

# An autopsy on the Man of the Shroud

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For over 50 years as a Forensic Pathologist, I have been actively involved with the investigation of deaths which come under the jurisdiction of a Coroner or Medical Examiner. During that time, I have personally examined over 25,000 bodies by autopsy to determine the cause and manner of death.

For most of that same period of time, I have had an abiding interest in the study of the Shroud of Turin from a medical view point. It seemed to be a natural decision for me to integrate my two interests and to try to record the results of what would have been done if the human body image on the Shroud of Turin were to be examined by a modern day Medical Examiner's office.

The full body imprint, front and back, together with the individual characteristics of blood stains on the cloth, which represent specific types of injury, makes sit quite feasible for an experienced forensic pathologist to approach the examination of the Shroud image as would a medical examiner performing an autopsy on a person who has died under unnatural circumstances. It is the aim of this presentation to replicate such an autopsy examination using the image on the Shroud to delineate traumatic findings and to interpret the cause and the results of those injuries, as well as to present the most reasonable and probable cause for the death of the individual whose image is present on the Shroud of Turin.

The first step in such an examination is to document physical features of the victim as accurately as possible. In the case of the image on the Shroud, it can be stated that the deceased person is an adult male measuring 71 inches from crown to heel and weighing an estimated 175 pounds. The body structure is anatomically normal, representing a well-developed and well-nourished individual with clearly identifiable head, trunk, and extremities. The body appears to be in a state of rigor mortis which is evidenced by an overall stiffness as well as specific alterations in the appearance of the lower extremities from the posterior aspect. The imprint of the right calf is much more distinct than that of the left indicating that at the time of death the left leg was rotated in such a way that the sole of the left foot rested on the ventral surface of the right foot with resultant slight flexion of the left knee. That position was maintained after rigor mortis had developed.

After an overall inspection and description of the body image, the pathologist continues his examination in a sequential fashion beginning with the head and progressing to the feet. He will note that the deceased had long hair, which on the posterior image appears to be fashioned into a pigtail or braid type configuration. There also is a short beard which is forked in the middle. In the frontal view, a ring of puncture tracks is noted to involve the scalp. One of these has the configuration of a letter "3". Blood has issued from these punctures into the hair and onto the skin of the forehead. The dorsal view shows that the puncture wounds extend around the occipital portion of the scalp in the manner of a crown. The direction of the blood flow, both anterior and posterior, is downward. In the midline of the forehead is a square imprint giving the appearance of an object resting on the skin. There is a distinct abrasion at the tip of the nose and the right cheek is distinctly swollen as compared with the left cheek. Both eyes appear to be closed, but on very close inspection, rounded foreign objects can be noted on the imprint in the area of the right and left eyes.

Upon examining the chest, the pathologist notes a large blood stain over the right pectoral area. Close examination shows a variance in intensity of the stain consistent with the presence of two types of fluid, one comprised of blood, and the other resembling water. There is distinct evidence of a gravitational effect on this stain with the blood flowing downward and without spatter or other evidence of the projectile activity which would be expected from blood issuing from a functional arterial source. This wound has all the characteristics of a post mortem type flow of blood from a body cavity or from an organ such as the heart. At the upper plane of the wound is an ovoid skin defect which is characteristic of a penetrating track produced by a sharp puncturing instrument.

There seems to be an increase in the anteroposterior diameter of the chest due to bilateral expansion.

The abdomen is flat, and the right and left arms are crossed over the mid and lower abdomen. The genitalia cannot be identified.

By examination of the arms, forearms, wrists, and hands, the pathologist notes that the left hand overlies the right wrist. On the left wrist area is a distinct puncture

re-type injury which has two projecting rivulets derived from a central source and separated by about a 10 degree angle. As it appears in the image, the rivulets extend in a horizontal direction. The pathologist realizes that this blood flow could not have happened with the arms in the position as he sees them during his examination, and he must reconstruct the position of the arms in such a way as to place them where they would have to be to account for gravity in the direction of the blood flow. His calculations to that effect would indicate that the arms would have to be outstretched upward at about a 65 degree angle with the horizontal. The pathologist observes that there are blood flows which extend in a direction from wrists toward elbows on the right and left forearms. These flows can be readily accounted for by the position of the arms which he has just determined.

