



Glencoe Regional Health Services

# **Medical Aspects of the Crucifixion: The Arts and Science**

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## Important Notice


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- “You can’t get to Easter Sunday but through Good Friday.”

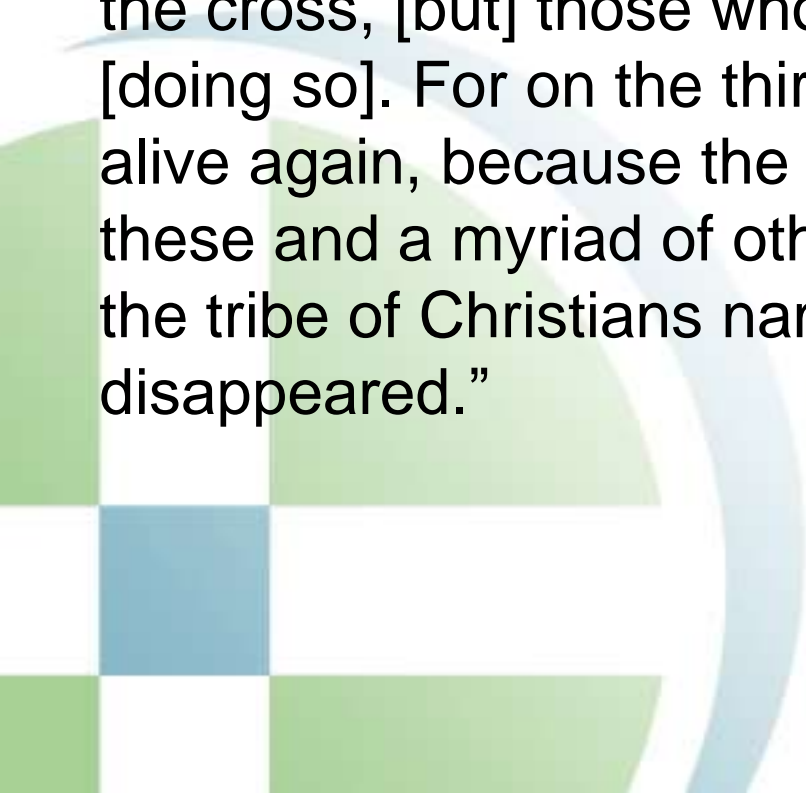
-Martin Luther King Jr.





“The founder of this name,  
Christ, had been executed in  
the reign of Tiberius by the  
procurator Pontius Pilate.”

Cornelius Tacitus  
Annals (116 AD)  
Roman Author 56-120 AD



“Around this time lived Jesus, a wise man, if indeed it is right to call him a man. For he was a worker of amazing deeds and was a teacher of people who accept the truth with pleasure. He won over both many Jews and many Greeks. He was the Messiah. Pilate, when he heard him accused by the leading men among us condemned him to the cross, [but] those who had first loved Him did not cease [doing so]. For on the third day he appeared to them alive again, because the divine prophets had prophesied these and a myriad of other things about Him. To this day the tribe of Christians named after him has not disappeared.”

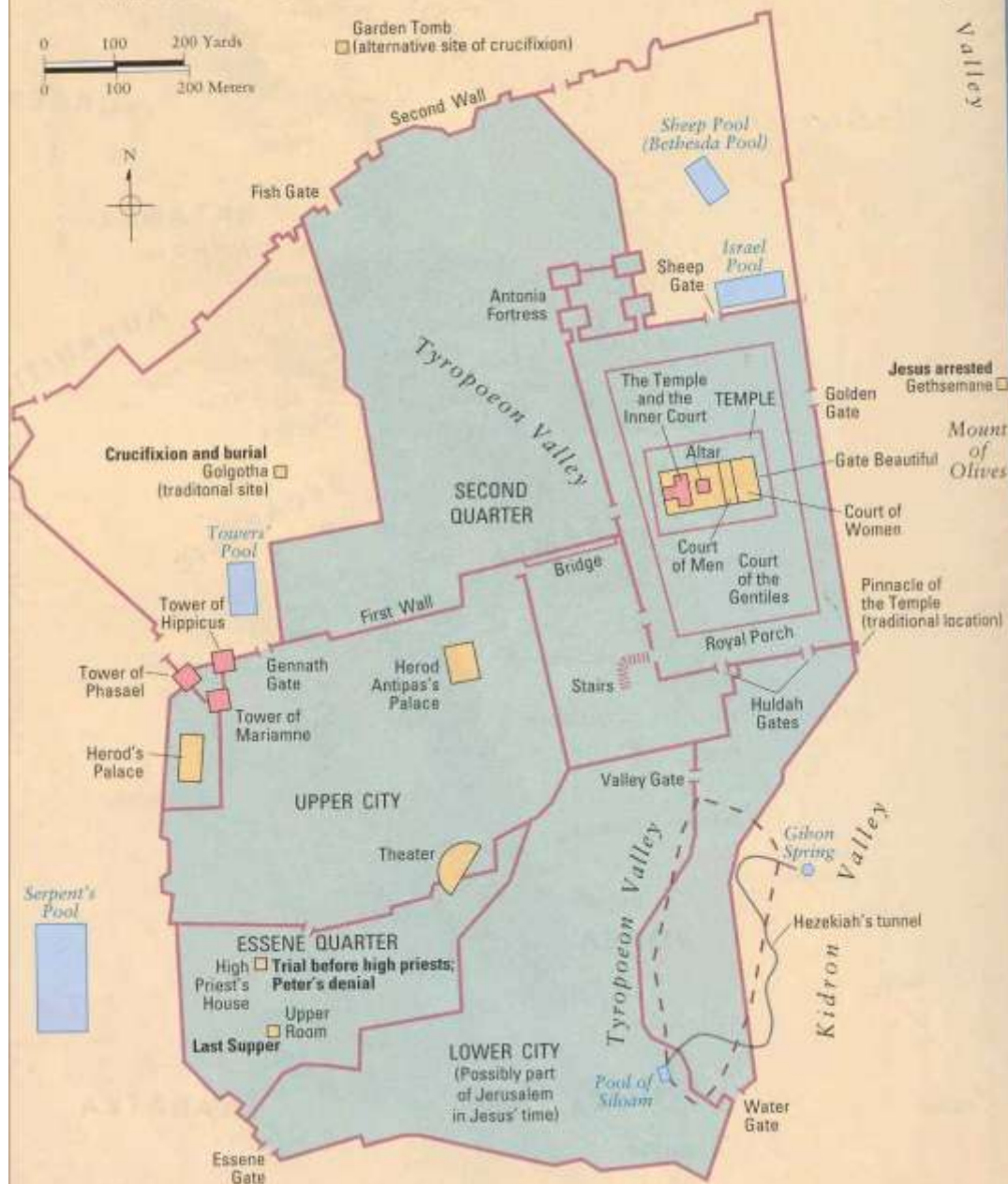
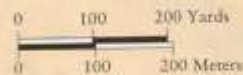
Josephus - Jewish Historian (37 - 100 AD)  
Written 90 AD

