

# A Physician Analyzes the Crucifixion

A medical explanation of what Jesus endured on the day He died  
by Dr. C. Truman Davis

Several years ago I became interested in the physical aspects of the passion, or suffering, of Jesus Christ when I read an account of the crucifixion in Jim Bishop's book, *The Day Christ Died*. I suddenly realized that I had taken the crucifixion more or less for granted all these years - that I had grown callous to its horror by a too-easy familiarity with the grim details. It finally occurred to me that, as a physician, I did not even know the actual immediate cause of Christ's death. The gospel writers do not help much on this point. Since crucifixion and scourging were so common during their lifetimes, they undoubtedly considered a detailed description superfluous. For that reason we have only the concise words of the evangelists: "Pilate, having scourged Jesus, delivered Him to them to be crucified ... and they crucified Him."

Despite the gospel accounts' silence on the details of Christ's crucifixion, many have looked into this subject in the past. In my personal study of the event from a medical viewpoint, I am indebted especially to Dr. Pierre Barbet, a French surgeon who did exhaustive historical and experimental research and wrote extensively on the topic.

An attempt to examine the infinite psychic and spiritual suffering of the Incarnate<sup>1</sup> God in atonement<sup>2</sup> for the sins of fallen man is beyond the scope of this article. However, the physiological and anatomical aspects of our Lord's passion we can examine in some detail. What did the body of Jesus of Nazareth actually endure during those hours of torture?

## Gethsemane

The physical passion of Christ began in Gethsemane. Of the many aspects of His initial suffering, the one which is of particular physiological interest is the bloody sweat. Interestingly enough, the physician, St. Luke, is the only evangelist to mention this occurrence. He says, "And being in an agony, he prayed the longer. And his sweat became as drops of blood, trickling down upon the ground" (Luke 22:44 KJV).

Every attempt imaginable has been used by modern scholars to explain away the phenomenon of bloody sweat, apparently under the mistaken impression that it simply does not occur. A great deal of effort could be saved by consulting the medical literature. Though very rare, the phenomenon of hematidrosis, or bloody sweat, is well documented. Under great emotional stress, tiny capillaries in the sweat glands can break, thus mixing blood with sweat. This process alone could have produced marked weakness and

possible shock.

Although Jesus' betrayal and arrest are important portions of the passion story, the next event in the account which is significant from a medical perspective is His trial before the Sanhedrin and Caiaphas, the High Priest. Here the first physical trauma was inflicted. A soldier struck Jesus across the face for remaining silent when questioned by Caiaphas. The palace guards then blindfolded Him, mockingly taunted Him to identify them as each passed by, spat on Him, and struck Him in the face.

#### Before Pilate

In the early morning, battered and bruised, dehydrated, and worn out from a sleepless night, Jesus was taken across Jerusalem to the Praetorium of the Fortress Antonia, the seat of government of the Procurator of Judea, Pontius Pilate. We are familiar with Pilate's action in attempting to shift responsibility to Herod Antipas, the Tetrarch of Judea. Jesus apparently suffered no physical mistreatment at the hands of Herod and was returned to Pilate. It was then, in response to the outcry of the mob, that Pilate ordered Barabbas released and condemned Jesus to scourging and crucifixion.

Preparations for Jesus' scourging were carried out at Caesar's orders. The prisoner was stripped of His clothing and His hands tied to a post above His head. The Roman legionnaire stepped forward with the flagrum, or flagellum, in his hand. This was a short whip consisting of several heavy, leather thongs with two small balls of lead attached near the ends of each. The heavy whip was brought down with full force again and again across Jesus' shoulders, back and legs. At first the weighted thongs cut through the skin only. Then, as the blows continued, they cut deeper into the subcutaneous tissues, producing first an oozing of blood from the capillaries and veins of the skin and finally spurting arterial bleeding from vessels in the underlying muscles.