As he examines the fingers, he notes that both the right and left hands have left imprints of only four fingers. The thumbs are not clearly obvious. This would suggest to the pathologist that there has been some damage to a nerve which would result in flexion of the thumb toward the palm.

As he examines the lower extremities, the medical examiner derives most of his information from the posterior imprint of the body. He notes that there is a reasonably clear outline of the right foot made by the sole of that foot having been covered with blood and leaving an imprint which reflects the heel as well as the toes. The left foot imprint is less clear and it is also noticeable that the left calf imprint is unclear. This supports the opinion that the left leg had been rotated and crossed over the right instep in such a way that an incomplete foot print was formed. In the center of the right foot imprint, a definite punctate defect can be noted. This puncture is consistent with an object having penetrated the structures of the feet, and from the position of the feet the conclusion would be reasonable that the same object penetrated both feet after the left foot had been placed over the right.

As the back image is examined, it becomes quite clear that there is a series of traumatic injuries which extend from the shoulder areas to the lower portion of the back, the buttocks, and the backs of the calves. These images are bifid and appear to have been made by some type of object applied as a whip, leaving dumbbell-shaped imprints in the skin from which blood has issued. The direction of the injuries is from lateral towards medial and downward suggesting that the whip was applied by someone standing behind the individual.

An interesting finding is noted over the shoulder blade area on the right and left sides. This consists of an abrasion or denuding of the skin surfaces, consistent with a heavy object, like a beam, resting over the shoulder blades and producing a rubbing effect on the skin surfaces.

With this information available to him, the forensic pathologist can come to a reasonable conclusion as to the circumstances of death, including the posture of the deceased at the time the injuries were incurred. Chronologically, the whip like injuries to the back would have occur-

red earlier than other injuries which the pathologist has found. The individual would have been upright and with his arms above his head at the time the whipping occurred since no whip marks are found on the upper extremities.

The position of the puncture defects in the wrist, coupled with the blood flow towards the elbows, and also associated with the punctures of the feet, allow the pathologist to conclude that the victim was in an upright position with his arms extended when the blood flow took place. A crucifixion type posture would be the most plausible explanation for these findings.

The wound in the right side, since it is comprised of both blood and non-blood components, suggests to the forensic pathologist that the puncturing instrument released a watery type fluid from the body cavities as well as blood from the heart area. One potential consideration would be that there was fluid in the chest cavity which was released by the penetrating instrument and this was followed by blood issuing from an area as the result of the heart being perforated.

At this point, the pathologist has gathered much information about the injuries to the body from a purely objective point of view. As a knowledgeable and expertly trained forensic pathologist he has the right and obligation to rely upon available historical and other evidentiary information in order to support or deny his impressions. He will avail himself of other scientific testing, including radiological studies and hematological and chemical testing of the substances which he has found on the body. By these tests, he will be able to confirm the presence of blood. He may also make other observations based on microscopic and genetic studies.

It is the ultimate responsibility of the medical examiner to confirm by whatever means are available to him the identity of the deceased, as well as to determine the manner of his death. In the case of Man on the Shroud, the forensic pathologist will have information relative to the circumstances of death by crucifixion which he can support by his anatomic findings. He will be aware that the individual whose image is depicted on the cloth has undergone puncture injuries to his wrists and feet, puncture injuries to his head, multiple traumatic whip-like injuries to his back and a postmortem puncture injury to his chest area which has released both blood and a watery type of fluid. From this data, it is not an unreasonable conclusion for the forensic pathologist to determine that only one person historically has undergone this sequence of events. That person is Jesus Christ.

As far as the mechanism of death is concerned, a detailed study of the Shroud imprint and the blood stains, coupled with a basic understanding of the physical and physiological changes in the body that take place during crucifixion, suggests strongly that the decedent person had undergone postural asphyxia as the result of his position during the crucifixion episode. There is also evidence of severe blood loss from the skin wounds as well as fluid accumulation in the chest cavities related to terminal cardio-respiratory failure.

For the manner of death to be determined, a full investigation of the circumstances of death is necessary. In this case, it would be determined historically that the individual was sentenced to death, and that the execution was carried out by crucifixion. The manner of death would be classed as judicial homicide.