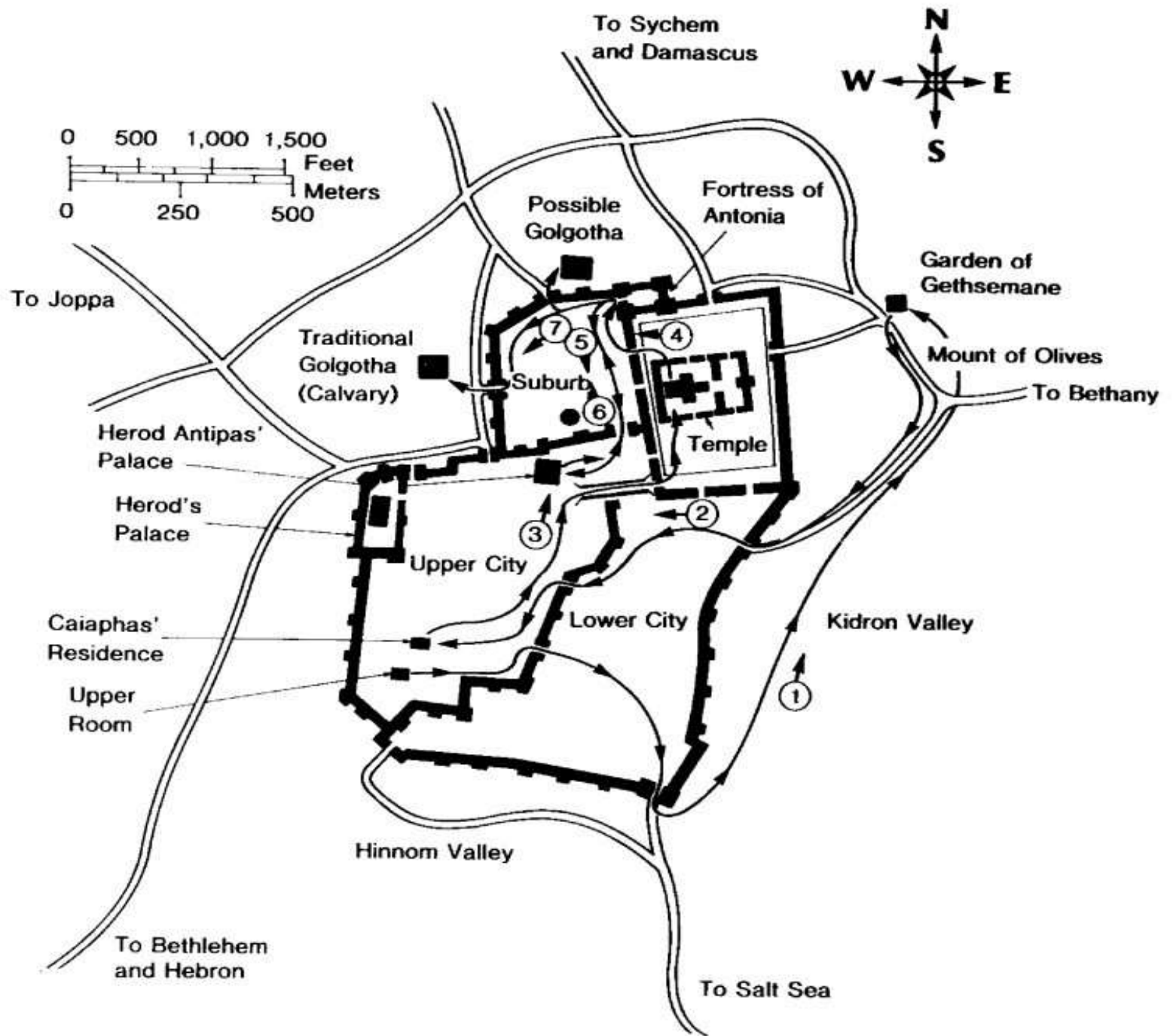
# PALESTINE IN JESUS' TIME, 6-30 C.E.



# CITY OF JERUSALEM IN JESUS' TIME

- City walls in Jesus' Time
- - Wall of David's City





# Death By Crucifixion

- 9<sup>th</sup> Century BC Assyrian Empire
- 5<sup>th</sup> Century BC Persia
- 330 BC Macedonia
- Alexander the Great ----> Egypt & Carthage
- Romans learned from Carthaginians
- Romans:
  - Did not invent,
  - But perfected it as a form of torture and capital punishment
  - Designed to produce a slow death with maximum pain and suffering
  - One of the most disgraceful and cruel methods of execution
  - Form of Roman public service announcement intended to get attention of those watching
  - Reserved for slaves, foreigners, political insurrectionists and vilest of criminals
  - Various techniques
  - Women would be strung out facing the cross away from the crowd.

# Crucifixion Process

1. Permission for CX execution had to come from governing Romans
2. Fortress of Antonia, the residence and governmental seat of Pontius Pilate, procurator of Judea
  - Blasphemer
  - Self Appointed King who would undermine Roman activity



## CHRONOLOGY OF EVENTS

<b>Event</b>	<b>Approximate Time</b>
Prayer and agony at Gethsemane (Matthew, Mark, Luke)	1:00 a.m.
Betrayal by Judas and arrest of Jesus (Mark 14:43–46; John 18:12)	1:30 a.m.
Irregular, unauthorized inquiry at Annas's residence (John 18:13–23)	2:00 a.m.
Unofficial trial at Caiaphas's residence (Matthew 26:57–68; John 18:24)	3:00 a.m.
Formal, official trial before Sanhedrin in their chamber to confirm capital sentence (Mark 15:1; Luke 22:66–71)	6:00 a.m. ("when it was day")
First interrogation by Pilate at official residence (Matthew 27:1–2, 11–14; Luke 23:1–7; John 18:28–38)	6:30 a.m. ("when morning had come . . . and it was early")
Audience/mockery before Herod (Luke 23:8–12)	7:00 a.m.

Final judgment of Pilate (All Gospels)	7:30 a.m.
Scourging in Praetorium (All Gospels)	8:00 a.m.
Nailing of hands and feet to the cross (All Gospels)	9:00 a.m. ("it was the third hour")
Darkness (Matthew, Mark, Luke)	12:00 Noon ("when the sixth hour had come, darkness fell")
Death of Jesus (All Gospels)	3:00 p.m. ("and at the ninth hour")
<i>In less than twenty-four hours, Jesus goes from arrest to execution.</i>	

