from the left side of the neck on a line with the angle of the jaw, carried entirely round and again in front of the neck, and ending at a point about midway between the jaw and the sternum or breast bone on the right hand. There were two distinct clean cuts on the body of the vertebrae on the left side of the spine. They were parallel to each other, and separated by about half an inch. The muscular structures between the side processes of bone of the vertebrae had an appearance as if an attempt had been made to separate the bones of the neck.'

Elizabeth Stride

Inquest testimony of Dr William Blackwell[4]: 'There was a check silk scarf around the neck, the bow of which was turned to the left side and pulled very tightly. There was a long incision in the neck, which exactly corresponded with the lower border of the scarf. The lower edge of the scarf was slightly frayed, as if by a sharp knife. The incision in the neck commenced on the left side, two and one half inches below the angle of the jaw, and almost in a direct line with it, nearly severing the vessels on that side, cutting the windpipe completely in two, and terminating on the opposite side one and one half inches below the angle of the right jaw, but without severing the vessels on that side. Deceased would have bled to death comparatively slowly, on account of the vessels on one side only being severed, and the artery not being completely severed. The deceased could not have cried out after the injuries were inflicted as the windpipe was severed. I formed the opinion that the murderer probably took hold of the silk scarf, at the back of it, and then pulled the deceased backwards, but I cannot say whether the throat was cut while the woman was standing or after she was pulled

backwards. Deceased would have taken a minute or a minute and a half to bleed to death.'

Inquest testimony of Dr Phillips[5]: 'There was a clean-cut incision on the neck. It was six inches in length and commenced two and a half inches in a straight line below the angle of the jaw, three quarters of an inch over an undivided muscle, and then, becoming deeper, dividing the sheath. The cut was very clean and deviated a little downwards. The artery and other vessels contained in the sheath were all cut through. The cut through the tissues on the right side was more superficial, and tailed off to about two inches below the right angle of the jaw. The deep vessels on that side were uninjured. From this it was evident that the haemorrhage was caused through the partial severance of the left carotid artery. [The cause of death was] undoubtedly from the loss of blood from the left carotid artery and the division of the windpipe.'

Catharine Eddowes

Inquest testimony of Dr Frederick Brown[6]: 'The throat was cut across to the extent of about six or seven inches. A superficial cut commenced about an inch and a half below the lobe and about two and a half inches behind the left ear and extended across the throat to about three inches below the lobe of the right ear. The big muscle across the throat was divided through on the left side - the large vessels on the left side of the neck were severed - the larynx was severed below the vocal chords. All the deep structures were severed to the bone the knife marking intervertebral cartilages - the sheath of the vessels on the right side was just opened, the carotid artery had a fine hole opening. The internal jugular vein was opened an inch and a half not divided. The blood vessels contained clot. All these injuries were performed by a sharp instrument like a knife and pointed. The cause of death was haemorrhage from the left common carotid artery. The death was immediate and the mutilations were inflicted after death.'

Mary Jane Kelly

Inquest testimony of Dr Phillips[7]: 'The mutilated remains of a woman were lying two-thirds over, towards the edge of the bedstead, nearest the door. Deceased had only an under linen garment upon her, and by subsequent examination I am sure the body had been removed, after the injury which caused death, from that side of the bedstead which was nearest to the wooden partition previously mentioned. The large quantity of blood under the bedstead, the saturated condition of the palliasse, pillow, and sheet at the top corner of the bedstead nearest to the partition leads me to the conclusion that the severance of the right carotid artery, which was the immediate cause of death, was inflicted while the deceased was lying at the right side of the bedstead and her head and neck in the top right-hand corner.'

Post mortem report (notes) by Dr Thomas Bond[8]: 'The bed clothing at the right corner was saturated with blood, and on the floor beneath was a pool of blood covering about two feet square. The wall by the right side of the bed and in a line with the neck was marked by blood which had struck it in a number of separate splashes. The neck was cut through the skin and other tissues right down to the vertebrae, the fifth and sixth being deeply notched. The skin cuts in the front of the neck showed distinct ecchymosis. The air passage was cut at the lower part of the larynx through the cricoid cartilage.'

Alice McKenzie

Inquest testimony of Dr Phillips[9]: 'The wound in the neck was 4 in. long, reaching from the back part of the muscles, which were almost entirely divided. It reached to the fore part of the neck to a point 4 in. below the chin. There was a second incision, which must have commenced from behind and immediately below the first. The cause of death was syncope, arising from the loss of blood through the divided carotid vessels, and such death probably was almost instantaneous. I should think the [knife] had a shortish blade and was pointed. I cannot tell whether it was the first or second cut that terminated the woman's life. The first cut, whether it was the important one or not, would probably prevent the woman from crying out on account of the shock. The whole of the air passages were uninjured, so that if she was first forced on to the ground she might have called out.'