In summary, I have presented a scenario, based on responsible medical probability, as to how a forensic pathologist medical examiner would conduct an examination of the Shroud of Turin image and the conclusions that he would reach as the result of such studies. ■

Question du Professeur Pourrat  
« Est-il en fait possible que la raideur du corps constatée sur le Linceul soit due à une tétanie, ou bien pourrait-elle être simplement due au phénomène de rigidité cadavérique ? »

Réponse :  
*La rigidité cadavérique est une réaction chimique : ce sont les fibres musculaires qui sont impliquées. la composition chimique du muscle se modifie et c'est cela qui produit cette raideur. Une tétanie ne donnerait pas cette position que nous avons pu constater chez l'homme du Linceul. La meilleure preuve de la raideur cadavérique se voit au niveau du pied et du genou : regardez à gauche la superposition des deux pieds, à gauche, le talon n'a plus de contact avec le tissu.*

Question du Professeur Pourrat  
« Peut-on dire que l'homme représenté par le Linceul ait pu souffrir d'asphyxie ? La mort peut-elle être due à l'asphyxie ? Est-ce que l'on peut avancer cette hypothèse, d'après la position du thorax ? »

Réponse :  
*Oui. J'ai fait beaucoup d'expériences de ce genre : une fois, je me suis déjà accroché à une croix — il y a quelques années — pour voir un petit peu ce que cela donnait : je m'en souviens, je suis resté environ une dizaine de secondes dans cette position et je me suis aperçu qu'on n'arrivait plus à respirer, les bras écartés comme cela, étirés. J'ai fait cela il y a quelques années et je comprends maintenant ce que cela donne : on n'arrive plus à respirer dans cette position.*

Réponse à une question inaudible dans l'enregistrement de la séance.

Réponse :  
*Oui Monsieur Mérat disait qu'un seul clou avait percé les deux pieds. Le Docteur Gambesci, de Philadelphie, Paul Maloney ainsi que des indications venant d'autres horizons, dans National Geographic en juin dernier, allaient dans le sens de deux blessures : donc l'arche du pied droit, la voûte, et un autre clou ; donc deux clous qui auraient maintenu le corps en bas sur la croix. Il n'y a pas de certitude là dessus. Je*

*crois qu'il est difficile de dire comment ce clou a pu percer les deux pieds sans casser les os. Je ne sais pas comment cela pourrait se produire. On voit très bien sur l'empreinte qu'il y a eu ce percement: il y a eu forcément un traumatisme vers le talon, c'est vraisemblable ou c'est une éventualité. Je dirais, la solution 1 est plausible, mais la 2, on ne peut pas l'écartier non plus. Voilà mon avis.*

Réponse à une question inaudible sur l'enregistrement :

*On a dit que la raideur cadavérique disparaissait après 3 à 4 jours, selon les conditions environnantes, à savoir l'humidité, la température, et donc que cet homme n'aurait pas dû avoir cet aspect de raideur cadavérique. La raideur cadavérique ne dure pas plus de 24 à 36 heures au maximum ; ensuite, elle disparaît. Pour le Christ, Il a été placé dans le Linceul très rapidement après que la mort soit intervenue et donc, au moment où il a été placé dans le Linceul, il y avait déjà la raideur cadavérique : donc, le changement a pu avoir lieu dans le Linceul. Ce n'était pas forcément ces 4 jours dont vous parlez.*

## Une autopsie de l'Homme du Linceul

*Une étude détaillée des images corporelles et des empreintes sanguines sur le Linceul de Turin permet à un médecin légiste expérimenté (25 000 autopsies) de mener une véritable étude médico-légale de l'homme du Linceul de Turin, selon les méthodes courantes dans la pratique des autopsies.*

*L'auteur énumère des informations très précises sur les aspects anthropométriques et les particularités physiques de la silhouette corporelle figurant sur ce tissu. Il discute les mécanismes et les causes des différentes lésions constatées (rigidité corporelle, blessures sanguines particulières...).*

*La description de type anatomique des diverses images permet d'avancer une conclusion médico-légale concernant la cause de la mort de l'homme du Linceul.*