<b>Trial</b>	<b>Officiating Authority</b>	<b>Scripture</b>	<b>Accusation</b>	<b>Legality</b>	<b>Type</b>	<b>Result</b>
1	Annas, ex-high priest of the Jews (AD 6–15)	John 18:13–23	Trumped-up charges of irreverence to Annas.	<b>ILLEGAL!</b> Held at night. No specific charges. Prejudice. Violence.	Jewish and Religious	Found guilty of irreverence and rushed to Caiaphas.
2	Caiaphas—Annas's son in-law—and the Sanhedrin (AD 18–36)	Matthew 26:57–68 Mark 14:53–65 John 18:24	Claiming to be the Messiah, the Son of God—blasphemy (worthy of death under Jewish law).	<b>ILLEGAL!</b> Held at night. False witnesses. Prejudice. Violence.	Jewish and Religious	Declared guilty of blasphemy and rushed to the Sanhedrin (supreme court).
3	The Sanhedrin—seventy ruling men of Israel (their word was needed before He could be taken to Roman officials).	Mark 15:1a Luke 22:66–71	Claiming to be the Son God—blasphemy.	<b>ILLEGAL!</b> Accusation switched. No witnesses. Improper voting.	Jewish and Religious	Declared guilty of blasphemy and rushed to Roman official, Pilate.
4	Pilate, governor of Judea, who was already in “hot water” with Rome (AD 26–36).	Matthew 27:11–14 Mark 15:1b–5 Luke 23:1–7 John 18:28–38	Treason (accusation was changed, since treason worthy of capital punishment in Rome).	<b>ILLEGAL!</b> Christ was kept under arrest, although He was found innocent. No defense attorney. Violence.	Roman and Civil	Found innocent . . . but rushed to Herod Antipas; mob over-ruled Pilate.
5	Herod Antipas, governor of Galilee (4 BC–AD 39).	Luke 23:8–12	No accusation was made.	<b>ILLEGAL!</b> No grounds. Mockery in courtroom. No defense attorney. Violence.	Roman and Civil	Mistreated and mocked; returned to Pilate without decision made by Herod.
6	Pilate (second time).	Matthew 27:15–26 Mark 15:6–15 Luke 23:18–25 John 18:29–19:6	Treason, though not proven (Pilate bargained with the mob, putting Christ on a level with Barrabas, a criminal)	<b>ILLEGAL!</b> Without proof of guilt, Pilate allowed an innocent man to be condemned.	Roman and Civil	Found innocent, but Pilate “washed his hands” and allowed Him to be crucified.



*“There an angel from Heaven appeared and strengthening him, for he was in such agony of spirit that he broke into a sweat of blood, with great drops falling to the ground as he prayed more and more earnestly.”*

*Luke 22: 43-44*

*Christ in the Garden of Olives  
By Giovanni Canavesio  
ca 1492*

# Hematidrosis (hematohidrosis)

- A rare medical condition in which a human being sweats blood.
- It may occur when a person is suffering extreme levels of stress, for example, facing his or her own death.
- The severe mental anxiety activates the sympathetic nervous system to evoke a stress reaction to such a degree causing hemorrhage to the vessels supplying the sweat glands, thereby allowing bleeding into the ducts of the sweat glands and extruding out onto the skin.
- Several historical references have been described: A soldier who sweated blood before battle, six cases of men condemned to execution, a case occurring during the London Blitz, and cases involving the fear of being raped, the fear of a storm while sailing, etc.



*The Betrayal of Christ* by Guercino ca. 1621



*Ecce Homo* by Antonio Ciseri ca. 1880, "Behold the Man" Christ Before Pilate

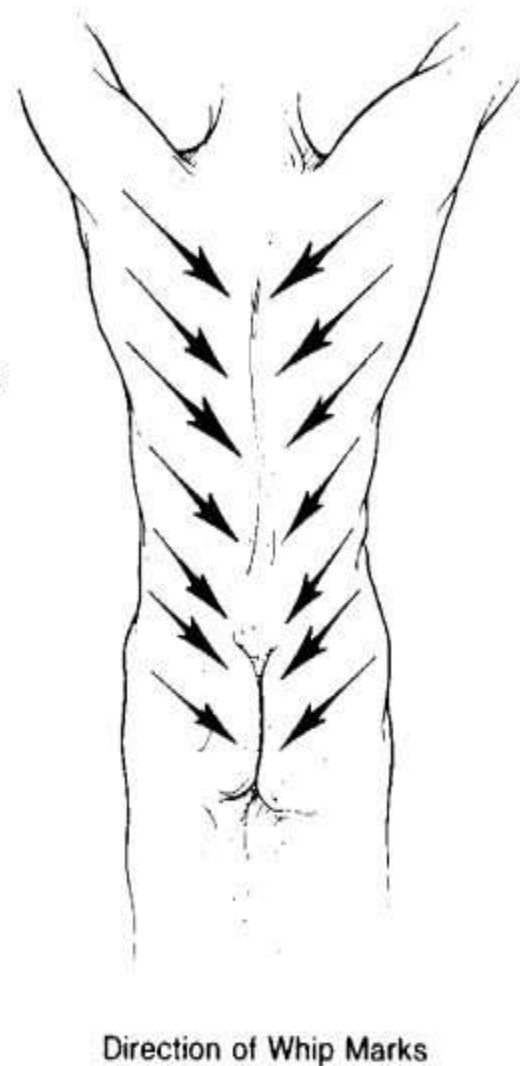
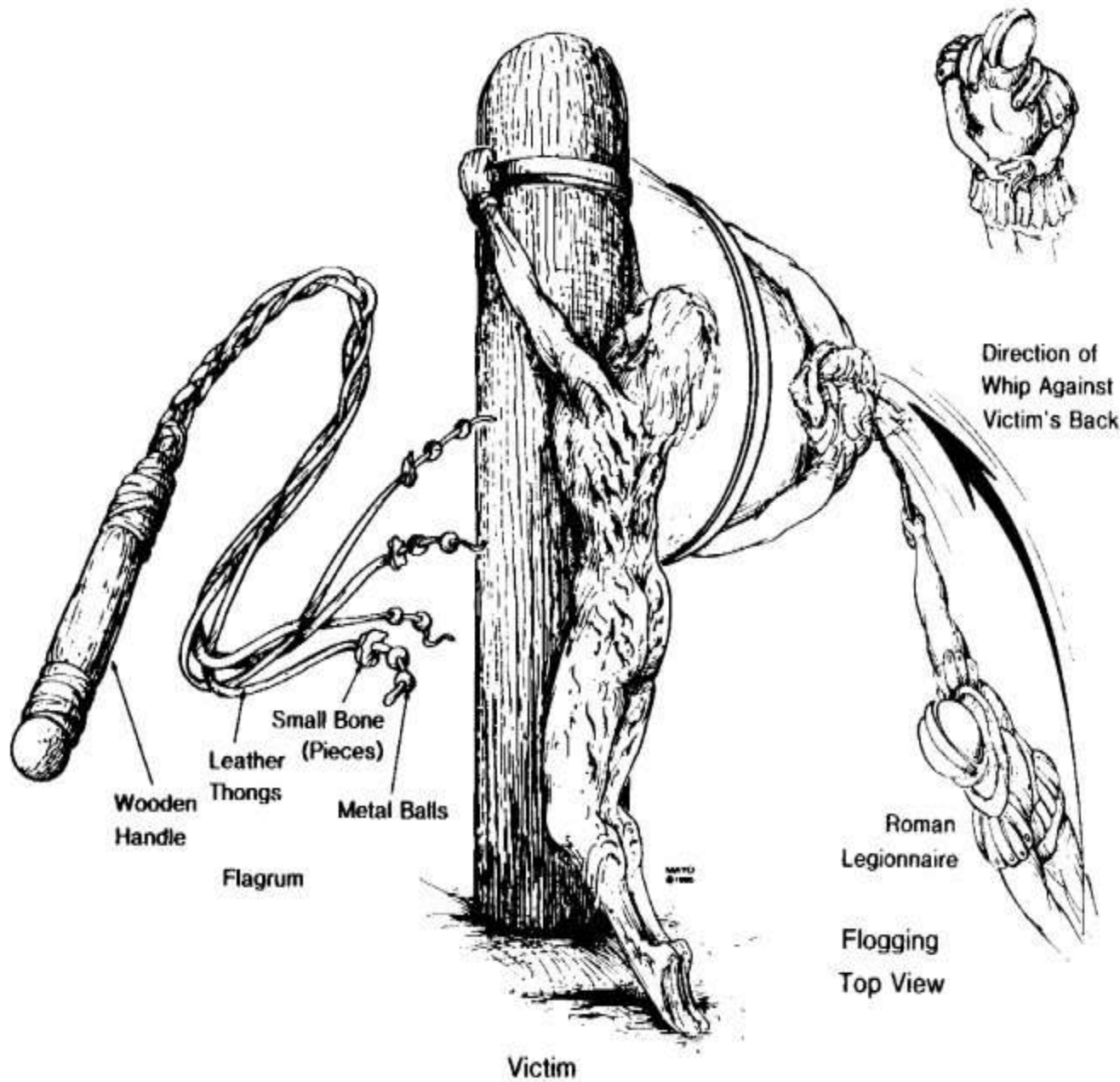
# Crucifixion Process