The small balls of lead first produced large deep bruises that were broken open by subsequent blows. Finally, the skin of the back was hanging in long ribbons, and the entire area was an unrecognizable mass of torn, bleeding tissue. When it was determined by the centurion in charge that the prisoner was near death, the beating was finally stopped.

#### Mockery

The half-fainting Jesus was then untied and allowed to slump to the stone pavement, wet with his own blood. The Roman soldiers saw a great joke in this provincial Jew claiming to be a king. They threw a robe across His shoulders and placed a stick in His hand for a scepter. They still needed a crown to make their travesty complete. Small flexible branches covered with

long thorns, commonly used for kindling fires in the charcoal braziers in the courtyard, were plaited in the shape of a crude crown. The crown was pressed into his scalp and again there was copious bleeding as the thorns pierced the very vascular tissue. After mocking Him and striking Him across the face, the soldiers took the stick from His hand and struck Him across the head, driving the thorns deeper in His scalp. Finally, they tired of their sadistic sport and tore the robe from His back. The robe had already become adherent to the clots of blood and serum in the wounds, and its removal, just as in the careless removal of a surgical bandage, caused excruciating pain. The wounds again began to bleed.

## Golgotha

In deference to Jewish custom, the Romans apparently returned His garments. The heavy patibulum<sup>3</sup> of the cross was tied across His shoulders. The procession of the condemned Christ, two thieves, and the execution detail of Roman soldiers headed by a centurion began its slow journey along the route which we know today as the Via Dolorosa.

In spite of Jesus' efforts to walk erect, the weight of the heavy wooden beam, together with the shock produced by copious loss of blood, was too much. He stumbled and fell. The rough wood of the beam gouged into the lacerated skin and muscles of the shoulders. He tried to rise, but human muscles had been pushed beyond their endurance. The centurion, anxious to proceed with the crucifixion, selected a stalwart North African onlooker, Simon of Cyrene, to carry the cross. Jesus followed, still bleeding and sweating the cold, clammy sweat of shock. The 650-yard journey from the Fortress Antonia to Golgotha was finally completed. The prisoner was again stripped of His clothing except for a loin cloth which was allowed the Jews.

The crucifixion began. Jesus was offered wine mixed with myrrh, a mild analgesic, pain-relieving mixture. He refused the drink. Simon was ordered to place the patibulum on the ground, and Jesus was quickly thrown backward, with His shoulders against the wood. The legionnaire felt for the depression at the front of the wrist. He drove a heavy, square wrought-iron nail through the wrist and deep into the wood. Quickly, he moved to the other side and repeated the action, being careful not to pull the arms too tightly, but to allow some flexion and movement. The patibulum was then lifted into place at the top of the stipes<sup>4</sup>, and the titulus<sup>5</sup> reading "Jesus of Nazareth, King of the Jews" was nailed into place.

The left foot was pressed backward against the right foot. With both feet extended, toes down, a nail was driven through the arch of each, leaving the knees moderately flexed. The victim was now crucified.



### On the Cross

As Jesus slowly sagged down with more weight on the nails in the wrist, excruciating, fiery pain shot along the fingers and up the arms to explode in the brain. The nails in the wrists were putting pressure on the median nerve, large nerve trunks which traverse the mid-wrist and hand. As He pushed himself upward to avoid this stretching torment, He placed His full weight on the nail through His feet. Again there was searing agony as the nail tore through the nerves between the metatarsal bones of his feet.

At this point, another phenomenon occurred. As the arms fatigued, great waves of cramps swept over the muscles, knotting them in deep relentless, throbbing pain. With these cramps came the inability to push Himself upward. Hanging by the arm, the pectoral muscles, the large muscles of the chest, were paralyzed and the intercostal muscles, the small muscles between the ribs, were unable to act. Air could be drawn into the lungs, but could not be exhaled. Jesus fought to raise Himself in order to get even one short breath. Finally, the carbon dioxide level increased in the lungs and in the blood stream, and the cramps partially subsided.