Post mortem report (notes) of Dr Phillips [amended for clarity by this author][10]: 'Death was caused through syncope arising from the division of the vessels of the left side of the neck. The wounds were caused by a sharp cutting instrument with at least two strokes and were not suicidal. The wounds were made from left to right while the body was on the ground and effected by someone who knew the position of the vessels or at any rate knew where to cut with reference to causing speedy death. There was no physiological reason why the woman should not have uttered a cry because her larynx/trachea was not severed. The wound to the throat tending to confirm the conclusion submitted as to the wounds of the abdominal wall in that death almost immediately followed from incision of the neck, the woman did not move after the incision, and all other wounds were made after death. The wound in the neck was deeper and cleaner than appeared at first sight. More superficial wounds – two jagged wounds commencing from behind the left sterno mastoid muscle leaving a triangular piece of skin attached by its base to the outside (remaining) skin about an inch long and four inches forward and upwards. Deeper wounds – the deepest incision divides the sterno mastoid muscle except for a few posterior fibres, the vessels of the neck and sheath, the division of the common carotid artery being above the omo hyoid muscle, down to the transverse process of the cervical vertebra. There were four jagged cuts over the angle of the jaw where instrument had been arrested over the cut under jaw.'

Letter from Dr Bond to Assistant Commissioner Robert Anderson[11]: 'I was able to form an opinion that there could be no doubt that the cuts were made from left to right & as far as I was able to make out, the knife appears to have been plunged into the neck on the left side of the victim below the sterno mastoid muscle & brought out by a tailed incision just above the larynx on the same side. There appeared to have been two stabs, & the knife then carried forward in the same skin wound, except that a small tongue of skin remained between the two stabs. The incisions appeared to me to be in a direction from above downwards and forwards with several small superficial cuts extending upwards & tailing off into mere scratches. The two main cuts appeared to be about 3 inches long but Dr Phillips stated that before the parts were disturbed the cuts which I saw extending downwards, really were in a direction upwards.

The cuts appeared to have been inflicted with a sharp strong knife. I could form no opinion as to the width of the blade or the length of the knife, but undoubtedly the cuts might have been done with a short knife; it

must in my opinion have had a sharp point. I believe the cuts were made from the front while the woman's head was thrown back on the ground. There were two bruises high up on the chest which looked as if the murderer had made the cuts with his right hand while he held the woman down with his left. There were no bruises on the woman's face or lips.'

Frances Coles

Inquest testimony of Dr Phillips[12]: 'I made a minute examination of the incision in the throat. There was an external wound, the edges of the skin being not exactly cut through, there being a portion of about an inch long undivided. In my opinion, there were three distinct passings of the knife across the throat - one from left to right, one from right to left, and the third from left to right. Below the wound there was an abrasion, as if caused by a finger nail. Above the wound there were four abrasions, possibly caused by finger nails. From the position of these marks I opine that the left hand was used. There were some contused wounds on the back of the head, which I am of opinion were caused by the head coming into violent contact with paving stones. I came to the conclusion that death had been almost instantaneous, occasioned by the severance of the carotid arteries and other vessels on the left side. In my opinion, the deceased was on the ground when her throat was cut. I think that her assailant used his right hand in making the incisions in the throat, and that he had used his left hand to hold her head back by the chin; that he was on the right side of the body when he made the cuts. The tilting of the body to the left was to prevent the perpetrator from being stained with blood.'

In additional inquest reporting, Dr Frederick Oxley[13] suggested that Coles's throat had been cut while she was on the ground but he told the inquest that although there was but one incision of the skin there must have been two wounds because the larynx had been opened in two places and he thought that the wounds had been made by someone standing in front of the victim and not to the right of the victim as Phillips had suggested. The cuts were thus partially across the front of the throat with emphasis on the left side which is where the vessels were severed. There is no mention of vessels on the right side of the neck being divided but clearly the windpipe was at least partially severed.

dorsal aspect

right *left*

1 Skin and subcutis
2 Spine of cervical vertebra
3 Trapezius and other supporting musculature
4 Spinal cord
5 Vertebral disc
6 Sternocleidomastoid muscle
7 Internal jugular vein
8 Common carotid artery
9 Oesophagus
10 Trachea
11 Thyroid cartilage

Diagram 1. Schematic representation of the major structures of the human neck - transverse section at the laryngeal level

An interpretation of these descriptions provides paths and directions of cut for each victim. It must be stressed that it is impossible to accurately interpret the descriptions and such cuts are rarely as clean and constant as one might imagine. Uniform sweeping arcs are unlikely as expediency necessitates some degree of hacking.