## 3. Sourging (flogging) - Praetorium

- Legal preliminary to any Roman execution
- Short whip (flagellum) - several single or braided leather thongs of various lengths in which small iron balls or sharp pieces of bone are tied at intervals
- Stripped clothing/tied to upright post
- Back, Buttocks, & Legs
- Severity variable. Intended to weaken the victim to a state short of death.



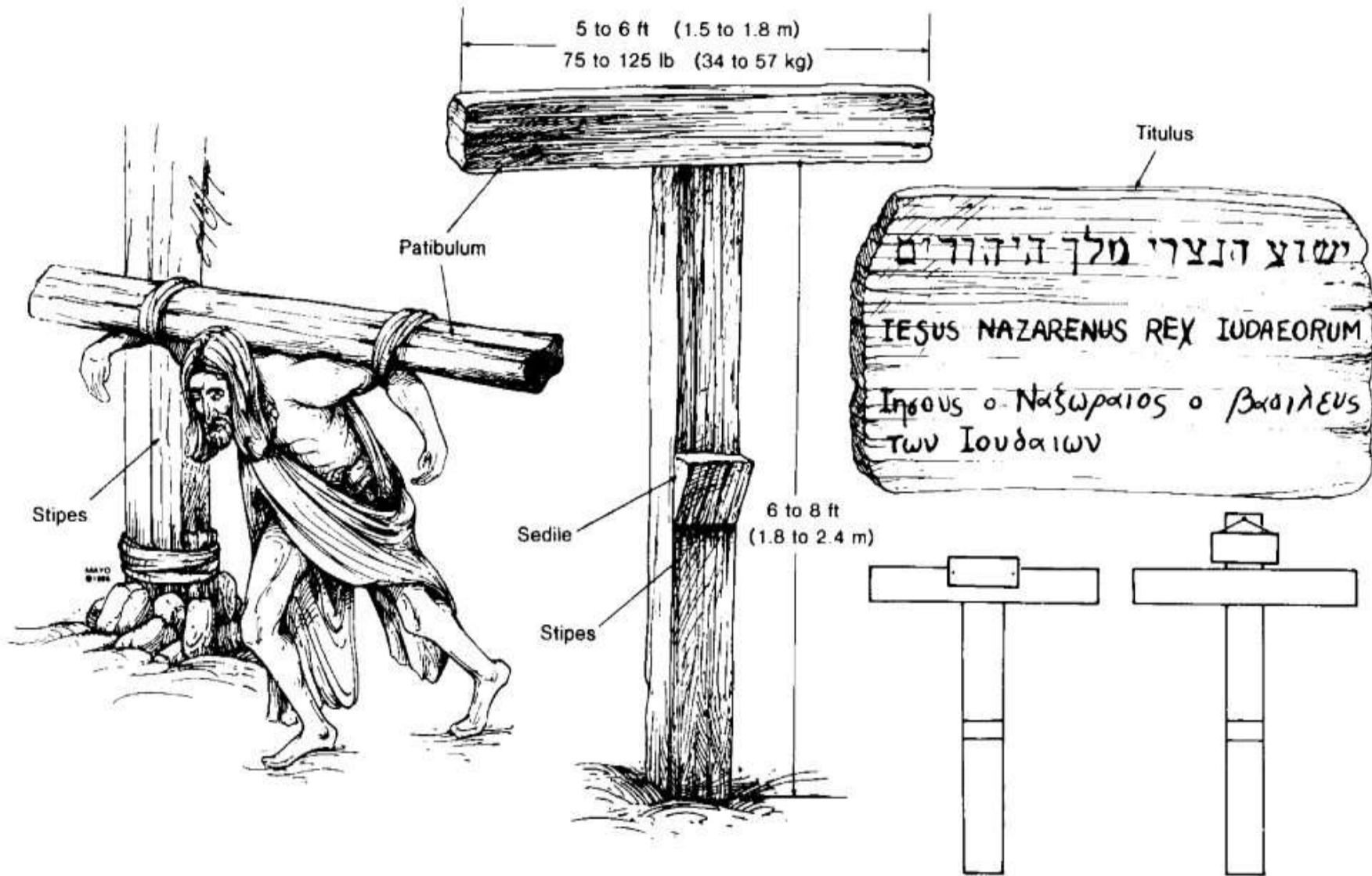
*Christ at the Column* by Caravaggio ca. 1606/1607



Direction of Whip Marks

# Crucifixion Process

4. Customary for condemned to carry own cross from flogging post to site of CX outside city walls.
  - Usually naked, unless prohibited by local custom
  - Usually only carried crossbar (patibulum 75-125#) since the entire cross weighed over 300#
  - Across nape of neck with arms tied to crossbar
5. Processional to CX site led by a complete Roman military guard headed by a centurion. They would not leave victim until sure of death.
  - Titulus - name & crime
6. Outside city walls - permanently upright wooden stipes
7. To prolong CX process, horizontal block/plank (sedulum)



# Variation in Crosses

- Tree
- Upright Post
- Stipes and Patibulum
  - Low Cross
  - Tall Cross
  - T-Shaped (tau) Cross
  - T-Shaped (Latin) Cross
  - X-Shaped Cross



*The Way to Calvary* by Domenichino c. 1610

# Site of Execution

1. Hands nailed to crossbar through wrists with 5-7" spikes



# Site of Execution

2. Feet nailed causing flexion of knees and leg lateral rotation



# Site of Execution

3. Titulus attached to cross above head







*The Raising of the Cross*  
By Peter Paul Rubens,  
ca. 1620-1621

# Site of Execution

4. Bitter drink of wine mixed with myrrh (gall)  
-Mild Analgesic



# Site of Execution

5. Taunts & jeers by civilians and soldiers
  - Soldiers customarily divided the victims clothes





*Crucifixion from the Rabula Gospels ca. AD 586*

# Site of Execution

6. Length of survival from 3-4 hours to 3-4 days (up to 9 days)
  - Depended on severity of scourging
  - Soldiers could hasten death by:
    - Breaking bones in the legs below the knees (Crucifracture - It would lead to asphyxic death within minutes)
    - Or by further stretching out the arms of the victim while on the cross.