### The Last Words

Spasmodically, He was able to push Himself upward to exhale and bring in life-giving oxygen. It was undoubtedly during these periods that He uttered the seven short sentences that are recorded.

The first - looking down at the Roman soldiers throwing dice<sup>6</sup> for His seamless garment: "Father, forgive them for they do not know what they do."

The second - to the penitent thief<sup>7</sup>: "Today, thou shalt be with me in Paradise."

The third - looking down at Mary His mother, He said: "Woman, behold your son." Then turning to the terrified, grief-stricken adolescent John, the beloved apostle, He said: "Behold your mother."<sup>8</sup>

The fourth cry is from the beginning of Psalm 22: "My God, My God, why have You forsaken Me?"

He suffered hours of limitless pain, cycles of twisting, joint-rending cramps, intermittent partial asphyxiation, and searing pain as tissue was torn from His lacerated back from His movement up and down against the rough timbers of the cross. Then another agony began: a deep crushing pain in the chest as the pericardium, the sac surrounding the heart, slowly filled with serum and began to compress the heart.

The prophecy in Psalm 22:14 was being fulfilled: "I am poured out like water, and all my bones are out of joint, my heart is like wax; it is melted in the midst of my bowels."

The end was rapidly approaching. The loss of tissue fluids had reached a critical level; the compressed heart was struggling to pump heavy, thick, sluggish blood to the tissues, and the tortured lungs were making a frantic effort to inhale small gulps of air. The markedly dehydrated tissues sent their flood of stimuli to the brain. Jesus gasped His fifth cry: "I thirst." Again we read in the prophetic psalm: "My strength is dried up like a potsherd; my tongue cleaveth to my jaws; and thou has brought me into the dust of death" (Psalm 22:15 KJV).

A sponge soaked in posca, the cheap, sour wine that was the staple drink of the Roman legionnaires, was lifted to Jesus' lips. His body was now in extremis, and He could feel the chill of death creeping through His tissues. This realization brought forth His sixth word, possibly little more than a tortured whisper: "It is finished." His mission of atonement<sup>9</sup> had completed. Finally, He could allow His body to die. With one last surge of strength, He once again pressed His torn feet against the nail, straightened His legs, took a deeper breath, and uttered His seventh and last cry: "Father, into Your hands I commit My spirit."

## Death

The common method of ending a crucifixion was by crurifracture, the breaking of the bones of the leg. This prevented the victim from pushing himself upward; the tension could not be relieved from the muscles of the chest, and rapid suffocation occurred. The legs of the two thieves were broken, but when the soldiers approached Jesus, they saw that this was unnecessary.

Apparently, to make doubly sure of death, the legionnaire drove his lance between the ribs, upward through the pericardium and into the heart. John 19:34 states, "And immediately there came out blood and water." Thus there was an escape of watery fluid from the sac surrounding the heart and the blood of the interior of the heart. This is rather conclusive post-mortem evidence that Jesus died, not the usual crucifixion death by suffocation, but of heart failure due to shock and constriction of the heart by fluid in the pericardium.

## Resurrection

In these events, we have seen a glimpse of the epitome of evil that man can exhibit toward his fellowman and toward God. This is an ugly sight and is likely to leave us despondent and depressed.

But the crucifixion was not the end of the story. How grateful we can be that we have a sequel: a glimpse of the infinite mercy of God toward man - - the gift of atonement, the miracle of the resurrection, and the expectation of Easter morning.

- 1 Incarnate.
- 2 Atonement.
- 3 Horizontal portion of the cross.
- 4 Vertical portion of the cross.
- 5 Small sign stating the victim's crime.
- 6 Gambling.
- 7 The one who felt remorse for his sins and asked Jesus to help him.
- 8 As Jesus was dying, He gave his trusted friend responsibility for the care of His mother.
- 9 Taking our place by suffering the death penalty for our sin.

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