An estimate of the line of cut across the neck as deduced from medical descriptions is given for each victim in the following diagrams. In each case the arrow indicates the direction in which the cut was made and the shaded portion indicates the intact neck structures behind the path of the cut.

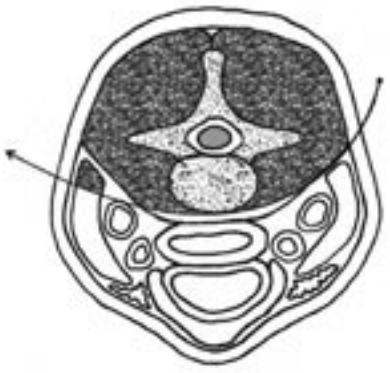

Diagram 2.
Neck wounds to Mary Ann Nichols

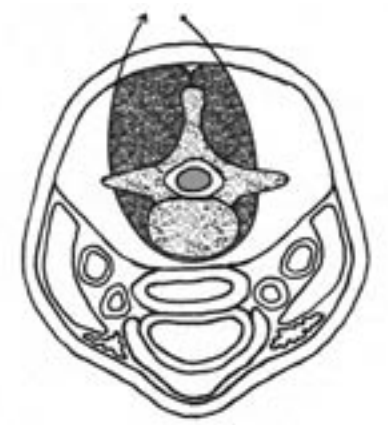

Diagram 3.
Neck wounds to Annie Chapman

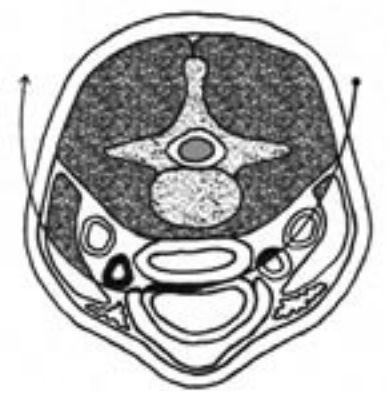

Diagram 4.
Neck wounds to Elizabeth Stride

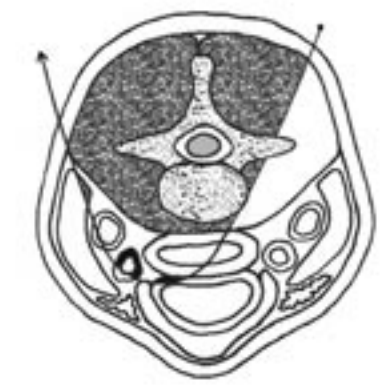

Diagram 5.
Neck wounds to Catherine Eddowes

Although a number of conclusions can be drawn from the representations it should be borne in mind that the diagrams give a two dimensional picture of three dimensional wounds and as such they depict only the lateral component of the cuts. It is accepted that the vertical component (as relative to a standing individual) may also be important in some instances.

Allowing for the limitations of the evaluation it is evident that six of the seven victims received fatal wounds to predominantly the left side of the neck