# Site of Execution

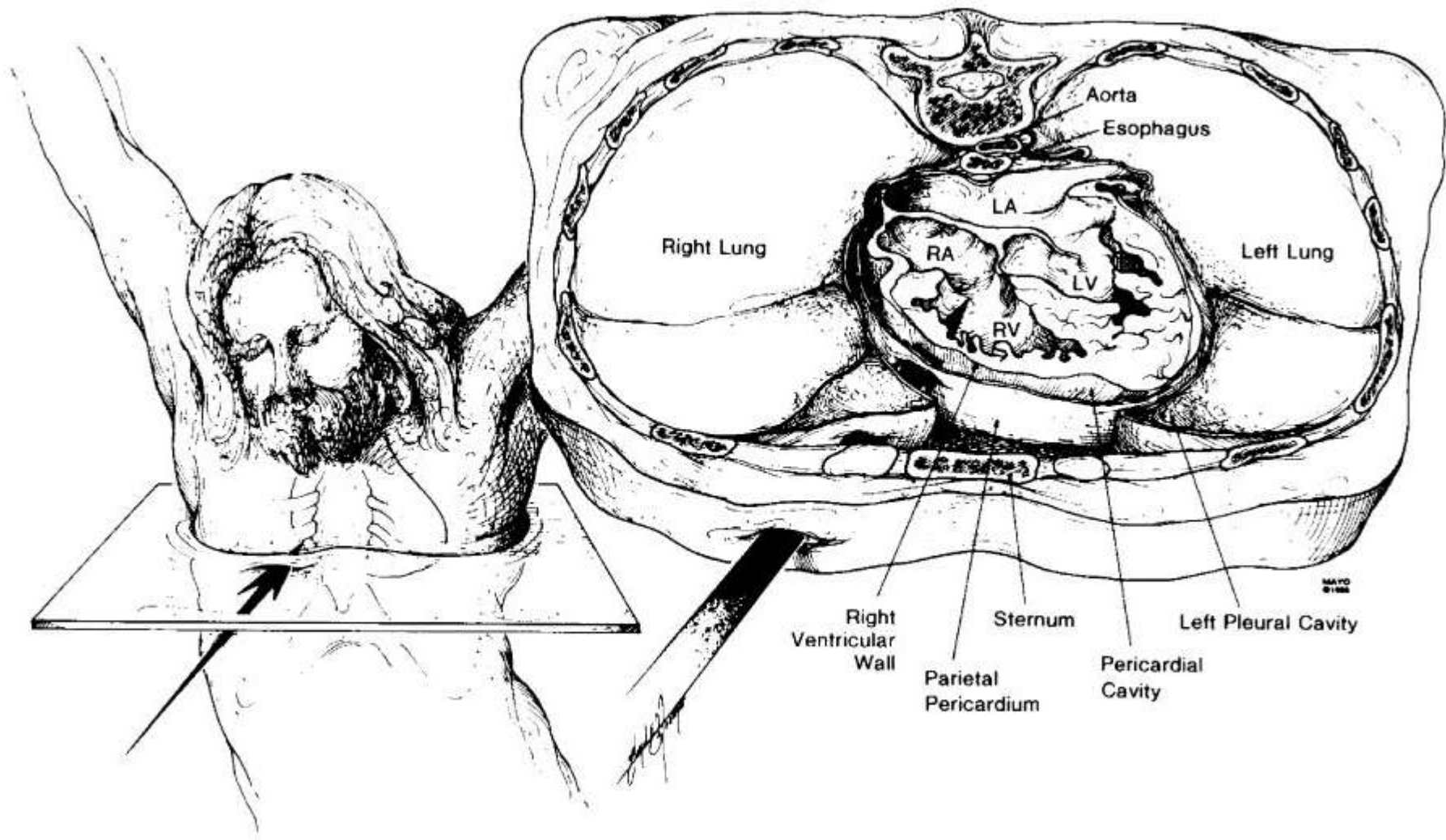
7. Insects/birds of prey: Customary to leave corpse on the cross to be devoured by predatory animals; however by Roman law, family could take the body for burial after obtaining permission from Roman Judge

# Site of Execution

8. Body not released to family until soldiers were sure of death
9. By custom, one of the soldiers would pierce the body with sword or lance (5-6' spear to heart via right chest).



*Golgotha*  
By Maerten van Heemskerck,  
ca. 1550



Aorta

Esophagus

LA

Right Lung

RA

Left Lung

LV

RV

MAYO  
© 1988

Right  
Ventricular  
Wall

Sternum

Left Pleural Cavity

Parietal  
Pericardium

Pericardial  
Cavity

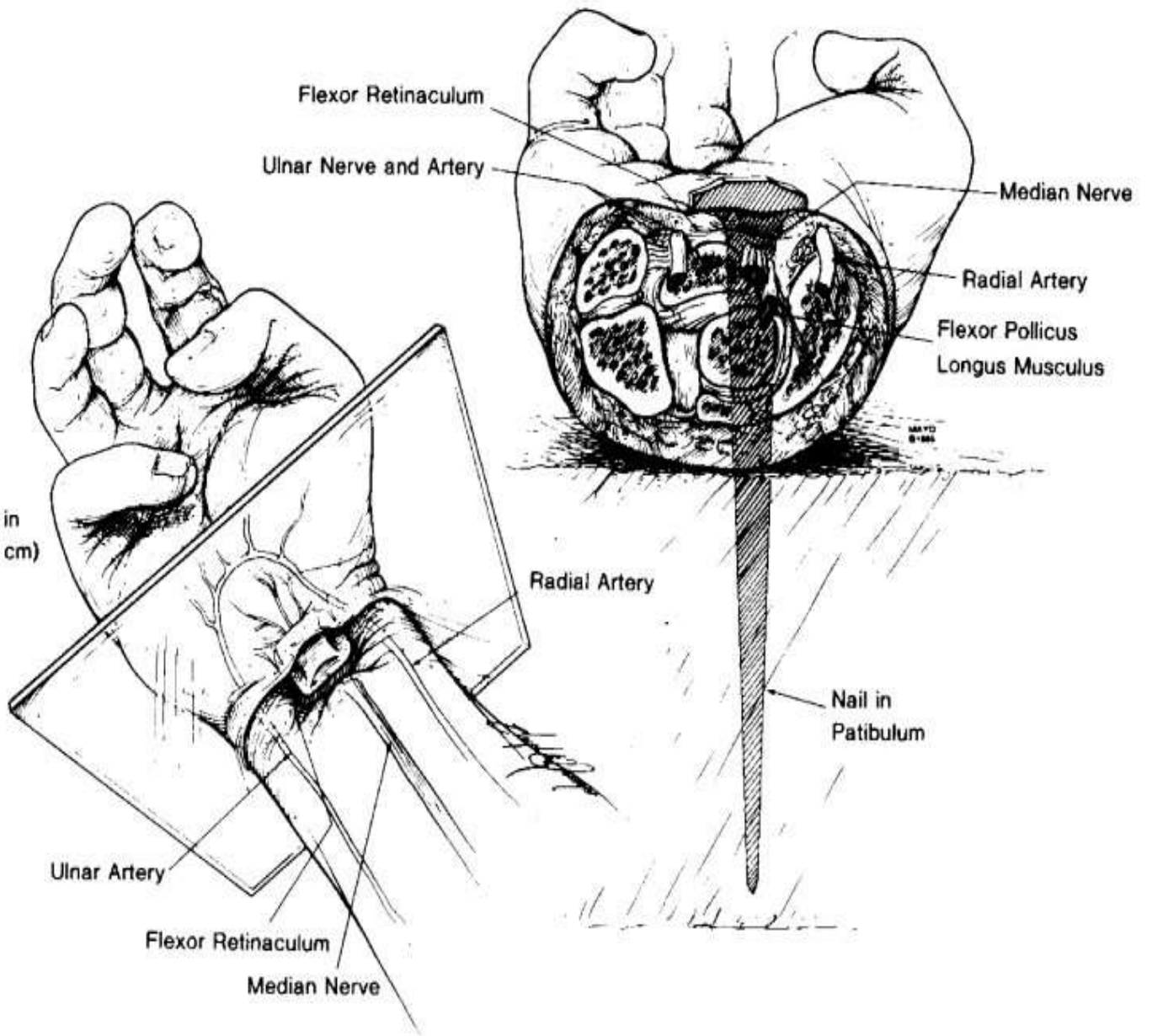
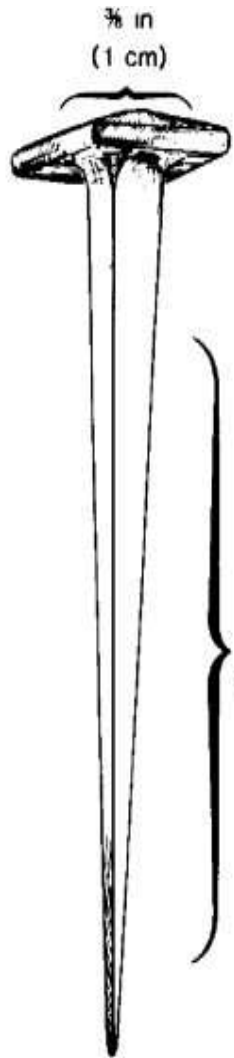
# Contributing Causes of Death

- Scourging served to weaken the condemned
  - Orthostatic Hypotension/Hypovolemic Shock
- Thrown on the ground onto back
  - Wounds reopen and are contaminated with dirt
- With each respiration
  - Scourging wounds scrape against the cross

# Contributing Causes of Death

- Wrist nails support weight
  - Periosteal injury, damaged median/ulnar nerves, ischemic contracture of hands bleeding

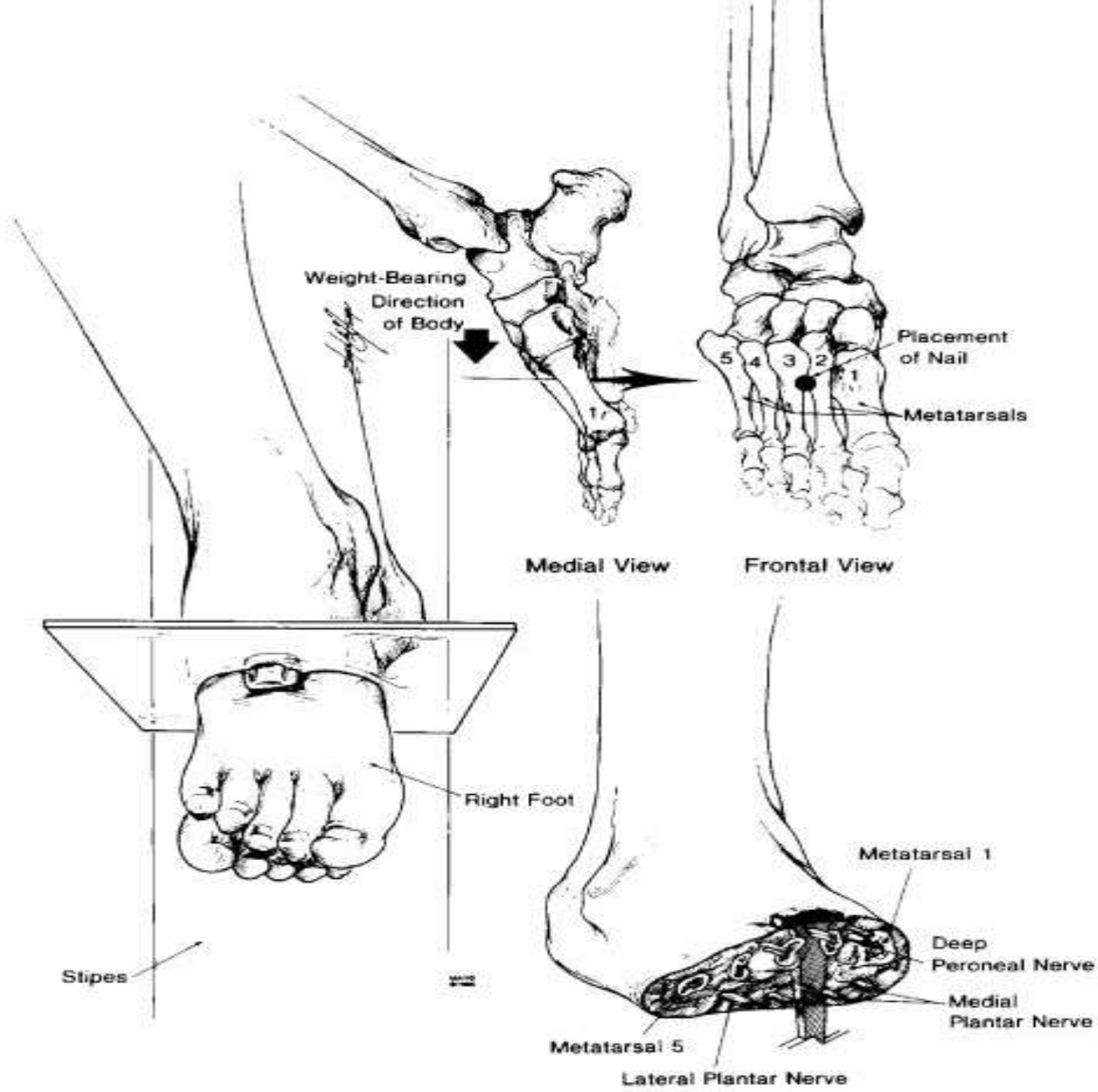




# Contributing Causes of Death

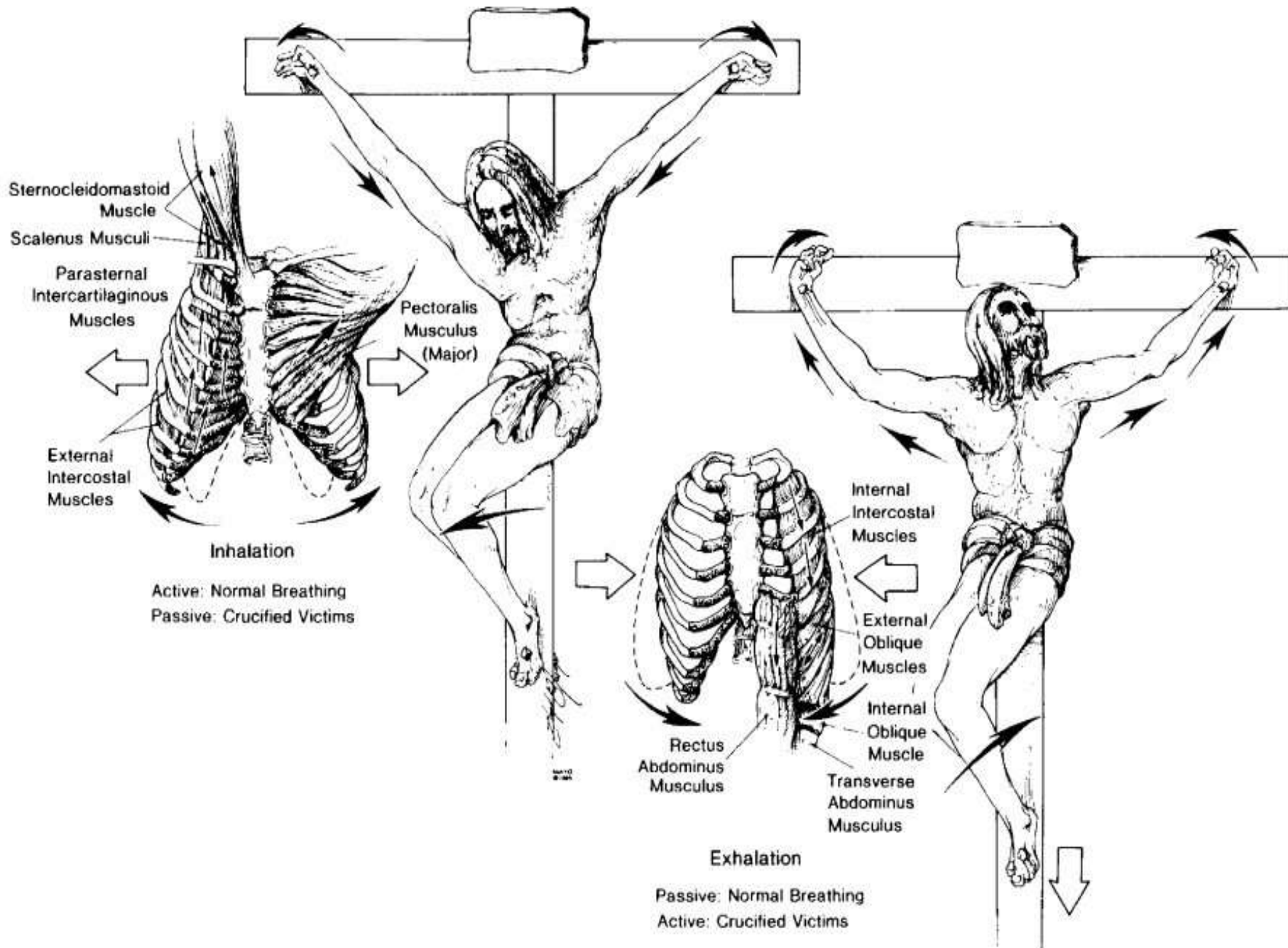
- Foot Nails
  - Thru 1st or 2nd MT joint
  - Injured deep peroneal nerves and branches of medial & lateral plantar nerves





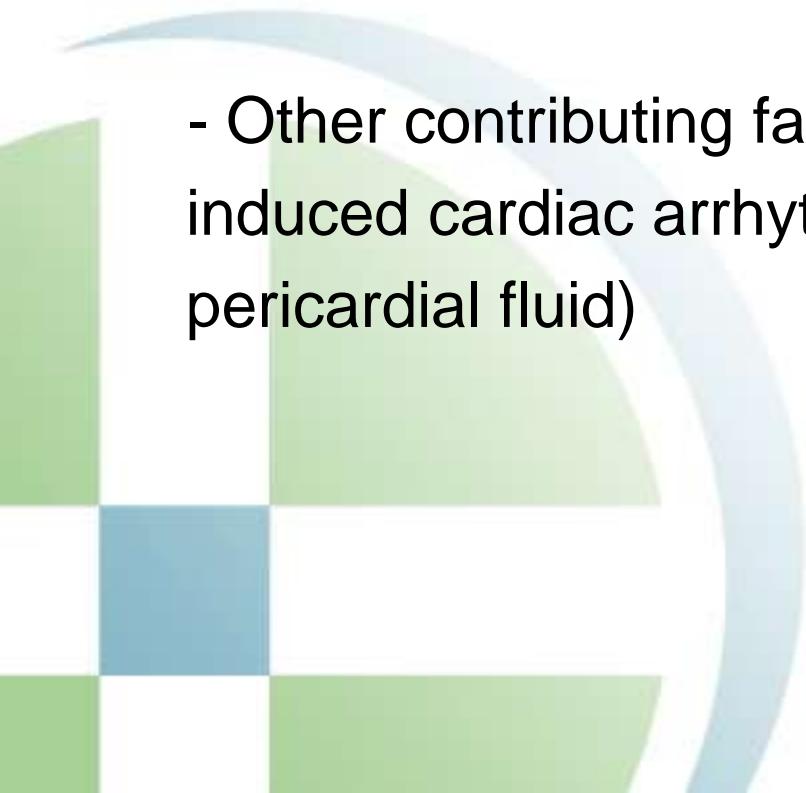
# Contributing Causes of Death

- Major pathophysiologic effect of CX besides excruciating pain was the marked interference with normal respiration, esp. exhalation
  - Weight of the body and fixed intercostal muscles in inhalation state - hinders exhalation – hypercarbia results
  - Onset of muscle cramps, tetanic contractions further hindrance of respiration
  - Adequate attempts of exhalation require lifting of body by pushing on feet, flexing elbows, adducting shoulders. BUT further pain into ankles, wrists, & back.
  - Each respiration would become agonizing and tiring, eventually leading to asphyxia
  - Shoulder dislocations were common



# Contributing Causes of Death

- ACTUAL CAUSE OF DEATH - Multifactorial
  - #1 Exhaustion asphyxia
  - #2 Hypovolemic Shock
  - Other contributing factors include dehydration, stress induced cardiac arrhythmias, CHF (accumulation of pericardial fluid)



# Jesus Christ

- Spoke 7 times from the cross
  - Speech in exhalation/short terse utterances must have been particularly painful
- 3 PM on April 7th Jesus cries out with a loud voice, bows his head, and dies. Witnessed by soldiers & onlookers.
- Jews did not want bodies to remain on cross after sunset since it marked the beginning of the Sabbath. Family asked Pontius Pilate to order crucifracture to hasten the death. Soldiers broke the legs of 2 thieves, but when they came to Jesus, he was already dead. As usual the soldiers pierced his right side producing a sudden gush of blood and water. Later body was taken and put in the tomb.