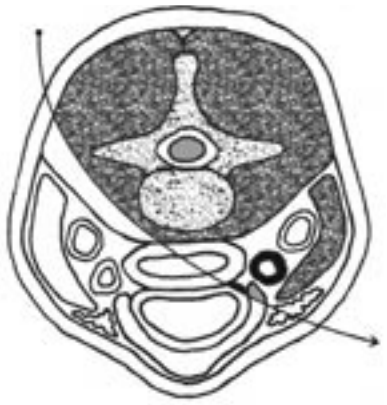

Diagram 6.
Neck wounds to Mary Jane Kelly

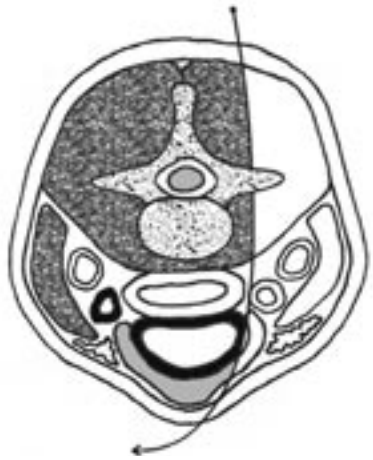

Diagram 7.
Neck wounds to Alice McKenie

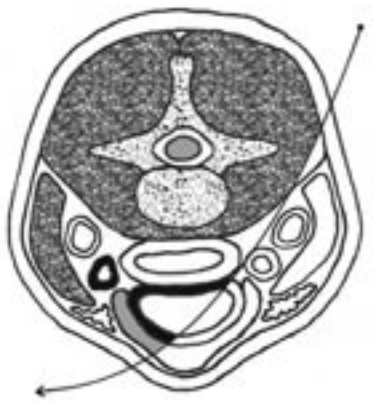

Diagram 8.
Neck wounds to Frances Coles

(Nichols, Chapman, Stride, Eddowes, McKenzie, and Coles), that being the location of the point of entry, with the laceration being inflicted from left to right across the front of the neck. In each of these six cases death was a consequence of exsanguination via the blood vessels on the left side of the neck, significantly the left carotid artery, which was severed, partially or completely, in all six instances. In two instances (Nichols and Chapman) the vessels on both sides were completely severed. Only a right-handed assailant could have inflicted such wounds and on the balance of probability it seems that the attack must have been from behind with the victims standing. The absence of any significant distribution of blood at the crime scene in any instance does not contradict this assertion – the killer's technique alone could prevent this as the victim was lowered to the ground, instantly silenced by shock or by a severed windpipe. In addition, the absence of any signs of a struggle for any of these six victims, except Chapman, reinforces the instantaneous and surprise nature of the attack that could only be prosecuted from behind with the victim upright. The knife has clearly been drawn across the front of the throat in some instances, a manoeuvre that would be difficult from the front of the victim and the passage of the knife around the throat would be impeded with the victim lying on the ground.

Mary Jane Kelly received fatal wounds to the right side of the neck and she bled to death from the vessels on that side. This is further reinforced by inquest testimony suggesting that the wall to the right of Kelly and the bed was spattered with blood as it spurted from the carotid artery. This is also the only instance in which there is any evidence of blood spurting from a neck wound regardless as to the supposed position of the victim when the wounds were inflicted. Because Kelly was probably to the right of the bed when her throat was cut her killer must have been on the bed to her left. In this position the balance of likelihood is that her killer was left-handed, since it would be far more likely that a left-handed assailant would steady the victim's head or stifle her response with his right hand and cut with a knife held in his left hand.

There is sufficient evidence from the Whitechapel murder series to suggest that the same individual was responsible for several of the murders, but controversy prevails as to the number of victims murdered by the same killer and, more significantly, was Mary Jane Kelly one of the series? Macnaghten, in his memorandum of 1894, has been regarded as authoritative in ascribing victims to the same serial killer, but his selection is unsubstantiated. On pathology evidence alone it is certainly possible to include Nichols, Chapman, Stride, and Eddowes in the same series. Logically one cannot exclude victims from a series because of what did not happen to them, because this may have been a function of opportunity rather than intention; thus, if Elizabeth Stride is included in the series, then there is no good reason to exclude either Alice McKenzie or Frances Coles, although the neck wounds in both of these cases were more lateral than for other victims.

Mary Jane Kelly continues to be an anomaly and it is likely that she was murdered by a left-handed assailant. Could the killer have been ambidextrous? This argument is often used by those desperate to reconcile the irreconcilable. Two murderers are more likely than one able to cut instinctively and accurately with a knife in either hand.

This is another contribution to the growing evidence suggesting that the man who murdered Mary Jane Kelly was not the same killer who attacked Nichols, Chapman, Stride, Eddowes and, probably, also McKenzie and Coles. This evaluation reinforces the doubts surrounding Mary Jane Kelly and also reveals that Alice McKenzie and Frances Coles cannot be ruled out of the series.

References

1 Magellan K (2005) *By Ear and Eyes: The Whitechapel Murders, Jack the Ripper and the Murder of Mary Jane Kelly*. Derby: Longshot Publishing

2 *The Daily Telegraph*, 3 September 1888

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4 *The Times*, 3 October 1888

5 *The Times*, 4 October 1888

6 Coroner's inquest (L), 1888, No. 135, Catherine Eddowes inquest, 1888 (Corporation of London Record Office)

7 *The Daily Telegraph*, 13 November 1888

8 MEPO 3/3153, ff.10-18

9 *The Times*, 18 July 1889 and 15 August 1889

10 MEPO 3/140, ff. 263-271

11 MEPO 3/140, ff. 259-262

12 *The Times*, 24 February 1891

13 *The Daily Telegraph*, 24 February 1891

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