*Christ on the Cross*  
*By Diego Rodriguez de Silva y*  
*Velasquez*  
*ca. 1630*



*Descent from the Cross*  
By Duccio di Buoninsegna,  
ca. 1308-11

# Jesus Christ

- His death occurred after only 3-6 hours on the cross
- The death surprised even Pontius Pilate
- Controversy:
  - Cardiac rupture or cardiorespiratory failure
  - Possible fatal cardiac arrhythmia
  - Severity of scourging (blood loss/pre-shock)



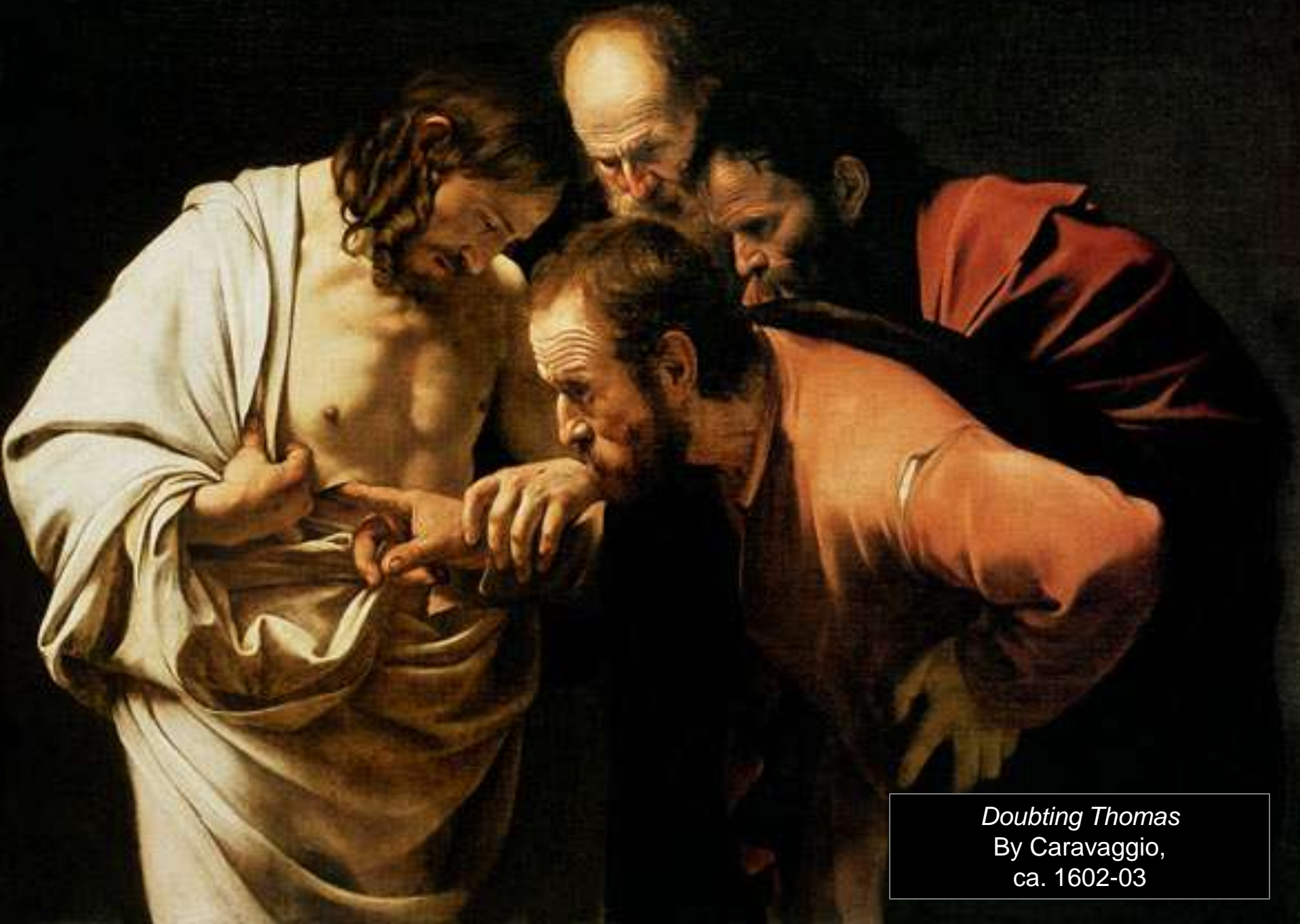
*The Entombment*  
By Peter Paul Rubens,  
ca. 1612

# Jesus Christ

- Jesus died, and the veil in the temple was torn in two from top to bottom (Math. 27:50,51), indicating the end of the earthly ceremonial system. All those countless animal sacrifices from all those long centuries, from Adam and Eve onward, now found their complete fulfillment in Jesus (Heb. 10:4). Here, in human flesh, the Lord took upon Himself the sins of the world, in order that every human being, no matter how sinful, could find forgiveness, healing, and the promise of eternal life. (Rom. 6:23, 1 John 5:11)



*The Empty Tomb*



*Doubting Thomas*  
By Caravaggio,  
ca. 1602-03

# The Resurrection of Christ

“The resurrection of Jesus Christ is the most important thing in the world. If he is alive, there is hope for the world.”

Konrad Adenauer  
First Chancellor of Post WWII Germany  
(1949-1963)

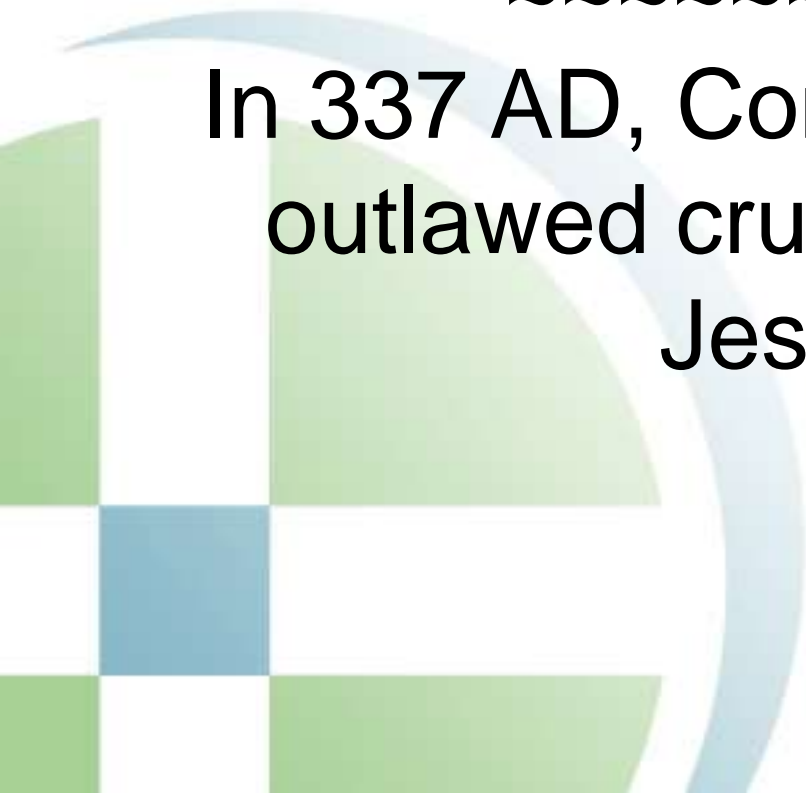


**EASTER**  
EASTER

Four years after the crucifixion,  
Caiaphas & Pilate were - deposed

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In 337 AD, Constantine The Great  
outlawed crucifixion in honor of  
Jesus Christ



# Questions

